THE EFFECTS OF FIRM PERFORMANCE ON CORPORATE GOVERNANCE

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ABSTRACT

Few management scholars would disagree that sound governance policies are desirable for organizations. A plethora of studies exist showing or attempting to show that companies that adopt good governance practices out-perform their competitors who do not follow suit. The underlying assumption of this research is that managers who steward organizational assets wisely will inevitably realize higher returns on those assets. Investors, customers, and other stakeholders are expected to reward such firms, contributing further to increased firm value. In this paper, we question this assumption and inquire whether the causality is in the opposite direction. We suggest that firm performance in prior years will influence the types of directors who might be nominated to the board and the governance structures adopted in subsequent years. We posit that better-performing firms will have the ability to attract higher quality outside directors who can further bolster the firm’s attractiveness to investors. We expect performance will also affect board structure and incentive compensation to the CEO; we present alternative hypotheses to test these relationships. On the other hand, poor performance will lead to governance changes aimed at financial improvements for the firm. We propose CEO power and the presence of concentrated shareholdings and outside directors will intensify these relationships.

Corporate governance advocates and reformers claim that good governance policies are essential for high performance. Relying on agency theory, scholars and practitioners reason that if a company is paying attention to safeguarding the interests of its owners, the assets of the firm will be employed in a manner to minimize waste and maximize profitability, resulting in above average gains to shareholders. Several studies using an overall score of governance have found a relationship between governance and shareholder returns (e.g., Gompers, Ishii & Metrick, 2003), leading one commentator to observe that if companies with good governance are rewarded by better stock performance, “companies whose cost of capital [is] lower will be motivated to make . . . [governance] improvements” (Bradley, 2004: 10). When individual governance practices are examined, however, such as insider equity ownership (Dalton, Daily, Certo, Roengpitya, 2003) or executive incentive compensation (Tosi, Werner, Katz, & Gomez-Mejia, 2000) the link to performance returns becomes less evident. Recognizing that agency theory alone does not adequately explain the relationship between governance and performance, resource dependence theory has been the basis of many studies where the research focuses on the board of directors as the governing body.

According to the resource dependence view, directors may have the ability to reduce environmental uncertainty by virtue of their network connections (Pfeffer & Salancik, 1978). A firm able to reduce environmental uncertainty, especially with regard to scarce resources, is in a better position to perform to its potential. The resource dependence perspective has also been
used as the underlying theoretical basis for studies examining changes in boards when external circumstances or internal needs of the firm change (Hillman, Cannella & Paetzold, 2000; Pfeffer, 1973). In the Hillman et al. (2000) study, the selection of directors to the boards of utility companies became more oriented to the for-profit sector when deregulation took effect. In Pfeffer’s (1973) seminal study in this area, he predicted the experiences and contacts directors would possess based on the varying resource needs of hospitals. According to the resource dependence view, it is the backgrounds and network ties of directors that affect their ability to influence events in the firm’s favor and/or to bring additional expertise to the boardroom. We employ the resource dependence view in our paper in a broad sense, as developed by Hillman and Dalziel (2003), to include the prestige and status of directors as well as their connections and expertise, as a basis for increasing their governance effectiveness.

This paper is intended to make two contributions to the literature examining the relationship between firm performance and governance. First, we take a fresh approach to the governance-performance question and develop a new model that may further explain the relationship by investigating a connection between prior performance of the firm and specific governance practices. In this regard, we take an expansive view of governance that includes both board structure and composition affecting directors’ ability to monitor and supply resources to managers and to provide incentives to executives as rewards for good performance. Baysinger and Butler (1985) studied the relationship between prior firm performance and the boards of directors and found no relationship. In their study, however, the characteristic of the board examined was restricted to the independence of the board from management. We take a broader approach by looking at this relationship from a variety of angles and include moderating variables in our analyses. Second, we test our hypotheses using moderately sized publicly traded companies in the U.S. The context of publicly held moderately sized companies presents a different set of characteristics than large Fortune 500 or S&P 500 firms which are the focus of most governance research, including Baysinger and Butler (1985). By examining the prior performance-governance relationship in this type of firm, we expect to offer insights that are valuable to a larger swath of American managers in making governance related decisions.

**LITERATURE REVIEW**

**Board Composition**

From an agency perspective, outside directors are considered to be in a better position to monitor management because of their assumed independence from the company’s managers and their expertise developed from prior experience (Mace, 1986). Additionally, outsiders are considered preferable because "insider-dominated boards imply problematic self-monitoring and particularly weak monitoring of the CEO, since the CEO is likely to be in a position to influence the insider directors’ career advancement within the firm" (Zajac & Westphal, 1994: 125). Outside directors are also presumed to bring a level of impartiality in evaluating management’s decisions (Baysinger & Hoskisson, 1990). Unlike insiders, outside directors’ careers are less likely to be affected by the outcomes of their decisions and thus can arrive at more objective solutions (Rechner, Sundaramurthy & Dalton, 1993).
Despite the numerous studies on the appointment of outsiders to boards of directors, the empirical evidence fails to show any significant relationship between the practice and corporate outcomes. A meta-analysis review of 85 empirical studies involving more than 200 samples found no compelling evidence exists supporting a positive connection between board composition and leadership and performance (Dalton, Daily, Ellstrand & Johnson, 1998). In a similar meta-analysis, Rhodes and her colleagues found a small positive impact on financial performance when firms had either an insider or an outsider dominated board (Rhodes, Rechner & Sundaramurthy, 2000), and concluded that attempts to equally balance insider and outsider representation may negate the advantages of either an insider-dominated or outsider-dominated board.

According to agency theory, outside board members are also viewed as influential in engaging or promoting activities that enhance shareholder value, in addition to enhancing firm performance. Outsider-dominated boards are more likely to replace a CEO in times of poor performance (Weisbach, 1988) or to hire a replacement CEO from the outside (Borokhovich, Parrino & Trapani, 1996). Agency theory would also suggest that outside, independent directors would discourage the implementation of value-reducing activities such as anti-takeover defenses or increased diversification. Research has supported these some of these conjectures. For example, firms resisting the payment of greenmail have a higher proportion of outside directors on their boards (Kosnik, 1987). Brickley and his colleagues found that the average stock-market reaction to announcements of poison pills is positive when the board has a majority of outside directors and negative when it does not (Brickley, Coles & Terry, 1994). On the other hand, Hill and Snell (1988) actually observed a positive relationship between the influence of outsiders on the board and the emphasis placed on diversification. Further, contrary to expectations, no relationship was found between the number of outsiders and the commission of illegal acts (Kesner, Victor & Lamont, 1986). Thus, the presence of outsiders on the board may not affect overall performance or shareholder value, but may, in some cases, influence a specific strategic issue.

There has been some success in studies tying firm characteristics or environmental changes to the nature of directors using the resource dependence view as the underlying theory. Pfeffer and Salancik (1978) developed their resource dependence theory based on the open systems perspective which posits that the environment plays an important part in determining organizational effectiveness. One suggestion they offer for managing the environment is the appointment of external representatives to positions within the organization, specifically through the naming of outside directors to the board. Pfeffer (1973) argues that changes in the membership of a corporate board is a direct response to changes in the environment. Baysinger and Butler (1985) characterized the board as consisting of an instrumental component of independent directors who provide a source of “managerial wisdom” and external linkages which in turn enable the firm to achieve measurable performance dividends (1985: 110).

Hillman et al. (2000) found that utility companies made changes in the directors serving on their boards to make them more responsive to competitive conditions when the industry underwent deregulation. Hillman, Shropshire and Cannella (2007) found that organizational characteristics predicted board composition, in this case, the likelihood of the presence of female directors on firm boards. While Baysinger and Butler (1985) and Hillman (2005) found a
relationship between the nature of directors and firm performance, (outsider status in the former study and political connections in the latter), most of the studies utilizing resource dependence theory have not found or have not examined a relationship between board and director attributes and subsequent firm performance.

**CEO Duality**

Agency theorists advocate separation of the CEO and board chair positions as necessary to avoid managerial entrenchment and to curb the CEO’s power (Mallette & Fowler, 1992). When the CEO is also the chair, it becomes more difficult to replace the CEO for poor performance (Goyal & Park, 2002). According to agency theory, duality “signals the absence of separation of decision management and decision control (Fama & Jensen, 1983: 314). Unitary leadership can lead to opportunistic behaviors and the expense of shareholders (Fosberg, 1999). Conversely, separation of the CEO and chair positions facilitates objective evaluation of organizational and managerial performance (Weidenbaum, 1986).

Some studies have found support for the separation of the two positions. Research in the banking industry revealed that cost efficiency and return on assets were lower for chairman-CEO banks and were positively related to nonchairman-CEO ownership (Pi & Timme, 1993). In an integration of previous studies, Boyd (1995) found a weak negative relationship between firm performance and duality. When controlling for environmental differences, however, CEO duality was found to be positively related to performance in environments with low munificence and high complexity. In another study, however, when the CEO occupied both the chair and the president position, stock market performance suffered (Worrell, Nemec & Davidson, 1997).

The mixed results of these studies support Finkelstein and D’Aveni’s (1994) characterization of the issue as a “double edged sword.” They note that the agency problems with CEO duality are often mitigated by the resource dependence advantages associated with the CEO’s ability, as chair, to provide important information to the outside directors about firm operations and finances, as suggested by resource dependence theory.

**Incentive Compensation**

In the context of CEO pay, an agency problem exists when an agent, such as a CEO, has established an agenda which conflicts with the interest of the stockholders. Agency problems are most likely to occur when an executive has no financial interest in the outcomes of the decisions made (Boyd 1994). Therefore, one way to avoid agency problems is to reward executives on the basis of financial returns to shareholders (Kerr & Bettis 1987). Thus, agency theory suggests that CEO pay should be closely tied to firm performance.

Despite the theoretical rationale for the link between pay and performance, empirical evidence provides little support for the relationship between CEO compensation and performance (Barkema & Gomez-Mejia, 1998; Jensen & Murphy, 1990; Tosi, Werner, Katz & Gomez-Mejia, 2000). Several explanations have been put forth to explain these results. Crystal (1991) contends that CEOs will resist efforts to reduce their pay even when the firm is performing poorly. For example, if the firm is facing a high degree of uncertainty regarding performance outcomes, it is less likely that CEO pay will be tied to performance (Miller, Wiseman & Gomez-Mejia, 2002). Others adopt a social explanation for CEO compensation, pointing to the use of compensation consultants as the basis of compensation decisions and the
resulting “homogenization” of CEO pay regardless of performance (Finkelstein & Hambrick, 1996: 275).

Bloom and Milkovich (1998) argue that the relationship depends on the element of compensation. Base pay will not be affected by incentives (Gray & Cannella, 1997) especially after 1993 when the tax law effectively caps base pay at $1 million. Moreover, since almost 80% of the gain in CEO compensation is derived from stock options (Elson, 2003), one would expect to find a relationship between market-based performance measures and equity-based compensation (Baum, Sarver & Strickland, 2004: Mehran, 1995). Stock ownership by the CEO and the board significantly lowered the likelihood of resistance to a takeover attempt, suggesting that stock ownership is an effective tool in aligning management’s interest with those of shareholders (Buchholtz & Ribbens, 1994).

**Board Committees**

Under U.S. securities law and exchange requirements, public corporations must establish an audit committee on their boards. Accordingly, studies have examined whether the membership of audit committees affect firm performance. Prior research has shown a positive relationship between the appointment of an accounting financial expert to an audit committee and a favorable market reaction (Defond, Hann and Hu, 2005). According to agency theory, this response may be due to the market’s belief that the company’s financial records will be more accurately monitored when an accounting financial expert sits on the committee. Resource dependence theory would suggest that the appointment of an accounting expert signals that the company maintains high standards in its financial reporting (Engle, 2005). Likewise, Van der Zahn and Mitchell (2008) found a positive association between the presence of audit committee members with accounting credentials and IPO first day returns.

Similar to the audit committee, the compensation committee is charged with oversight over company finances, specifically with respect to the pay awarded to top managers. Studies of companies in the U.K. have found a positive relationship between the existence of a compensation committee and performance (Main & Johnson, 1993; Weir & Laing, 2000). Since compensation committees exist nearly universally on U.S. boards, the emphasis of research on U.S. firms has been the composition of these committees. Most of the literature theorized that the presence of outsiders on the committee would predict lower CEO pay; however, empirical results were either equivocal (Daily, Johnson, Ellstrand & Dalton, 1998) or seemed to find the opposite, with the ratio of insiders negatively related to pay (Boyd, 1994). Conyon and Peck (1998), however, found a positive relationship between the proportion of outsiders on the compensation committee and both the amount of top management pay in the U.K. and the link between pay and firm performance. Belliveau, O’Reilly and Wade (1996) found that the social status of the CEO may affect compensation levels with CEOs having more status than their compensation committee chairs receiving higher levels of compensation. Other research suggests that if the CEO appointed members of the committee, they may be inclined to award higher levels of compensation to the CEO (Main, O’Reilly, & Wade 1994).

**THEORY AND HYPOTHESES**

**Firm Performance and Board Composition**

Hermalin and Weisbach (1988) suggested that shareholders will seek to replace inside directors with outsiders in order to provide better monitoring of management. Consistent with
their suggestion, Shivdasani (2004) proposes that board composition is affected by declines in financial performance because companies react to performance downturns by adding outside directors to the board who are willing to take corrective action, such as replacement of the CEO. Firms may also choose to add outsiders following periods of performance decline in order to provide new ideas, to add to the pool of knowledge, or to signal to stakeholders that operations are now under control (Pearce & Zahra, 1992). Davis and Thompson (1994) point out that the threat of lawsuits may also prompt the appointment of outside directors to exercise more control over management. In addition, while there is some dispute regarding the effect of board size on performance in general (e.g. Alexander, Fennell, & Halpern, 1993; Yermack, 1996), evidence suggests that larger boards are preferable for smaller firms (Dalton, Daily, Johnson & Ellstrand, 1999).

An alternative view suggests that in years in which firm performance declines relative to previous years’ performance, board membership will decrease. The number of outside directors is likely to decrease because outsiders are more costly for the firm (Yermack, 1996). Pearce and Zahra’s (1992) data showed that past poor performance is positively associated with smaller boards and fewer insiders, and Gilson (1990) reported that only 46 percent of outside directors remained on the board of firms following a bankruptcy or debt restructuring. These results are similar to those of D’Aveni (1990) who found that prestigious managers will leave a firm shortly before bankruptcy in order to avoid damaging their careers.

We suggest that when faced with potential loss of power due to the addition of outside monitors or with the threat of being fired, powerful CEOs will attempt to maintain the status quo and, therefore, new appointments to the board of directors will be minimized. Zajac and Westphal (1996) proposed that the source of power (with the CEO or with the board) would predict the selection of individual board members based on their prior experience and thus shape the composition and effectiveness of the board. They hypothesized that powerful CEOs will seek to maintain their control by selecting and retaining board members with experience on passive boards and excluding individuals with experience on more active boards. On the other hand, powerful boards will seek to maintain their control by favoring directors with a reputation for more active management and avoiding directors with experience on passive boards. Their research confirmed that powerful actors in CEO-board relationships can manage the composition of board membership. Thus, we suggest the following:

Hypothesis 1a: Following periods of declining performance, both the number of directors and the number of outside board members will decrease or remain the same; the power of the CEO will strengthen this relationship.

Firms that have experienced a period of unusually strong performance may be in a better position to recruit outside directors. An outside director’s prestige is derived from a number of sources including the director’s title and job position (D’Aveni, 1990). Outside directors with higher qualifications are those with backgrounds suggesting increased abilities to monitor management and/or contribute to strategic decision making within the firm (Hillman & Dalziel, 2003). They may also have the potential to exert influence on outside resource providers, such as financial institutions, or send signals to investors of the value of the firm. Research suggests that outside directors will seek to protect their reputations (Fama & Jensen, 1983); one way they can accomplish this is to identify themselves with successful firms and avoid associations with
firms that could damage their reputations. Companies may use the prestigious reputation of directors to the firm’s advantage. For instance, Certo, Dailey and Dalton (2001) found that high status directors can send a signal of firm legitimacy and future success in initial public offering firms. Conversely, individuals will avoid serving as directors for poorly performing firms because of the potential stigma that could be transferred to the directors, thus causing their own reputations to suffer (Lester, 2008). Thus, consistent with our previous hypothesis, we posit that:

_Hypothesis 1b: Following periods of improving performance, the size of the board will increase with prestigious outside directors added to the board._

**Firm Performance and Duality**

Finkelstein and D’Aveni (1994) posit that vigilant boards will prefer the CEO and chair position be separate in periods of good performance for several reasons. First, good performance increases CEO power and creates organizational slack, both of which lead to undesirable governance consequences such as entrenchment and opportunistic behaviors; second, in periods of good performance there is no need to create managerial efficiency through duality; finally, the board is less likely to remove a CEO after periods of good performance, with the increased potential for CEO entrenchment. In contrast, they argue that duality is preferable after periods of poor performance to convey a sense of unity of command and strong leadership. In times of financial distress, combining the roles may be preferable to enable the CEO to make critical decisions affecting the future of the organization (Harris & Helfat, 1998).

The relationship between performance and an independent chairperson is supported by Rechner and Dalton’s (1991) findings which showed a strong difference in three accounting measures of performance between firms with independent structures and those with CEO duality. These results confirmed the hypotheses that firms with separate CEO and chair positions will consistently outperform firms with dual structures. Conversely, Boyd’s (1995) research supports the conjecture that in times of uncertainty, characterized by low munificence or high complexity environments, the combined structure will be more effective. Boyd (1995) suggested that a resource scarce environment, such as is likely to exist following a decline in performance by the firm, may lead to duality so that the power in the firm can be consolidated for a faster, more unified response to the poor conditions.

_Hypothesis 2a: Following periods of Improving performance CEO and chair position will be separate._

When performance of the firm has been unusually poor, the board has several options available to it in regard to the CEO’s status. The board may choose to do nothing; it may choose to demote the CEO in some fashion as a penalty for the firm’s poor performance; or the board may choose to fire the current CEO and appoint someone new to the position. Evidence exists that the stronger the board, the more likely that it will take serious action such as CEO dismissal if they are not satisfied with firm performance (Bhagat, Carey & Elson, 1999; Weisbach, 1988). In the case of stronger boards, directors are more likely to prefer separate CEO and Chair positions because duality represents less separation between management and control (Fama & Jensen, 1983) and can lead to CEO entrenchment (Mallette & Fowler, 1992). Thus we propose the following alternative hypothesis:
Hypothesis 2b: CEO and chair position will be separate following periods of declining performance; this relationship will be stronger where there is a high percentage of outsiders on the board.

Firm Performance and CEO Incentives

Executive compensation has come to be viewed as an internal corporate governance mechanism (Bilimoria, 1997; Finkelstein & Boyd, 1998). Neoclassical economists claim that because the objective of the firm is to maximize profits, executive compensation must be tied to firm profitability (Lewellen & Huntsman, 1970). Agency theorists emphasize that executive compensation can function to align managers’ interests with those of shareholders through the use of incentives (Shleifer & Vishny, 1997). In contrast, if executive pay is shielded from performance risk, there is little incentive for the executive to pursue risky, but potentially profitable, strategic alternatives (Hill & Snell, 1989). Thus, incentive pay regulates managerial action in the absence of direct supervision (Wiseman & Gomez-Mejia, 1998).

Incentives to CEOs are typically divided into short-term and long-term, with short-term awards based on meeting annual organizational performance targets (Ellig, 2002). Based on research showing that managers tend to prefer accounting based performance measures while principals would rather use market based measures, Wiseman & Gomez Mejia (1998) theorized that the use of accounting based measures would increase managerial expectations of achieving performance goals. Applying their model and assuming that CEO compensation, to the extent that it is performance based, will be higher following periods of good performance, we propose the following:

Hypothesis 3: Following periods of improved performance, the CEO’s annual bonus will be increased; the increase will be higher when performance is measured by accounting measures.

While agency theory suggests that contingent compensation has a desirable motivational property to engage in activities that will maximize profits, researchers also point out its negative effect in causing managers to bear a disproportionate share of firm risk, leading to risk reducing behavior that is contrary to shareholder interests (Bloom & Milkovich, 1998; Sundaramurthy, Rhodes & Rechner, 2005). This problem is exacerbated when incentive pay includes stock options or restricted stock. Long-term awards that are tied to equity have less value when share price declines, thus reducing the executive’s overall compensation. Share price volatility also reduces the ability to make any accurate predictions about future value (Eisenmann, 2002). Given that managers prefer stable, risk-free income (Gray & Cannella, 1997), incentive pay consisting of equities would be least desirable in unstable or uncertain environments. Examining a sample of initial public offering firms, Beatty and Zajac (1994) found that riskier firms were less likely to include stock options in their executive’s pay.

The power and influence of the CEO is well-recognized; as Harrison, Torres and Kukalis (1988) noted, much of the CEO’s power may lie simply is his role as CEO. As CEOs become more powerful, they are able to entrench themselves in the formal positions of authority and increase their control of the corporation over time (Salancik & Pfeffer, 1977). Thus research has focused on the influence of the CEO on his compensation. For example, Hambrick and Finkelstein (1995) suggested that in managerial firms, where CEO power is not curbed by
outside investors, CEO pay increase were more likely. Westphal and Zajac (1994) found that CEO influence was positively related to compensation and negatively related to the implementation of long-term incentive plans. CEO compensation was also found to be related to institutionalized sources of power, such as tenure or a dual structure (Elhagrasey, Harrison & Buchholz, 1998). Accordingly we hypothesize:

Hypothesis 4: Following periods of declining performance, the inclusion of stock options and stock grants to the CEO compensation package will decrease; the relationship will be more pronounced where CEO power is high.

Firm Performance and Committee Membership

While Sarbanes-Oxley does not require an accountant to sit on the audit committee, it does require the committee to include a financial expert. To satisfy this requirement companies will want to attract an accountant or CFO to the board due to the likely favorable market reaction of such an appointment (DeFond, Hann & Hu, 2005). However, the pool of available accountants is limited (McGee, 2005), and many qualified candidates may be reluctant to serve on boards for risk of being sued (Beresford, 2005). As a result, the ability to attract directors with accounting expertise will depend, in part, on the financial soundness of the company. In addition, nominating an accounting expert to the board, and most likely, to the audit committee, signals that the firm is concerned with avoiding fraud and placed high importance on the role of the audit committee. Conversely, shareholders of firms with past performance losses are less likely to demand a high level of scrutiny of the firm’s finances and thus will be less concerned with the caliber of the audit committee membership (Klein, 2002).

Hypothesis 5: Following periods of increasing performance, there will likely be an accounting expert on the board’s audit committee.

METHODS AND RESULTS

Sample

Most of the extant literature on governance focuses on large U.S. companies. Governance in mid-sized corporations has been largely understudied, although it is garnering increased attention (e.g., Gabrielson & Huse, 2002; Gabrielson & Winlund, 2000). Lynall, Golden and Hillman (2003) contend that boards formed early in the firm’s life cycle are apt to set the tone for future boards of directors. If this is the case, choices of directors at this time are decisions that are of substantial importance for the future of the firm. Medium-sized companies face some disadvantages compared to their larger corporate counterparts in that they are often not considered as competitive or resourceful and may not, therefore, receive fair treatment when it comes to access to capital, for instance (Castaldi & Wortman, 1984). Borch and Huse (1993) agree. They must consider how to best make strategic decisions in competitive environments such as exist today and such firms “seldom have the economic or political power to control their environment” (1993: 23).

Mace (1986) identified the board of directors as an under-utilized resource that could supplement limited managerial knowledge and experience in the smaller enterprise (also see Jain & Gumpert, 1980). Borch and Huse (1993) point to the ability of directors to become more involved in the strategic decision making of smaller companies due to the lack of complexity
compared to the typical large corporation. Directors can also be of particular assistance for such companies in that they can bring social network connections to firms that reduce the transactions costs of doing business that are apt to be higher when firms are smaller and lack the reputation of the large firm (George, Wood & Kahn, 2001). Castaldi and Wortman (1984) and Jain and Gumpert (1980) note the problems inherent in medium-sized companies’ ability to recruit the desired directorial talent. In light of the reforms of Sarbanes-Oxley, demand for well qualified directors has only made this difficulty greater. In this sense, we offer here a conservative test of our hypotheses, in that medium-sized corporations are likely to face more challenges in finding the types of directors we predict.

We selected a sample of 120 companies listed on the NASDAQ. This sample stemmed from a larger random sample of corporations used to test governance theory. While there are some fairly large companies listed on this exchange, for the most part, companies traded on the NASDAQ represent firms much smaller, based on sales, than those of the Fortune 1000. We found that the averages sales for our sample population was approximately $1.4 billion. According to CNN.money.com, 2007 revenue for the smallest firm in the Fortune 1000 was $1.6 billion. Thus, it appeared that our sample represented a reasonable sample of small to mid-sized firms. After eliminating several firms for missing or incomplete data, our study covered 90 companies.

Variables and Analyses

In each of our models, improvements or declines in performance are the main predictor variables. When selecting the appropriate performance variables, we note that many measurements of performance have been used in the governance literature and it is generally recognized that no one measure is universally ideal (Cameron, 1986; Venkatraman & Ramanujam, 1986). We follow a traditional approach in using both accounting measures (ROA and ROE) and market measures (returns to shareholders and P/E ratios) (Hoskisson, Hitt, Johnson & Moesel, 1993). Specifically, we examine whether the change in these measures from one three-year period (2000-2002) to the following (2003-2005), determined using a difference score, will have the predicted effects on board composition and structure and CEO incentives.

Moderating variables include CEO power and the percentage of outsiders on the board. CEO power was measured by a composite variable taking into account both CEO tenure and the percentage of the board appointed by the CEO. CEO tenure is predictive of power because the CEO’s influence over firm operations increases as his years of tenure increase and the CEO becomes better able to control governance decisions due to their leadership position (Wright, Kroll & Elenkov, 2002). As noted by Ocasio (1994), longer tenure leads to increased legitimacy of the CEOs authority and ability to maintain power. While CEO tenure is correlated with the number of board members appointed by the CEO, directors who are appointed by the CEO are like to feel an obligation to the CEO (Boecker, 1992; Wade, O’Reilly & Chandratat, 1990), thereby enhancing the CEO’s power even if tenure is not relatively long.

The percentage of outsiders was measured by the number of non-employee or former employee directors divided by the total number of directors.

Control variables were included to account for institutional ownership, firm size, and actual performance. The percentage of shares owned by institutional or large blocks of shareholders was added as a control variable as external owners apply pressure on CEOs to
appoint independent board members (Huse, 2000). Firm size, operationalized as the log of sales in thousands of dollars, was also added as a control variable as board structure and CEO compensation are often related to firm size.

Several models were estimated for each of the hypotheses using both general linear regression and logit regression analyses, depending on the nature of the dependent variables, which are more fully described with respect to each model. Partial summary statistics and correlation tables for Hypotheses 1 and 4, which were supported, are provided in Tables 1 and 2.

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Hypothesis 1a predicted that declines in performance would result in a decrease in the number of directors and a decrease in the number of outside directors. Two models were estimated using linear regression, using the number of directors and the number of outside directors as the dependent variables. Negative change to market return predicted both a decrease in the overall number of directors and a decreased in the number of outsiders. However, this relationship is less likely to occur in larger boards with more outsiders. Market return was marginally significant and positive with respect to a decrease in the total number of directors, but was no longer significant when CEO power interaction variable was added. However the Change in Market Return coefficient remained significantly negative at p<.001 suggesting that CEO power has little effect on the decrease in number of directors following a decline in performance. Significant results for all estimated models are reported in Table 3.

Insert Table 3 about here.

In Model 2, when interaction variable for CEO power was added, the Change in the PE ratio became significant suggesting that CEO power moderates the relationship between outside directors and performance; more powerful CEOs are able to reduce the number of outsiders
following periods of performance decline. The coefficient remained significant on the Change in Market return with or without CEO power interaction variable. Thus there was partial support for Hypotheses 1a.

To test hypotheses 1b, we relied on prior studies to characterize prestigious directors. Baysinger and Butler (1985) describe the instrumental component of the board as consisting of directors who provide more than monitoring of and advice to management. They are the lawyers, financiers, and consultants who are a source of managerial wisdom and can therefore assist in decision-making as well as provide links to resources outside the firm (Baysinger & Butler, 1985: 110). Similarly, in Hillman, Cannella, & Paetzold’s (2000) typology of board functions, the role of support specialists would include lawyers and bankers who are able to provide specialized expertise. Accordingly, we set the dependent variable as the number of lawyers or directors with a financial connection on the board and estimated a model using ordinary regression; in a second model we estimated a logit model with whether or not a lawyer or financier is a member as the dichotomous dependent variable. In neither model were any of the performance variables significant. Therefore there was no support for Hypothesis 1b.

Hypotheses 2a and b were tested using logit regression with the dependent variable equal to 1 if the CEO and chair position was separate. None of the performance change variables were significantly related to CEO duality, although market return was significant at p<.05. Not surprisingly, CEO power was significant and negative in every model, suggesting that the more powerful the CEO, the less likely the CEO and chair position will be separate.

Hypothesis 3 and Hypothesis 4 were tested using ordinary regression. While previous improvements or declines in performance produced no significant effects on subsequent short-term rewards, an increase in ROE was positively associated with stock option awards. In addition, both ROE and ROA were negatively related to the number of shares underlying options. Hypothesis 3 was not supported and Hypothesis 4 was partially supported.

Using logit regression to test Hypothesis 4, whether or not an accounting expert was a member of the audit committee following periods of improving performance, we found no significant relationships and thus no support for this conjecture.

DISCUSSION

Hermalin and Weisbach (2003) point out that studies of boards of directors, such as those just mentioned, examine the relationship between boards of directors and subsequent firm performance, treating boards as if they were an exogenous variable. Many fewer studies examine predictors of board characteristics than the outcomes of board characteristics. Hermalin and Weisbach (2003) suggest that the study of factors that affect the characteristics of the board are also important to our understanding of firm governance and may more accurately reflect the positioning of board variables in our research models. In this paper, we study the effect of prior firm performance on changes in board characteristics and other governance structures.

The results suggest that performance effects on board composition are more dramatic when there has been an downward change in the firm’s performance. None of the performance variables, both accounting and market, were in themselves predictive of a decline in the number of directors or outsiders on the board. However, when performance was measured as a change in performance over a three year period from the previous three-year period, the result was fewer
board members, and fewer outsiders. One might argue that the overall size of boards has on average declined largely in response to governance experts’ call for smaller, more dedicated boards. With respect to smaller firms, however, relatively larger boards are preferable (Dalton, Daily, Johnson & Ellstrand, 1999). Our results showing a negative relationship between the size of the board and a decline in board size suggests that larger boards are less inclined to reduce their board size even after periods of declining performance.

Other predictions of our hypotheses were not demonstrated. Neither the presence of a prestigious director or an accounting expert on the audit committee seems to be influenced by previous performance. In the former case, it may be that our measures of prestige do not take into account all of the facets of member reputation. Previous studies have included the number of other board seats held by the director and the member’s equity ownership as indicia of status (Udueni, 1999). In the latter case, while, as hypothesized, accounting experts may prefer to hold membership on boards of financially sound firms, companies experiencing declines in performance may seek out financial experts to assist in turning the company around.

Lack of support for either Hypothesis 2a or 2b suggests that phenomena underlying the explanation for both propositions may be present. In some cases, improving performance negates the need for CEO duality while in other cases, the CEO is rewarded for performance gains by promotion to board chair. The strong relationship between tenure and CEO duality suggests that CEO power may be a more compelling determinant of board structure.

Results for the relationship between performance and CEO compensation were also mixed. Neither accounting nor market performance appeared to be significantly related with the CEO’s annual bonus. Lack of support for this hypothesis was somewhat surprising as bonuses are typically based on meeting short-term financial targets. In contrast, improvements in performance as measured by ROE were positively related to stock option grants, suggesting that CEOs may be more willing to accept long-term risk if they perceive that their companies’ futures hold promise.

Overall, our findings continue to follow the pattern established by prior studies: the relationship between performance and individual governance practices is weak, at best, regardless of the causality. With respect to board composition, social capital and network influences may be a much more important determinant of board membership than monitoring concerns. While agency theory offers a primarily economic explanation of board appointments and suggests that performance should be the ultimate dynamic in board composition, lack of empirical support suggests directors are selected based on social ties to the management team (Westphal, 1999) or have common associations within the same social group (Galaskiewicz & Wasserman, 1981; Useem, 1980).

The relatively small size of the sample and focus on SMES may also explain the absence of support for our hypotheses. Future studies expanding both the scope of the research as well as tailoring both the performance and governance variables to match the characteristics of smaller companies. Despite these limitations, our study contributes to the extant literature in that it suggests that the results of large-corporation studies may apply in the same way to small and mid-size firms.
REFERENCES


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<table>
<thead>
<tr>
<th></th>
<th>Option Award</th>
<th>Return on Equity</th>
<th>Change in ROE</th>
<th>Log Sales</th>
<th>Percent of Outside Directors</th>
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<th>Bonus</th>
<th>Stock Award</th>
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Table 2: Correlations
Table 3: Regression Results

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<tr>
<td>Percentage Outsiders</td>
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<tr>
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<td>Number of Outsiders</td>
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<tr>
<td>Salary</td>
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<tr>
<td>Bonus</td>
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<td>Stock Grant</td>
<td>-1.766+</td>
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<td>Option Grant Prior Year</td>
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<td>Power/interaction variable</td>
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<td>Institutional Ownership</td>
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<td>R²=.35</td>
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\(^1\) Summary statistics and regression results for non-supported hypotheses will be provided upon request.
BOARD POWER AND CORPORATE FOCUS: BOARD MONITORING CAPACITY

Stephen V. Horner, Arkansas State University, shorner@astate.edu

ABSTRACT

Decades of research on corporate boards of directors resulting in diverse and often inconsistent findings have not dampened scholarly interest in the topic. Instead, researchers attempt to more effectively model the board-firm relationship. One such approach considers the power of the board. Drawing on upper echelons thinking (Hambrick and Mason, 1984) and notions of managerial power (Finkelstein, 1992), this conceptual study develops the concept of board power in relation to corporate strategy. Based on a framework of organizational power, the study develops propositions predicting the impact of board characteristics on a key strategic outcome – the diversification of the firm.

INTRODUCTION

Corporate boards of directors have been the focus of several decades of research and, in spite of considerable scrutiny, continue to be of interest to scholars and practitioners alike. This continuing focus stems in part from the diverse and often inconsistent findings regarding the statistical relationships of board characteristics to firm outcomes. Such findings have prompted organizational researchers (e.g., Dalton, Daily, Ellstrand, and Johnson, 1998; Finkelstein & Hambrick, 1996) to call for approaches using multiple theoretical perspectives and development of constructs that more effectively model this relationship.

Among constructs recently capturing the attention of governance researchers is that of the power of the board of directors. Finkelstein and Hambrick (1996) suggest that understanding the need for board monitoring of firm management and the capacity to do so requires a clear understanding of board power. They propose that agency conditions depend on the capacity of a board to monitor top management, and this capacity is a result of the distribution of power between a board and its CEO. More recently, Hillman and Dalziel (2003) propose that a basic assumption underlying agency theoretic investigations of boards of directors is the capacity of a board to monitor management, and this suggests the importance of power. That is to say, a board’s ability, or capacity, to monitor top management is dependent on its power to effect and enforce its will. Hence, examination of the nature of board power and its antecedents and outcomes is essential to our understanding of the governance function of boards, particularly with respect to firm strategic outcomes.

A key relationship of interest to strategic management researchers is the impact of firm governance on corporate strategy, and a key construct in this relationship is the level of focal firm diversification. Related diversification generally adds to firm value through synergies resulting from complementarities among the value chain activities and resource bases within a firm’s corporate portfolio (Lubatkin & Chaterjee, 1994). On the other hand, unrelated
Diversification is thought to reduce or destroy firm value (Amihud & Lev, 1981) because the lack of complementarities among widely diverse operations, industries, and product markets results only in a reduction of risk but not in more efficient operations or enhanced revenue streams (Dess, Lumpkin, & Eisner, 2008). While on average, related diversifiers tend to outperform single business firms, unrelated diversifiers tend to underperform related diversifiers. The diversification-performance relationship has been the focus of considerable scholarly investigation (e.g., Lubatkin & Chaterjee, 1994; Amihud & Lev, 1981) from multiple theoretical perspectives.

Theories of corporate diversification and firm economic performance are not in complete accord about firm diversification-performance relationship. Financial economics, which tends to dismiss the economic impact of interfirm differences (Lane, Cannella, & Lubatkin, 1998; Barney, 1991; Nelson, 1991; Bettis, 1983), suggests that corporate portfolio diversification reduces shareholder wealth because investors can diversify their own personal portfolios at much less cost than can managers diversify a corporate portfolio. On the other hand, management theory suggests that managers are key to creating firm value through corporate diversification because they may be able to achieve efficiencies by combining value chain activities across multiple value chains, leveraging competencies across businesses, or centralizing corporate functions that support multiple business lines (Bettis, 1983; Lubatkin & Chaterjee, 1994; Lane, Cannella, & Lubatkin, 1998).

Given the lack of theoretical convergence on the value of the level of diversification in the multibusiness firm, empirical investigation has not resulted in a clear consensus on the impact of related and unrelated diversification on firm outcomes (cf. Robins & Wiersema, 1995; Lane, Cannella, & Lubatkin, 1998). Recent empirical work demonstrates that boards do monitor the strategic behaviors of CEOs and hold them accountable for the level of firm diversification (Kavadis, 2008). This current study examines the impact of board power on focal firm diversification, conceptualizing board characteristics in terms of board power. Using a framework of managerial power composed of structural, ownership, expertise, and prestige power (Finkelstein, 1992) and extending upper echelons thinking (Hambrick & Mason, 1984) to the domain of board study, board power is conceptualized within the context of firm critical contingencies to examine its impact on firm diversification.

**BOARD POWER**

Power is the capacity of an individual to “overcome resistance in achieving a desired outcome or aim” (Lynall et al., 2003; Pfeffer, 1981). In an organizational context, the capacity to control the premises and choices of decisions as well their consequences (Roy, 1997) is the basis of the power to influence others and tends to be concentrated among strategic leaders. Organizational leadership is focused on two key strategic decision making groups – the top management team and the board of directors. Compared to top managers, boards may have limited discretion. However, in certain situations boards have exclusive decision making authority and in these cases exhibit the type of discretion normally associated with a decision-making group (Finkelstein & Hambrick, 1996). Hence, as a strategic decision making group, the board possesses a certain degree of organizational power.
Consideration of board power suggests several sources or dimensions of organizational power (Finkelstein, 1992). Board structure has been conceptualized in terms of the separation of the chair and CEO roles (Finkelstein & Hambrick, 1996). Separating the two roles places the board in a superordinate relationship to the CEO. However, the source of this power lies not strictly in the separation itself but in the authority of the board to create the separation, and this authority stems from the fiduciary relationship of the board to the shareholders. Boards derive their structural power not strictly from their relative position in the organizational hierarchy but from their legal authority to oversee the activities of the CEO. In spite of the preeminent focus of structural power in the CEO, because the CEO role derives authority from its relationship with the board, the board does possess a certain degree of structural power by virtue of this relationship. Indeed, the board can bestow the chair role on the CEO as well as take it away as Disney’s board did from Eisner. Structural power of the board stems not strictly from the separation of the chair and CEO roles but from the board’s legitimate authority to separate or combine the two positions.

In addition to structural power, boards possess a certain amount of ownership power. Finkelstein (1992) defines managerial ownership power as stemming from 1) capacity of managers to act as agents on behalf of the firm’s principals, 2) the level of share ownership held by managers, and 3) managers’ interpersonal links to the firm’s founders. Ownership power of the board likely stems from similar sources. First, the board is legally empowered to act on behalf of the owners. Second, directors often have some ownership interest in the focal firm. Indeed, corporate governance reform efforts have focused specifically on the importance of directors holding an equity position in the firm, and the issue of director ownership has been the focus of considerable empirical scrutiny. Third, directors’ personal links to the firm’s founders provide some base of ownership power. For example, Susan Buffett’s long-held position before her death on the board of Berkshire Hathaway was fairly unassailable despite the criticism the firm’s corporate governance invokes from corporate governance activists (Langley, 2003). In addition to its base in links to the firm’s founder, board ownership power may also stem from directors’ personal links to institutional investors and blockholders. In sum, board ownership power is based in directors’ capacity to act on behalf of firm owners, in directors’ personal ownership stakes in the firm, and in personal links to firm founders and/or key firm investors.

In addition to structural and ownership power, board power stems from directors’ expertise as directors and as managers. Such expertise may be evident in directors’ capacity to deal with environmental contingencies impacting the focal firm (Finkelstein, 1992; Finkelstein & Hambrick, 1996). This capacity may be based in a director’s interpersonal relationships with elements in the task environment as well as in the director’s breadth of experience either as a board member (at the focal firm or at other organizations) or as a manager. Multiple directorships have been the target of criticism by corporate reform advocates, many of whom propose limits on the number of directorships one director can hold. In spite of the intense criticism of the practice, the scant empirical evidence on the outcomes of multiple directorships suggests that focal firm performance does not suffer when directors serve on boards of other firms (Ferris, Jagannathan, and Pritchard, 2003). Experience with general business conditions at
the strategic level whether as a manager at one’s home firm or as director at another may afford focal firm directors the expertise necessary for effective monitoring.

In addition to such general management or governance experience, expertise power may also be based on the relevance of a director’s expertise with respect to a particular strategic choice (Finkelstein, 1992). Strategic relevance means that the impact of a director’s expertise may lie in the director’s capacity to reduce uncertainty stemming from the firm’s dependence on task environments most problematic to the organization (Pfeffer, 1972, 1973, 1988; Pfeffer & Salancik, 1978). Citing Carpenter and Westphal (2001), Hillman & Dalziel (2003) noted that boards with experience in a particular situation facing the firm showed effective monitoring. The expertise power of the board may be based in directors’ general experience as top managers or directors as well as in prior experience gained through familiarity with events similar to those that a focal firm’s managers face at a specific moment in time.

Finally, board prestige power may lie in the reputation of directors within the institutional environment (Scott & Meyer, 1983), among the managerial elite (Useem, 1979), from their formal authority within a social organization or institution (Giddens, 1972) or from ties to other organizations through interlocking directorates (Mizruchi & Stearns, 1988; 1993; 1994). Prestige power differs from expertise power in that the latter is based on experience whereas the former is based on perceived position within social networks. Prestige power, while a general source of power for most strategic leaders, may have unique application within the context of boards of directors. Although a leader’s prestige is likely a premium with any appointment to a strategic leadership position, prestige tends to be more heavily weighted in board appointments than in top management appointments. Indeed, a central tenet in the resource dependence perspective (Pfeffer, 1972, 1973, 1988; Pfeffer & Salancik, 1978) is that prestigious individuals are recruited as directors to enhance the legitimacy of the focal firm. Hence, the prestige power of the board and its individual directors may be a singularly apt application of Finkelstein’s concept of power to the domain of boards due to the importance of external interconnections directors often bring. Such formal and informal connections with and authority within organizations in the focal firm’s institutional environment may be sources of external information that, when included as inputs to the focal firm’s information processing system, lead to a reduction of uncertainty for the focal firm (Pfeffer, 1972, 1973, 1988; Pfeffer & Salancik, 1978).

In sum, boards operate from a basis of organizational power that, while similar to managerial power, differs in the sources of its power and in the ways that power might be used to influence firm outcomes. Extension of upper echelons thinking (Hambrick & Mason, 1984) and the notion of dimensions of managerial power (Finkelstein, 1992) may inform our understanding of corporate governance in instances where boards clearly have discretion in a specific realm of decision making. Furthermore, conceptualizing the board in terms of board power may provide value in modeling the relationship between board characteristics and a focal firm’s strategic outcomes. Following are propositions articulating such a model, and these are graphically represented in Figure 1.

**BOARD POWER AND FIRM DIVERSIFICATION**
The impact of a firm’s business portfolio on firm outcomes is the object of conflicting theoretical perspectives, but management theory tends to treat firm diversification as providing potential benefits to the owners of a firm. Financial economics has argued that diversification reduces firm value by reducing the variance in returns (Amihud & Lev, 1981). On the other hand, management theory suggests that the business portfolio of the firm differs from an investment portfolio in stocks in at least one important way and that is the human capital (i.e., firm management) that makes the portfolio more valuable than the sum of returns. (Lubatkin & Chaterjee, 1994). Furthermore, related diversification may create synergies that other types of diversification do not and may reduce the effects of systematic variation (Lubatkin & Chaterjee, 1994). The key difference between the corporate business portfolio and a stock portfolio is the assumption of active management in the case of the firm and passive management in the case of securities (Lubatkin & Chaterjee, 1994). That is to say, the officers of the firm are charged with creating value through active management of the assets while securities management is focused primarily on creating a portfolio of stock that performs as well as or better than the market portfolio (Brealey & Myers, 2003). From the standpoint of strategic management theory, corporate portfolio diversification is a potential source of firm value.

Because boards are charged with the fiduciary responsibility of overseeing productive management of firm assets, monitoring managerial pursuit of firm diversification strategies is a vital aspect of corporate governance. Boards are responsible for approving strategic direction (ratification) as well as monitoring its results (Fama & Jensen, 1983) and are, therefore, responsible for monitoring strategy as well as performance. In terms of organizational control, boards may make use of both financial controls ensuring favorable outcomes for shareholders and of strategic controls (Baysinger & Hoskisson, 1990) ensuring that policies pursued by managers are those most likely to result in favorable outcomes. Hence, boards are responsible both for outcomes and for the means intended to produce those outcomes – overseeing management’s strategic behaviors.

Boards’ evaluation of strategic behaviors has received relatively little empirical investigation. Recently, Kavadis (2008) demonstrated that the likelihood of CEO dismissal increases with an increase in unrelated diversification while that likelihood decreases with an increase in related diversification. This is one of the few studies demonstrating that boards act not only in response to results of CEOs’ strategies but also in response to those strategies themselves. It demonstrates that boards react to what are perceived to be value destroying strategies through CEO dismissal. It may also be likely that powerful boards are more inclined to monitor strategic behaviors before the point at which dismissal is warranted and to inhibit pursuit of potentially value-destroying strategies.

In reexamining Amihud and Lev’s examination of the relationship between ownership control firm diversification, Lane and colleagues (1998) demonstrated that vigilant boards did not account for differences in levels of diversification. Here board vigilance was measured using a composite of the proportion of outsider directors and the proportion of firm shares owned by outside directors. This measure may have been a relatively coarse measure to capture the vigilance of boards, as governance research suggests that the proportion of outsiders lacks content validity for representing the construct of board independence (e.g., Dalton, Daily,
Elsstrand, & Johnson, 1998). Finkelstein and Hambrick (1996) suggest that consideration of agency conditions with respect to the board and CEO are really assumptions about the balance of power between them. In addition, Hillman and Dalziel (2003) suggest that boards must have both the capacity for monitoring and the incentive to do so. Such capacity implies the power to enforce its will. One way that a board may enforce its will is by overseeing the choices of strategies a CEO pursues. Powerful boards may be more inclined than less powerful boards to monitor CEO behavior _ex ante_ rather than react _ex post_ to unsuccessful behaviors that result in poor performance.

Literature on corporate strategies demonstrates a marked trend toward more focused portfolios during the last two decades of the twentieth century (Bigley & Wiersema, 2002; Comment & Jarrell, 1995; Maremont, 2004; Markides, 1990) such that strategies emphasizing a more focused portfolio have become nearly institutionalized (Kavadis, 2008; Lazonick & O’Sullivan, 2000). Such practices have certainly not been lost on boards of directors, which have experienced trends during the same period toward increasing outsider dominance and greater independence (Carey & Ogden, 2000; Parnell, 2003). Governance research suggests that the corporate refocusing of the period was driven at least in part by stronger governance (Johnson, 1996). Powerful boards possess a certain capacity to influence the CEO’s choice of strategies and may be motivated and empowered to inhibit a CEO’s pursuit of value-reducing diversification strategies and to encourage pursuit of value enhancing diversification strategies.

**Structural Power and Corporate Focus**

While the board’s position in the organizational hierarchy giving it the authority to oversee the CEO does not in itself vary, (by its very nature, the position of the board is rather static) certain aspects of board structure may make the organizational position of the board relatively dynamic. Organizational theory posits that structure defines the allocation of tasks, specifies reporting relationships, and defines formal coordination mechanisms and interaction patterns. These concepts may have some application to the organization of the board of directors. As a strategic decision making group, the board is often seen as rather amorphous in terms of structure. Expect for the role of chair, there is little vertical differentiation within the board. The division of the work of the board into committees represents a certain amount of horizontal differentiation within the board, although this has received relatively little scholarly investigation. If organization design is considered to facilitate efficiency and effectiveness in organizations, examination of board organization may yield fruitful insights about board functions and outcomes.

The work of the board increasingly relies on committees (Lorsch & Maclver, 1989) as a means to facilitate board decision-making processes (Conyon & Peck, 1998; Singh & Harianto, 1989b). The past three decades have seen an increasing incidence of committees (Vance, 1983). Although researchers have increasingly acknowledged the importance of board committees, in comparison to the volume of research on the board at large, this structural aspect of boards has received relatively little empirical scrutiny.
Some boards have many committees in addition to those mandated legally or by the firm’s listing stock exchange (i.e., nominating, compensation, and audit). Such boards likely have relatively decentralized information systems diffusing the power of the entire board. All things being equal, the proliferation of board committees may excessively divide the work of the board reducing the cohesiveness of board interaction. In contrast, allocation of board work into fewer committees may effectively focus directors’ efforts on specific issues and allow more efficient interaction among committee chairs and individual committee members. Increased efficiency and effectiveness of the board through its committee structure may enhance the capacity of the board to monitor strategic behaviors of the CEO such as choices affecting the level of corporate diversification.

P1: The smaller the number of standing committees of the board, the more focused the level of firm diversification.

Eisenhardt (1989) suggests that the number of meetings enhances the information processing of the board. More frequent board meetings increases the amount of director interaction with each other and with firm managers enhancing the quality and quantity of the board’s information reducing their reliance on insiders for information and increasing their independence. Freedom from dependence tends to make one more powerful in deciding one’s fate and in making decisions within one’s decision making purview. The increased power and independence from enhanced information makes the board less likely to allow the CEO to pursue self-interest at the expense of shareholder interests.

P2: The greater the number of meetings, the more focused the level of firm diversification.

A key element of board structure addressed by organizational researchers is board size (Finkelstein & Hambrick, 1996). Board size has demonstrated some effects on firm financial performance (Dalton et al., 1998; Hermalin & Weisbach, 2001). A meta-analysis of the board size-firm performance relationship indicated a systematic, non-zero, positive relationship between the size of the board and firm performance (Dalton et al., 1999). A narrative review of the economic literature (Hermalin & Weisbach, 2001) suggests a negative relationship between board size and performance. A larger board may be too unwieldy to adequately control and serve the focal firm’s management leading to the possibility of lower performance outcomes. Alternatively, a larger board may have a broader, richer pool of experience from which to draw. Hence, there is no clear theoretical or empirical consensus on the impact of board size on firm outcomes (Dalton et al., 1999).

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

P3a: Board size will moderate the relationship between the number of committees and the level of focus of firm diversification.

P3b: Board size will moderate the relationship between the number of meetings and the level of focus of firm diversification.

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

Research on a similar effect with regard to board equity has not been done, but it is reasonable to suggest a similar line of reasoning. It is likely that board power increases with increased ownership stakes tending to align board decisions with those of shareholders. As the ownership stakes of the board increase, directors become increasingly risk averse and unable to diversify away their risk they choose instead to support diversifying the firm thereby reducing their risk vicariously. At relatively low levels of equity, directors will have the incentive to enhance governance through effectively monitoring the CEO. However, as their equity stakes increase, their interests begin to diverge from those of shareholders, leading to decisions favoring entrenchment and risk aversion.

P4a: The greater the ownership power of the board, the more focused the level of firm diversification.

P4b: As ownership power of the board continues to increase, the less focused the level of firm diversification.

**Expertise Power and Corporate Focus**

The number of multiple directorships represented on the board may enhance the board’s expertise. Although theory and corporate governance critics suggest that multiple directorships represented on boards lead to complacent, entrenched boards, resulting in reduced board capacity to monitor, Ferris and colleagues (Ferris, Jagannathan, and Pritchard, 2003) found that multiple directorships were not significantly associated with negative performance. Boards with directors serving on multiple boards were not found to be “too busy to mind the business” (Ferris et al., 2003: 1087). These findings are somewhat at odds with the prevailing wisdom that multiple directorships reduce board effectiveness and capacity to monitor. Rather they suggest that multiple directorships enhance board expertise.

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

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

Greater board expertise results in less reliance on the inside information of the CEO due to the board’s superior capacity for interpreting and applying business information, and this leads to greater independence. While the board still relies on the CEO to formulate and implement strategy, the board will be in a better position to evaluate and monitor firm strategies (Fama & Jensen, 1983). Hence, the number of multiple directorships held by focal firm directors will be associated with a greater degree of focus in the level of firm diversification. Hence, P5: The greater the number of multiple directorships represented on the board the more focused the level of firm diversification.

**Prestige Power and Corporate Focus**

The prestige power of the board is rooted in directors’ stature as strategic leaders. The standing of directors as strategic leaders in the eyes of other important organizational actors (Finkelstein, 1992) is often considered a manifestation of an individual’s social embeddedness in the business elite (Mizruchi & Stearns, 1988; 1993; 1994; Useem, 1979; Granovetter, 1985). Members of the business elite generally seek to preserve or enhance their positions. As directors, they represent not only shareholder interests but also their own reputations (Baysinger & Butler, 1985) staking their reputation on the effective governance of a firm (Baysinger & Hoskisson, 1990). A chief dimension of effective monitoring is ensuring that firm strategies result in sustaining and improving shareholder value and one means to that end is ensuring that the firm is engaged in pursuit of value enhancing strategies. The greater the prestige power of the board, the more likely is the board to ensure managerial pursuit of value enhancing strategies. Hence, P6: The greater the prestige of the board the more focused the level of firm diversification.
Performance Implications

Firm performance may moderate the impact of board power on firm diversification. Poor performance may be perceived as evidence of a weak board. If a firm is experiencing poor performance, the board may be less likely to allow the CEO broad discretion in pursuing strategies to improve performance. During periods of high performance, managers may be more prone to use organizational slack to pursue their own interests and even powerful boards may be more likely to allow such managerial behavior. Finkelstein and D’Aveni (1994) noted that when firm performance is low powerful boards may be less likely to favor CEO duality while vigilant boards may prefer the arrangement when performance is high. CEO duality is often considered a kind of managerial perquisite, and CEOs often seek the post of board chair to enhance their reputations. CEOs are motivated to enhance their reputations also by expanding the firm through increased diversification (Amihud & Lev, 1981). When firm performance is high, powerful boards may be more likely to allow greater managerial discretion in diversifying the firm than when firm performance is poor.

P7: Firm performance will moderate the relationship between board power and the level of focus of firm diversification.

Organizational Structure

Organizational structure may impact the effects of firm diversification on firm performance. The multidivisional form has been seen as attempts by managers to adapt structure to the needs of the diversified firm seeking to create managerial efficiencies (Chandler, 1962). Diversified firms tend to rely on variants of the multidivisional form (Hill, Hitt, & Hoskisson, 1992; Markides & Williamson, 1996; Pitts, 1977; Robins & Wiersema, 1995; Rumelt, 1974). These forms are attempts to increase firm value through enhanced market power, managerial economies, and economies of scale and scope (Bergh, 1997; Seth, 1990). Consequently, not all diversification results in destruction of shareholder value. The value of diversification varies with the structures used to implement that strategy. Accordingly, the structure used at a firm will impact the value created through diversification. Boards of firms with the appropriate structures for implementation of diversification strategies may be more likely to allow pursuit of diversification in the interests of enhancing firm value.

P8: The relationship between board power and the focus of firm diversification will be moderated by the structural form used at the firm to implement diversification strategies.

DISCUSSION

A general goal of social science research is to continually strive for more representative models of social behavior. While several decades of governance research have improved scholars’ ability to model the board-management relationship, there is still much to be learned. In one sense, the agency relationship existing between the board and top management (particularly the CEO) is essentially about power (Finkelstein and Hambrick, 1996). Success in effectively monitoring the CEO depends on a board’s capacity to carry out its collective fiduciary duty to the firm’s shareholders. This capacity goes beyond motivation and implies the board’s power to
effectively monitor (Hillman and Dalziel, 2003). The capacity of the board to oversee management on behalf of firm owners is dependent on its power to effectively discharge these duties. Managers themselves are powerful actors in terms of the assets, resources, and human capital under their charge. A board’s ability to carry out its fiduciary responsibilities means relying on its own sources of power.

Boards that are dependent on firm insiders, particularly the CEO, for information about strategy formulation and implementation lack effective power, as the very essence of the notion of dependence implies a lack of power. Drawing on boards’ natural bases of power in terms of structural, ownership, expertise, and prestige power, directors may be able to exert power over firm strategic direction that balances the natural power base of managers. Balancing the power bases of the board and the CEO more likely may afford opportunities for collaboration between the two the benefit of shareholders and other stakeholders.

Finkelstein’s (1992) four dimensions of management power when extended into scholarly understanding of board-management dynamics may more fully represent the notion of board independence. Board structural power is rooted in its formal authority to appoint both the CEO and the chair. Ownership power of the board rooted in its equity holdings provide both incentive and authority to act in the best interests of shareholders. Expertise and prestige power are based in directors’ position in the social network of organizational leaders, and these forms of board power may be uniquely applicable to boards because directors often are chosen on the basis of their experience and social status. Expertise lies at the very heart of the advice and counsel role of the board, and prestige lies at the root of the role that directors play in lending legitimacy to the firm (Pfeffer & Salancik, 1978). The power of the board lies at the very core of the board’s capacity for governance, and the notion of board power may provide a fuller representation of board independence than does the notion of non-employee directors.

A key limitation of this model of board power is underrepresentation of CEO power. This first attempt at modeling board power is focused primarily on the nature of the power of boards of directors. Rather than attempt to understand how board power might interact with the power of the CEO, this model attempts to understand the nature of board power. Consideration of CEO characteristics would greatly improve the ability of the model to explain governance processes. However, the inclusion of CEO characteristics is left to the empirical investigation of the relationships proposed in this study. Another limitation of the concept of board power is that it shares along with much of corporate governance research a failure to see inside the “black box”. Because of the nature of boards and managers as organizational leaders and the privacy associated with strategic deliberations, much of governance research is hampered by dependence on constructs that indirectly represent the processes of firm governance that are truly the object of scholarly interest. In spite of the relative obscurity of the “black box” of governance, decades of research into governance and the board of directors have yielded considerable insight into the mechanisms of firm governance. In spite of that, there is much we still do not know.
REFERENCES


FIGURE 1

Board structural power: Committee structure
  Number of committees
  Number of committee meetings

Ownership power
  Board equity

Expertise power
  Multiple directorships

Prestige power

Firm performance
Organizational structure

Board size

Firm diversification
ABSTRACT

While previous research has investigated the link between organizational culture and firm performance, two cultural variables have emerged as the most commonly cited: strategic orientation and market orientation. Even though these constructs are conceptually different, researchers utilize these variables interchangeably or employ the same measures to operationalize both strategic orientation and market orientation. This is problematic, as it has caused confusion in the literature. This study attempts to delineate between market orientation and strategic orientation and to operationalize each construct while establishing construct validity. We empirically demonstrate the unique characteristics of each construct and their respective relationships to firm performance.

PERFORMANCE-CULTURE RESEARCH

A thorough review of the strategy literature over the last decade on culture reveals more than a dozen articles attempting to link culture and performance. Each study utilizes different measures of culture, performance, and levels of respondents in organizations. Unsurprisingly, findings have been equivocal, however, three operationalizations of culture research consistently emerge: 1.) studies of external market orientation (Pelham & Wilson, 1996); 2.) studies of shared values and beliefs (Denison, 1984; Goll & Sambharya, 1995); 3.) studies of consistency of shared perceptions across different levels within an organization (Gordon & DiTomaso, 1992; Christensen & Gordon, 1999, Sorenson, 2002). Within these operationalizations, the two most common cultural attributes that emerge from the extant strategy literature are market orientation and strategy orientation.

The purpose of this study is to address four issues relating to the differences between market orientation and strategic orientation. First, we establish content validity of both strategic and market orientation by drawing on the strategic management literature. Second, we establish the criterion-related validity of each dimension by investigating the relationships between (1) strategic orientation and firm performance and (2) market orientation and firm performance. Third, we empirically demonstrate discriminant validity between market and strategic orientation by showing the unique impact each construct has on firm performance. Fourth, the present study attempts to develop macro-level measures of strategic orientation and market orientation. Finally, we conclude by delineating practical implications for researchers interested in examining the future culture-performance relationships.
STRATEGIC ORIENTATION VERSUS MARKET ORIENTATION: CONCEPTUAL AND OPERATIONAL DIFFERENCES

Researchers have denoted multiple variables to measure the culture-performance relationship. One of the more prevalent culture concepts among studies attempting to examine the link between culture and firm-level performance research is strategic orientation.

Strategic orientation has been defined as a cultural attribute that influences the ability of a firm to focus strategic direction and build or sustain the proper strategic fit for superior firm performance (Barney, 1986; Gatignon & Xuereb, 1997). Interestingly, while strategic orientation is the most common cultural attribute studied in the strategic management literature, market orientation is also denoted as an integral cultural dimension (Narver & Slater, 1990; Pelham & Wilson, 1996; Homburg & Pflesser, 2000; Perry & Shao, 2002). Across the literature, market orientation is defined as a set of behaviors that create a value based on popular and superior bias of customers, thusly positively influencing production and performance of a business (Narver and Slater, 1990; Pelham and Wilson, 1996; Homburg and Pflesser, 2000; Perry and Shao, 2002).

Due to the similar nature of both market and strategic orientation, researchers have utilized these two variables interchangeably or employed the same constructs to measure both. This practice has caused confusion in the literature. Two studies (Homburg and Pflesser, 2000; Narver and Slater, 1990) denoted market orientation concentrating decision-making criteria, long-term focus, and profitability. However, an earlier study (Goll and Sambharya, 1995) identified two of the same components, decision-making criteria and long-term focus, to characterize strategic orientation. Given that confusion exists between market and strategic orientation, combined with the fact that they are the most common cultural attributes used in the culture-performance literature, demonstrates the need for a better understanding of the similarities and differences between these two constructs. Thus, the present study attempts to delineate between market orientation and strategic orientation and to operationalize each construct.

METHODS

Data Collection and Item Development

We performed three separate studies to overcome sampling deficiencies in strategy research. Study one and two were designed to ensure that we created unique content-valid measures of strategic orientation and market orientation. The final study attempted to show differences for the link between strategic and market orientation with several different levels of financial performance. Based on a review of the extant research, we developed a list of potential survey items to measure strategic orientation and market orientation as unique constructs of cultural dimensions. Once we established the content and agreement of two constructs of items, we developed an initial survey.

RESULTS OF CONTENT VALIDITY AND CRITERION-RELATED VALIDITY
We found encouraging internal reliability and dimensionality results from this initial survey. We measured internal reliability using the Cronbach’s alpha score. Specifically we found that both of our measures, strategic orientation (.90) and market orientation (.91) exceeded Nunneley’s (1967) stringent threshold of 0.70. In order to replicate the content validity of our measures from the study and to assess the criterion-related validity of our strategic orientation measure, we conducted a second study. Specifically, we used hierarchical OLS regression modeling to test these relationships.

DISCUSSION AND CONCLUSIONS

The present study also sought to establish the construct, criterion-related and discriminant validity of the measures of strategic orientation and market orientation as unique cultural dimensions and show how these measures impact firm performance. In order to develop these constructs, we first established the content validity of our measure through an exhaustive literature search of the strategy. We further strengthened this content validity through inter-rater agreement about the items included in our measure and by establishing the psychometric properties of our measure in terms of its internal reliability and factor dimensionality. We also note some limitations in the present research. We conducted cross-sectional research using a single method of data collection (e.g., surveys).

REFERENCES


A STUDY OF ORIGINAL EQUIPMENT MANUFACTURER OUTSOURCING IN CHINA: A TRANSACTION COST ECONOMICS AND RESOURCE DEPENDENCE THEORY PERSPECTIVE

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ABSTRACT
This study utilizes a transaction cost economics and resource dependence theory perspective to identify internal strengths and weaknesses, external opportunities and threats, and other key issues currently faced by Chinese Original Equipment Manufacturing (OEM) firms. Qualitative data, consisting of essay-type responses from 32 OEM managers from 16 OEMs, were collected via web-based survey in 2007 and content analyzed. Results reveal various strategic and operational strengths and challenges as well as numerous opportunities that have yet to be fully explored by OEMs. This study interprets the future OEM trends, particularly the shift from an OEM business model to the original design manufacturer (ODM) / original brand manufacturer (OBM) model.

Keywords: Outsourcing; Organizational Theories; Strategic Management

INTRODUCTION
Over the last several decades, business outsourcing has become a prominent and widespread practice. Researchers point out that now “we live in an age of outsourcing” (Grossman & Helpman, 2005: 135). Typically, an outsourcing company (an outsourcing client) keeps its core business components, such as research and development (R&D), ownership of its intellectual properties (IP), and distribution of its final products, while contracting all or part of its non-core operations to outside businesses (outsourcing providers). For example, Chrysler outsourced 100 percent of its manufacturing on half of its mini-compact and sub-compact cars (Gilley & Rasheed, 2000). Similarly, Boeing’s 787 Dreamliner, a super-efficient commercial airplane, which possesses the latest aerospace technologies, heavily relied on outsourcing suppliers and partners from “more than a dozen countries” (Boeing Company, 2007: 17).

As Grossman and Helpman (2005) addressed, outsourcing actually means establishing a mutual “bilateral relationship” governed by a contract between a client and a provider so that the provider produces goods or services to meet the client’s particular needs. A conventional view point, in keeping with a transaction cost economics (TCE) and resource dependence theory (RDT) perspective, is that core activities should stay in-house while non-core activities should be outsourced (Insinga & Werle, 2000; Kakabadse & Kakabadse, 2000) in order to achieve economies of scale (Kakabadse & Kakabadse, 2005). Clearly, the growing conviction that quick wins are achieved by pursuing core competencies (Prahalad & Hamel, 1990) has led to a
redesigning of business process outsourcing (BPO) in which firms are now outsourcing all non-core business activities, from basic manufacturing to strategic business/knowledge processes, such as marketing and R&D (Ghosh & Scott, 2005; Stone, 2004). Moreover, rapid changes in IS/IT and related areas, coupled with the emphasis that organizations place on core competencies, are major drivers for the upsurge in IS/IT outsourcing (Kakabadse & Kakabadse, 2005).

Consistent with these popularities in business practice, prior outsourcing research has largely focused on BPO and IS/IT outsourcing (Earl, 1996; Murray & Kotabe, 1999), with little attention paid to traditional manufacturing outsourcing. As such, manufacturing outsourcing has been largely ignored by researchers (Gilley & Rashied, 2000). However, from a TCE and RDT perspective, if outsourcing objectives are: (a) cutting costs while focusing on core competencies (Earl, 1996), and (b) efficient use of worldwide labor, capital, technology, and resources (Bhagwati, Panagariya, & Srinivasan, 2004), then outsourcing decisions should be driven by the nature of the business. Manufacturing outsourcing, as a common practice, deserves more attention from researchers. Furthermore, since the world is changing at an increasing pace; issues affecting manufacturing outsourcing need to be re-examined, and issues facing clients and providers need to be re-assessed.

Therefore, this paper, focusing on sourcing providers, attempts to explore unique aspects of the manufacturing outsourcing industry. In order to capture the issues facing the manufacturing outsourcing industry, we narrowed down to the OEM industry in China simply because of its important position in the world’s manufacturing outsourcing sector and its highly dynamic industry environment.

TRANSACTION COST ECONOMICS AND RESOURCE DEPENDENCE THEORY

Transaction Cost Economics

TCE describes a firm as an efficiency-inducing administrative instrument that facilitates exchange between economic actors (Leiblein, 2003). Transaction costs, apart from production costs, are costs relating to facilitating and completing an economic exchange. In the outsourcing case, for client firms, transaction costs refer to the costs of managing the outsourcing transactions and the risk associated with the sourcing relationships. According to TCE, the decision to make, buy, or ally involves comparing the production costs that would be incurred from producing a process or product internally to the transaction costs associated with purchasing the process or product from an external source (Williamson, 1979; 1996). Client firms need to take into account all of the ramifications of outsourcing on the firm, in order to maximize the economic value added through interactions with sourcing providers (OEMs in this study). For sourcing providers, the transaction cost of working for clients can be seen in terms of their giving up value at the front end of the process in terms of product development and design, as well as at the end of the process in terms of branding and distribution. Conflicts arise when parties, the client and its sourcing provider, each try to minimize their own transaction costs.

Resource Dependence Theory
The RDT perspective maintains that the key to a firm’s survival is dependent on its ability to acquire and maintain critical external resources (Oliver, 1991; Pfeffer & Salancik, 1978; Ulrich & Barney, 1984). This ability, in turn, produces outcomes such as decreasing the firm’s dependence on other organizations and/or increasing others’ dependency on it (Pfeffer & Salancik, 1978). Firms that lack essential resources will seek to establish relationships with other actors in order to obtain the needed resources. In cases in which the relationships with these actors (client firms in this study) is a dependent one, putting a firm (an OEM in this study) in a less powerful position, the firm will attempt to alter the relationship in order to minimize the dependence on those actors in more powerful positions (Pfeffer & Salancik, 1978). Issues arise when the client firm attempts to maintain its power in the relationship with its providers and the sourcing providers try to minimize their dependence on it through strategically acquiring critical resources.

**Economic Development in China**

China began its “Reforming and Opening” policy 27 years ago; today, the country is an economic powerhouse with the world’s most dynamic gross domestic product (GDP) growth, sustaining 10% annual growth in its GDP – achieving $1.8 trillion in 2005, approximately 14% of the U.S. GDP (National Bureau Statistics of China, 2007). China’s manufacturing exports, for example, grew more than tenfold within fifteen years, from $39 billion in 1988 to $398 billion in 2003 (Spencer, 2005). Furthermore, with China’s population exceeding 1.3 billion, domestic demand has become the engine driving China to become the fastest growing market in the world. As a result, many outsourcing firms view China as the most desirable destination for their outsourcing. Consequently, the headquarters of various industries are relocating to China from Singapore, Hong Kong, and Australia.

Simultaneously, environmental factors, such as low-cost labor, low cost for real estate and utility, the legal system, technology development, global and domestic competition, and market liberalization continue to evolve in China (Minevic & Richter, 2005). One of the biggest environmental changes has been that China became a member of the World Trade Organization (WTO) in December, 2001. Thus, “China has agreed to undertake a series of important commitments to open and liberalize its regime in order to better integrate in the world economy and offer a more predictable environment for trade and foreign investment in accordance with WTO rules” (World Trade Organization, 2001). Since entry into the WTO, the country has aggressively integrated itself into the world economy by liberalizing its market. For instance, China has “repealed, revised, or enacted more than one thousand laws, regulations, and other measures” (United States Trade Representative, 2006: 3) in compliance with the WTO agreement, such that price controls will not be used for purposes of affording protection to domestic industries or services providers against international competitors (World Trade Organization, 2001). Considering the automobile industry as an example, tariffs were reduced to 25% on all imported automobiles and 10% on imported automobile parts and components as of July 2006. Whereas in 2002, for instance, the tariff was 50.7% on saloon cars with a cylinder capacity exceeding 3000cc, and 31.4% for safety airbags (U.S. Department of Commerce, 2007). This environmental change, from a TCE perspective, has greatly impacted the entire global economy, causing (a) more multinationals to expand their operations in China; (b) existing
investors to increase their contractual volume; and (c) more foreign investors to seek out business opportunities and partners. For instance, in 2003, Microsoft signed an outsourcing contract of $800 million to China for the next 5 years (Qu & Brockkehurst, 2003).

The Manufacturing Outsourcing Industry in China

As one of the most important off-shore locations for U.S. outsourcing clients, China's manufacturing outsourcing industry dominates the world’s outsourced manufacturing sector due, in part, to labor costs one-fifth of those in Europe and the United States (Hexter & Woetzel, 2007). The industry is growing so rapidly that almost any manufactured item can be sourced in China (Outsourcing Institute, 2007); it supplies as much as 50 percent to 80 percent of the global production within many product categories (PriceWaterhouseCooper, 2005). In addition, China has significantly increased its manufacturing capacity, resulting in an increase of 34 percent in manufacturing revenue in the year 2002 alone (Wendin, 2005).

This dynamic manufacturing sector is made up of several business models, namely, OEM, original design manufacture (ODM), and original brand manufacturers (OBM). However, the lines between business models are blurring. The majority of the sector consists of OEMs that manufacture a near limitless variety of semi-commodities and products for their clients under specific contracts. The clients then market the products under their brand names. Some OEMs are classified as electronic manufacturing service (EMS) providers, and many provide pure contract manufacturing (CM) services to foreign clients (Technology Forecasters, 2005a). ODMs, on the other hand, own and/or design in-house products that are branded by their buying clients. ODMs are more than “factories-for-hire,” they design and manufacture a growing variety of high-volume standardized products as they acquire more design skills (Wendin, 2005), and co-design products with their clients. It is predicted that China’s ODMs will continue expanding in profitability and number, while competing with OEMs for business contracts by producing value-added products at competitive prices (Merritt, 2005).

OEMs and ODMs do not own their own brands; instead, they manufacture their clients’ products to meet contract specifications. However, some ODMs are actually shifting to OBM, from being manufacturing products to becoming emerging competitors of their clients. OBMs design and manufacture their own brand name products that are then sold by the OBMs. Many OEMs are rapidly moving beyond just manufacturing products designed by their clients by strategically adopting ODM/OBM characteristics, from a RDT perspective, thus allowing them to pursue greater opportunities and reduce their dependence on their clients. The evolution of the industry is inevitable. However, the time required for achieving the industry evolution, and the scope at which it will occur, remain unclear. Nevertheless, Merritt (2005) pointed out that obstacles, such as a lack of mature software design, testing, and logistics capability, may stand in the way of the evolution.

In an effort to examine the provider’s position within the outsourcing relationship, this study focuses on the dynamic OEM industry in China. Specifically, this study aims for a better understanding of the industry’s current situation as outsourcing providers, elucidating opportunities, managerial challenges and strengths, while providing insight into threats and future trends.
METHOD

A qualitative methodology was chosen due to the exploratory nature of this study. We reasoned that querying managers by allowing them to express opinions to open-ended questions would provide rich information not possible with a quantitative methodology. We sought to collect more focused opinions from practicing managers regarding outsourcing conditions in their OEMs. We were interested in assessing managerial challenges, strengths, and opportunities while providing insight into threats and future trends. Our research questions were:

What are the external opportunities and threats, internal strengths and weaknesses, and other key issues currently being faced by Chinese OEMs, and what effects are those issues having on OEMs and the industry? How is the OEM industry reacting and why?

Respondents

In this study, contact was made with 16 OEM firms, all of which were willing to participate in the study. The primary author sent out a solicitation email to these 16 OEMs and asked the firms to post the email in their public poster areas. (There is no way for us to know how many people actually read the email letter and decided whether or not to participate. Therefore, we could not compute response rate.) The OEMs that participated produced a wide range of manufactured products for major U.S.-based firms as clients. The OEMs were located in eleven cities across five provinces ranging from north to south along China’s coastline. The provinces included Guangdong and Jiangsu, plus two municipalities, Beijing and Shanghai. We included top, middle, and lower level managers to reduce response bias and produce a theoretical sampling that included a variety of perceptions common within OEM firms in China.

In total, 38 responses were received, including 6 incomplete responses that were excluded, resulting in 32 usable responses. In terms of OEM product types, the 32 responses were distributed as follows: clothing (25%), textile machines (16%), construction equipment (16%), handcrafted products (13%), electronics (9%), sportswear (9%), hardware and tools (6%), and furniture (6%). Of the 32 usable responses, 9 responded in English and 23 in Chinese. The 23 Chinese responses were first translated from Chinese into English by the primary author, and then translation was independently verified by a doctoral student whose native language is Chinese. Among the 32 OEM managers, 7 (22%) were top management, 12 (38%) were middle management, and 13 (41%) were lower management. Respondents’ work experience ranged from 8 months to 10.5 years within their current firms, and 1.6 years to 20.1 years overall within the industry.

Procedure

Data were collected via anonymous web survey from March to May in 2007. The survey contained 10 open-ended questions for capturing rich information at several levels of analysis, (the OEM industry as a whole, individual OEM organizations, and individual employees in the industry.) Survey questions were written in both English and Chinese; back-translation (Brislin, 1980, 1993) was used to translate the questions from English to Chinese. (The primary
researcher, as a Chinese native and former management consultant in China, noted that, due to Chinese sensibilities, the term *managerial weakness* would be preferred over the term *threat* to acquire more honest, less-defensive responses from Chinese managers.) The survey questions were:

1. In the OEM industry in China, how has the external environment changed since China entered the WTO in December 2001?
2. What opportunities exist for your company in the OEM industry in China?
3. What are the threats to your company in the OEM industry in China?
4. What are the strengths of your company in the OEM industry in China?
5. In your opinion, what are the functional areas, specific tasks, or other things that could be improved in your company?
6. What recent companywide changes are you aware of?
7. What are the major managerial challenges that your company faces due to the changing environment since December 2001?
8. What recent changes have you witnessed in your job?
9. What are the major challenges faced by you due to the changes in your job?
10. Please list any other comments and insights about the OEM industry in China, your company, and your job?

Respondents had the option of choosing to answer the survey in either English or Chinese. They were provided unlimited space in the reply text boxes for their unconstrained replies. They were also asked to complete demographic information such as company name, job position, years of work experience in current company, and total years of experience in the OEM industry.

**Analysis**

We conducted content analysis following data collection. We strictly adhered to Krippendorff’s (2004) guidelines specified for rigorous analysis of qualitative data. First, data were unitized on the basis of categorical distinctions (Krippendorff, 2004) by two researchers separately. Krippendorff (2004:100) described recordable units as “units that are distinguished for separate description…, and coding.” We unitized each interview into meaningful and distinguish units that contained words, phrases, terms, or sentences. Units were then classified into four levels, namely: (a) national, (b) industry, (c) organizational, and (d) individual. Using the constant comparison method (Krippendorff, 2004), we independently examined units at each of the four levels and inductively detected conceptual meanings and patterns, resulting in an initial set of meaningful first-order themes (Glaser & Strauss, 1967). We repeated this procedure to iteratively refine the initial set of themes until a relatively comprehensive set of first-order themes evolved. Meanwhile, we also abductively collapsed units into theoretically distinct groupings, or second-order themes. By abductive, we mean that we inductively clustered units into theoretically distinct groupings when no theory was available, and that we deductively clustered units into theoretically distinct groupings whenever theories were available. For example, at the organizational level, human resources management (HRM) related units were grouped on the basis of Robbins and Coulter’s (2007) HRM theoretical framework. The finalized themes, numbers of units, and examples of responses are outlined in Tables 1, 2, 3, and 4.
Second, after the themes were finalized, we developed the definitions for all the first-order and second-order themes. To ensure confidence of this study, we recruited a third researcher to code the units into themes. Based on the definitions, three researchers independently coded the units, classifying them into the identified themes.

Third, the inter-rater reliability, Cohen’s Kappa (Cohen, 1960), was computed. Cohen’s Kappa, indicating the degree to which the observed agreement exceeds the agreement expected on the basis of chance, is recommended as a measure of inter-rater reliability for nominal level measurement (Tinsley & Weiss, 1975). The overall Kappa coefficient of this study is .86, which is considered a high reliability for qualitative studies (Futrell, 1995). The Kappa coefficients ranged from .71 to 1.0 for the first-order themes and .79 to 1.0 for the second-order themes.

RESULTS

The SWOT framework was applied as an analysis tool in order to uncover various strengths and weaknesses encountered by OEMs across all management levels, as well as current opportunities and threats within the industry. The SWOT analysis results are summarized in Tables 5 and 6.

Opportunities and Threats

Our findings suggested that perceived opportunities outweigh perceived threats, and that China’s industry is likely to continue growing. The major opportunities mentioned by managers included ever-burgeoning business opportunities, an optimal governmental environment, high economic growth potential, and technology advancement and industry transformation prospect. Major threats included competition from OEMs in the same industry and foreign countries as well. In addition to strong competition, rising labor and material cost, economic concerns (particularly the appreciating value of Chinese currency), and human resource (HR) related issues such as inadequacy of the labor force, represented a great concern to all levels of management within the OEM industry.

An interesting finding was that, across all managerial levels, surveyed managers displayed high confidence in their industry’s competencies in producing all kinds of high quality products. The strong confidence empowered the OEMs to seek better business partnerships and models. In the first case, many respondents indicated that they were unsatisfied with a contract-only relationship with their clients. In the second case, most respondents expressed a strong desire for industrial transformation – shifting from their current OEM manufacturing-only function toward the development of, and, ultimately, the marketing of, their own brand products – transforming the firms into competitors within the ODM and OBM segments.

Strengths and Weaknesses
Major strengths of OEMs included: high competencies and wide-ranging capabilities in manufacturing high quality products; optimism concerning future business prospects at the firm level and the industry level; a strong focus on organizational learning; and the value of self-learning at an individual level. The many comments reported within the data concerning organizational learning and self-learning might be interpreted as encouraging findings for the industry. The data revealed that OEMs were eager to learn business knowledge and internalize new technology, and that their employees were self-motivated to learn work-related knowledge and improve their language proficiency. Given the content of the responses, the reason behind the employees self-learning motivation was most likely due to the fast-changing environment, the challenging nature of their jobs, and employees’ language proficiency levels. This finding is in responding to Qu and Brocklehurst’s (2003) assertion that the language barrier is one of the most serious obstacles preventing Chinese firms from cooperating with foreign clients. As OEMs work more frequently with foreign clients, employees feel a strong need to improve their English language proficiency as well as their work-related knowledge. These activities are recognized as leading to desirable outcomes such as getting promotions in their firm or being more marketable within the industry job market. Additionally, collective self-learning at the individual level also serves to informally fuel organizational learning.

The greatest weakness faced by OEMs was almost invariably human resource-related, including such issues as: the inadequacy of the knowledge worker labor force (23% in the weakness category); a lack of formalized training (19%); and high job turnover (18%). Based on the large quantity of qualitative units related to these areas, it seemed that OEM managers were well-aware of these HR-related issues and were on the forefront of their minds. Their responses concentrated on retention issues (13% in the HR-related issue category), as well as knowledge workers recruitment and selection issues (13%), as areas in need of revision and improvement in terms of HR policies and practices. No clearly-defined public knowledge, in terms of best HR policies and practices, exists within the OEM industry. As survey responses stated, to sustain current operations and fuel future growth, OEMs must find solutions for these HR-related issues, recognizing that knowledge workers are corporate assets crucial to their R&D and marketing functions.

The second grouping of prevalent weakness was strategy-related issues which, in line with the industry transformation, mainly concerned difficulties in organizational transformation. Specific areas included branding and marketing issues (44% in this category) and organizational restructuring issues (32%). In addition, responses suggested that, at the individual level, high job demands (22% at this level), coupled with job function changes and resulting role changes and perhaps role ambiguity (12%), provide for greater job-related stress (30%).

Future Trends

Two future trends can be drawn from the data. First, OEMs are not satisfied with a strict contractual relationship with their clients; instead, they desire to establish long-term, strategic partnerships with key clients. Second, as strong competition and rising costs continue to affect OEMs, some competent OEMs will look for ways to exit the OEM sector by transitioning into the ODM and/or OBM sector.
From a TCE perspective, for client firms, outsourcing is an economic exchange in which the sum of total transaction and production costs is minimized (Williamson, 1979). Client firms that outsource their manufacturing seem to do so due to perceived low transaction costs including the direct economic costs associated with sourcing product/service development and delivery, monitoring and control costs incurred to ensure that the OEMs act in the best interest of the firm, and mediation and legal costs accrued should the OEMs act in a manner inconsistent with the terms of the sourcing contract (Williamson, 1979). The low labor and materials costs and large labor pool accessibility in China has led to a shift in production from the U.S. and Europe. Although TCE assumes that individuals are self-interested (Williamson, 1996), both the increased number of OEM partners and heightened competition among OEMs can lead to decreased tendencies of engaging in opportunistic actions and shirking behaviors (Shook, Adams, Ketchen & Craighead, 2007). This may be the motive for client firms to manage their manufacturing outsourcing activities on a contract basis.

For OEMs, the transaction cost of working for foreign clients can be seen in terms of their giving up value at the front end of the research and development capability, as well as at the end of the branding and marketing activities. Derived from the data, OEM managers recognize the high transaction costs their firms suffer in terms of lost potential profits due to the economic value added through these design, branding, and marketing activities. In addition, strong industry-wide competition further reduces OEMs’ profit margin. Consequently, when outsourcing activities in which the total production costs exceed gains (i.e., profit and knowledge) from outsourcing contracts, OEMs are actively adopting ODM and OBM activities to capture the related economic value.

From a resource dependence perspective, when resources are not critical, and can be performed by many providers, they most likely are outsourced at market value. This is specially the case in China’s OEM industry where client firms have many options at the marketplace to choose whom to place outsourcing contracts, thus lacking incentive to build long-term partnerships with their providers. Client firms view their relationship with outsourcing partners mainly contractual specified by their outsourcing contracts. On the other hand, most OEMs depend on these foreign clients for business and need to compete with other OEMs, in order to win the outsourcing contracts, at a lower price, higher product quality, faster delivery pace, and more value-added, technological components. The power imbalance between client firms and OEMs has a great impact on OEMs – OEMS strongly desire to establish long-term partnership with their clients and strategically acquire scarce and valued resources such as technological capability, brand design, and market accessibility, thus altering the relationship with their clients in order to reduce the power imbalance (Casciaro & Piskorski, 2005; Pfeffer & Salancik, 1978). At the same time, as OEMs maintain critical resources, they are aggressively seeking opportunities to increase technology proportion of their manufactured products and to develop their own products for the domestic market, thus minimizing the dependence on their clients and putting themselves in more powerful positions. This reflects the resource dependence perspective that the choice of strategic actions are attempts to reduce uncertainty by acquiring power and to actively control the visible external pressures by deciding how to cope with interdependencies rather than conforming to external criteria (Oliver, 1991). In fact, the OEM future trends suggested by the data, 1) developing stronger, long-term ties with foreign clients and 2) shifting to the
ODM/OBM model – both make sense, even though they seem contradictory on the surface in terms of moving in different strategic directions, since both make OEMs less dependent on any one single client.

DISCUSSION

Concerning the first trend – the conventional view in the outsourcing literature is that short-term contracts tend to be used in manufacturing outsourcing (i.e. non-core component parts), and that clients and providers form a strict contractual relationship at the operational or transactional level (Greaver, 1999). In contrast to this view, however, the data clearly indicate that OEMs have a strong desire to establish and build long-term, strategic relationships with key clients. This is in line with outsourcing as defined by Grossman and Helpman (2005), who, in fact, emphasized a mutual “bilateral relationship” between a client and a provider. It can help both parties sustain the relationship in the long run and, if the relationship goes well, further vertical integration may be a solution to create a win-win situation for both parties, especially when environment is uncertain and contains scarce resources. To clients, this may be viewed as acquisition of appropriate resource to sustain competitive advantage. To providers, this may be seen as strategically utilization of their assets and capacity. This finding coincides with Kakabadse and Kakabadse’s (2005) study in which, focusing on outsourcing clients (the other side of the outsourcing coin), they identified the critical future trend to be effectively managing relationships with key trusted providers. They emphasized that establishing meaningful relationships (i.e. Keiretsu-type relationships), governed by performance-based contracts, with a number of key providers, in order to improve product quality and simultaneously apply great cost discipline, will become an ever-increasing competitive imperative for outsourcing clients. Consequentially, clients must evaluate their current outsourcing practices and the impact on their relationships with their key providers, and strategically establish meaningful relationships with their key providers.

Concerning the second trend, as previously stated, because of the transition of the OEM industry, in which OEMs are developing the core competencies and activities of ODMs, no clear distinctions exist separating the two business models. Many companies approach a hybrid model in which they offer both OEM/CM and ODM services (Carbone, 2004). Due to the fact that OEM/ODM firms do not own their own brands, the earnings growth and the stock value of OEM/ODM firms are inevitably affected by the profitability and market performance of their clients and by OBMs (Yu & Hsu, 2002). Thus, there is more incentive for OEMs to become ODMs and OBMs.

Furthermore, based on the data, OEMs recognized the massive demand from the Chinese domestic market, the largest in the world, and are therefore transforming themselves in order to tap into the huge market opportunity. The data highlighted certain specific strategic trends that OEMs are pursuing, including: (a) gradually gaining business and marketing knowledge of the products they manufacture, (b) increasing their investment in R&D, and (c) developing and marketing their own brands in the domestic market. This may be the first step in the OEM-ODM-OBM transitioning. It is foreseeable that, after newly transitioned OBMs successfully launch their own products in the domestic market, some of them may, when opportunities present themselves, aggressively pursue initiatives focused on entering the global market by
means of strategic alliances with foreign companies, organic expansion, and/or acquisition of foreign brands and companies (via forward vertical integration) (Child & Rodrigues, 2005). According to China’s Ministry of Commerce (2006), China’s non-financial direct overseas investment was $6.92 billion in 2005, rising from a mere $551 million in 2001, indicating that a growing number of Chinese companies are seeking business opportunities overseas. As the manufacturing powerhouse in the world, China’s OEM industry’s enormous economies of scale and competency can be leveraged toward achieving further growth in both its domestic market and international markets as well. Therefore, clients must analyze how those ODMs/OBMs transformed from their original OEM industry positioning will reshape the domestic market and global market as well and what the impact will be to them.

Conversely, also driving the trend for changing business models is that OEMs are facing fierce competition both domestically and internationally (i.e., The Asian Development Bank, 2007). Production competency and over capacity, coupled with intensive competition, is driving gross margins to an unprecedented low level, falling from 25 percent to 15 percent by the year 2007 (Wendin, 2005). Consequently, OEMs are under constant pressure to add value, fueling their march toward the OEM-ODM-OBM transformation. As summarized in the Outline of the Eleventh Five-Year Plan (2006-2010), the Chinese government is “promoting development by optimizing industrial structure” and “improving the capacity of independent innovation,” indicating a countrywide industrial change pattern of development toward growth driven by technology and innovations (National Development and Reform Commission, 2006, Chapter 1). From the data, some respondents did urge that the Chinese government should include the OEM industry transformation as part of China’s industrial restructuring plan and provide necessary support, such as financial resources, to the successful transformation. At the organizational level, survey respondents recognized certain difficulties in transitioning, such as an underdevelopment of technology, a lack of R&D capability, and insufficient financial capital and human resources. Additionally, respondents reported that their top management needs to work on better strategic architecture to assure their firms’ short-term success, and should focus on increased research and development capabilities to build future, long-term success.

Limitations

This study has several limitations. First, the study findings cannot be generalized beyond the OEM industry in China. Second, although our sample contains 16 OEMs manufacturing different types of products from different geographic locations, theoretical sampling (Glaser & Strauss, 1967) gaps may remain in terms of representativeness of the overall OEM industry. Third, we did not collect firms’ financial information or performance data, which would be useful in comparing differences in respondent comments based on their individual firms’ performance.

One content analysis issue may be worthy of our attention - the inconsistency in findings between the industry level and the organizational level. Our findings suggested that reported weaknesses greatly exceeded reported strengths at the organizational level, despite all 32 respondents reporting that the industry as a whole is continuously growing. Certainly, the anonymous web survey allowed respondents to freely share negative perceptions concerning their company and frustrations from their work.
Additionally, one explanation could be that, when the data were unitized, no comparative weight was assigned to individual units. Instead, major issues in each SWOT category were derived based solely on the frequency of the responses mentioned by the respondents at the organizational and individual level. Based on the numbers of the data units, there were far more weakness-related units than strength-related units. It may be that one data unit within the strength category should be equal to two or more units of weakness in terms of weighted importance. However, there is no way for the authors to apply any weighting to responses.

Another explanation may lay in the fact that 78% of the respondents were middle- and lower-level managers who deal day-to-day with work challenges and job frustrations. One should consider that the 16 OEMs within this study are located at the forefront of China’s manufacturing outsourcing frontier, where most potential clients make their first stop in looking for outsourcing providers, and where OEM firms are highly concentrated. The strong competition, rapid changing environment, fast work pace, and high job stress contributed to their responses in weakness. It is not surprising that the major weakness pertained to job and/or HR related issues, accounting for 25% of the total responses at the organizational level.

Future Research

Future research should be conducted utilizing a broader, representative sample of OEMs in China, including firms that manufacture other types of products and that are located in other geographic regions. Quantitative studies would be very beneficial in further corroborating the findings within this study, in investigating some specific issues uncovered in this study in a great detail, and in identifying other issues in addition to this study’s findings.

Implications

The data collected within this study provides insight into the managerial perspectives of Chinese OEM managers. It examines how they view their industry’s environmental complexity, as it relates to industry growth potential, technology advancement and industry structural change, competency and capability, competition and costs issues, and human resource related issues. Importantly, future trends, OEMs’ strong desire to establish long-term, strategic relationships with key clients and OEM-ODM-OBM industry transformation, were derived from the data.

The findings are of significance to OEMs. The study identified opportunities and threats in the OEM industry and uncovered the types of strengths and weaknesses facing OEM firms. OEMs need to deal with human resource related issues, in order to have a better understanding of the pervasiveness of the challenges, capitalize their unique assets and capability such as competency and organizational learning ability, and capture the market opportunities.

The findings of this study are of value to both current outsourcing clients and those firms that have plans to outsource their business operations to China. The study provides insight into OEMs as outsourcing providers, in particular, how the external environment is affecting them, and how they are adapting through OEM-ODM-OBM transformation. Clients may need to evaluate business relationships between their providers and assess impact of the industry
transformation on their business, in order to reduce environment uncertainty and sustain competitive advantage in the market.
REFERENCES


TABLE 1
Major Themes and Samples of Responses
(National Level)

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>N</th>
<th>Samples of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Economic Advantages - Opportunities</td>
<td>15</td>
<td><strong>Low Costs</strong>&lt;br&gt;2 China has low labor cost advantage. Low production cost, and low labor cost destinations such as China.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Overall Economic Growth</strong>&lt;br&gt;4 Since China entered the WTO in 2001, the exports hit record high. Since China entered the WTO in 2001, China is more integrated in the international business family. Overall, China’s economy is growing continuously.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Potential for Foreign Investor into the OEM Industry in China</strong>&lt;br&gt;9 Free trade fosters foreign investment into China. The industry is attracting more clients from all over the world. More multinationals build their manufacturing facilities in China.</td>
</tr>
<tr>
<td>2. Governmental Advantages and Opportunities</td>
<td>17</td>
<td><strong>Business/Operating Environment</strong>&lt;br&gt;4 Overall, the external environment is better. China's healthy open market environment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Government Deregulation and Services</strong>&lt;br&gt;13 The customs duties on imported materials and parts (into China) are lower. The Chinese government provides services more efficiently, openly, and fairly. The government is more open and helpful.</td>
</tr>
<tr>
<td>3. Economic Concerns - Threads</td>
<td>7</td>
<td><strong>Exchange Rate</strong>&lt;br&gt;7 RMB (Chinese currency) exchange rate is edging up. This is a big problem to OEM firms. More opportunities also bring high risks, such as ... foreign-exchange risk, etc.. Higher foreign-exchange risk.</td>
</tr>
</tbody>
</table>

*Note: 1. The statements are randomly selected from responses of top, middle, and lower level managers.
2. N represents the numbers of units that fall in each major themes and second-level themes.*
### TABLE 2
Major Themes and Samples of Responses
(Industry Level)

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>N</th>
<th>Samples of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Industry Changes/Transformation</td>
<td>44</td>
<td>China’s OEM industry has more business opportunities. Their (the OEM industry) revenue and profit are increasing.</td>
</tr>
<tr>
<td>Business Opportunities</td>
<td>24</td>
<td>Individuals working in the OEM industry have more employment opportunities and higher income. The industry has created more employment opportunities in China.</td>
</tr>
<tr>
<td>Employment Opportunities</td>
<td>4</td>
<td>The OEM industry is close to its maturity stage.</td>
</tr>
<tr>
<td>Maturity of the Industry</td>
<td>3</td>
<td>China’s OEM industry, originating from a pure manufacturing industry, has started to transform into an industry that develops its own brand products, that builds its brand recognitions, and that produces more value-added products. Every OEM firm in the industry wishes/plans to have its own brand products in the future.</td>
</tr>
<tr>
<td>Shift to OBM/ODM</td>
<td>13</td>
<td>The industry can produce almost everything. The industry has very large production capacity.</td>
</tr>
<tr>
<td>2. Organizational Learning &amp;</td>
<td>9</td>
<td>The OEM industry is learning advanced techniques and technology. R &amp; D is still underdeveloped in the industry.</td>
</tr>
<tr>
<td>Competencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology/R&amp;D Advancement</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Production Capabilities</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3. Challenges to Industry</td>
<td>50</td>
<td>The competition in the OEM industry is intensifying. (The industry is) facing competition from some foreign competitors.</td>
</tr>
<tr>
<td>Development - Threads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition</td>
<td>26</td>
<td>Although the total output value in the industry has been increasing, the profit rate is constantly dropping.</td>
</tr>
<tr>
<td>Decreasing Profit Margin</td>
<td>10</td>
<td>Labor and material costs are rising.</td>
</tr>
<tr>
<td>Rising Cost</td>
<td>4</td>
<td>Lack of talented employees to develop and manage brand products in the industry. Needs more talented employees (white collar employees such as engineers) in the industry.</td>
</tr>
<tr>
<td>Competition for Highly Skilled R&amp;D</td>
<td>6</td>
<td>Clients are asking for higher quality standard products. The OEM firms in the industry must improve their product quality.</td>
</tr>
<tr>
<td>Personnel/Production Workers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client Quality Expectations)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

*Note: 1. The statements are randomly selected from responses of top, middle, and lower level managers.*
2. N represents the numbers of units that fall in each major themes and second-level themes.

TABLE 3
Major Themes and Samples of Responses
(Organizational Level)

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>N</th>
<th>Samples of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Strategic Level - Planning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategy / Top Management Team</td>
<td>15</td>
<td>Low cost strategy is no longer a good strategy (in my company). The top management needs to have a long-term strategy to expand our business globally.</td>
</tr>
<tr>
<td>Increase in Branding and Marketing / Shifting to ODM/OBM</td>
<td>34</td>
<td>Our company is building a foundation to develop our own brand products. We (the company) are preparing to transform into an ODM company.</td>
</tr>
<tr>
<td>Organizational restructuring</td>
<td>10</td>
<td>The company should have a well designed organizational structure (which needs to be improved). We restructured the organization in coping with the changing environment. For example, VP-Marketing used to be in charge of the Import/Export department. Now, we have created a new position -VP, International who is in charge of all import/export businesses.</td>
</tr>
<tr>
<td><strong>2. Strategic Level – Leading</strong></td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Organizational Development – Business Opportunities</td>
<td>25</td>
<td>My company has more business contracts. Our company is expanding, from small to big. (My company) build(s) its own reputation.</td>
</tr>
<tr>
<td>Development of Reputation</td>
<td>3</td>
<td>Good reputation (is my company's strength.)</td>
</tr>
<tr>
<td>Organizational Learning / Efficacy - Experience</td>
<td>13</td>
<td>My company has over 20 years manufacturing experience. My company has gained experiences.</td>
</tr>
<tr>
<td>Organizational Learning / Efficacy – Technology/ R&amp;D / Innovation</td>
<td>23</td>
<td>My company is increasing technological component in product. To my company, it is a constant learning process. We have learned advanced production techniques and technology.</td>
</tr>
<tr>
<td>Organizational Learning / Efficacy – Production / Product Quality</td>
<td>35</td>
<td>We guarantee our clients for high quality manufactured products. (My company has) strong mass production capability.</td>
</tr>
<tr>
<td>Movement Toward Long-Term Client Relationship / Risk-Sharing-Benefit-Sharing with Clients</td>
<td>11</td>
<td>We have long-term clients in partnership with our company; the clients and our company share risk and profit; we have built trustful relationship between our company and our clients. As a new CEO, I focus on building sharing-risk-sharing-benefit long-term partnerships with our clients.</td>
</tr>
<tr>
<td>Major Themes</td>
<td>N</td>
<td>Samples of Responses</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>3. Operational Level – Organizing</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| HRM - Planning                                   | 6 | *HR management (is the challenge the company faces.)*  
(My company is) improving our HR policy and practice.                                                                                       |
| HRM – Recruitment and Selection – Inadequacy of the Labor Force | 23 | *It's harder to hire talented employees who can speak fluent English and also know business environment.*  
Lack of talented employees, especially those R&D engineers (which is the challenge the company faces.)*                                      |
| HRM - Recruitment and Selection – Other Comments  | 19 | *Our company has attracted talented employees.*  
My company needs to hire more technology talents and experienced managers (which needs to be improved).*                                      |
| HRM – Performance Management / Promotion Fairness | 2  | *The company cannot promote an employee because he/she has relationship with company's management.*  
The company should not promote an employee because he/she has Guanxi (relationship) with or a relative in the top management.*                |
| HRM – Compensation and Benefits                  | 6  | *The company needs to give engineers more incentives (salary plus stock shares/bonus).*  
(My company needs to) increase employees’ salary.                                                                                           |
| HRM – Orientation and Training                   | 20 | *The company lacks training programs for the employees.*  
We should hire a professional training firm to provide companywide management training programs.*                                           |
| HRM – Career Prospects and Development – Turnover | 18 | *High job turnover is always a big problem (in my company).*                                                                                    |
| HRM – Career Prospects and Development – Retention| 14 | *To retain talented employees is my job focus (as a CEO).*  
We are competing with multinationals and large SOEs for engineers. How to retain engineers is a big challenge to my company.*               |
| Communication                                    | 2  | *Managers need to improve their communication skills.*  
The company needs to improve communications between branches - headquarters and among branches.*                                            |
| Firm Resources – Financial Resources             | 7  | *The biggest challenge is we need more financial resources to ensure successful transformation (into an ODM firm).*  
We have retained financial resource.*                                                                                                          |
| **4. Operational Level – Controlling**            | 65 |                                                                                                                                                      |
| Production – Managing                            | 8  | *My company maintains certain production capacity.*                                                                                               |
### Capacity

The company should increase its capacity.

### Production - Meeting Client Time Demands

- **Clients are very demanding on products delivery schedules.**

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>N</th>
<th>Samples of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production - Operations Management</td>
<td>8</td>
<td>The physical environment of the assembly line is not good enough. Operations management (needs to be improved.)</td>
</tr>
<tr>
<td>Quality - Quality Control / Management Systems</td>
<td>14</td>
<td>Our company has established a management system that meets the international standard. Stable quality.</td>
</tr>
<tr>
<td>Quality - Client Quality Expectations</td>
<td>8</td>
<td>Clients now are product-quality oriented rather than previously low-cost oriented.</td>
</tr>
<tr>
<td>Financial Controls – Revenue/Profit/Cost</td>
<td>23</td>
<td>In order to keep our clients, sometimes we have to do business that breaks even or even lose money. This downward spiral is not a good sign for any business.</td>
</tr>
</tbody>
</table>

5. **None of the above**

- **My company is located at a geographic advantage point, close to sea port and airport (concerning transportation of products), and accessible to adequate labor forces. Competition brings risks to our company.**

**Note:**
1. The statements are randomly selected from responses of top, middle, and lower level managers.
2. N represents the numbers of units that fall in each major themes and second-level themes.
### TABLE 4
Major Themes and Samples of Responses  
(Individual Level)

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>N</th>
<th>Samples of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm-Driven Changes</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Job Stress</td>
<td>10</td>
<td><em>I feel increasing job stress.</em></td>
</tr>
<tr>
<td>Job Function Changes / Role Changes</td>
<td>6</td>
<td><em>I was promoted to Director from a front-line worker.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>I am transferred to the Import/Export department.</em></td>
</tr>
<tr>
<td>Job Demands</td>
<td>15</td>
<td><em>I often need to work long hours.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>I am asked to travel on more business trips.</em></td>
</tr>
<tr>
<td>2. Employee-Driven Changes</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Self- Learning</td>
<td>18</td>
<td><em>I will continuously learn new knowledge to improve myself in coping with the development of my company.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>I need to improve my English language proficiency so I can communicate with foreign clients directly. I also need to improve my computer skills since I often need to rely on electronic devices at work.</em></td>
</tr>
</tbody>
</table>

*Note: 1. The statements are randomly selected from responses of top, middle, and lower level managers.  
2. N represents the numbers of units that fall in each major themes and second-level themes.*
TABLE 5
Opportunities and Threats

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Growth/Opportunities</td>
<td>29</td>
</tr>
<tr>
<td>Government Advantages</td>
<td>12</td>
</tr>
<tr>
<td>OEM Shifting to ODM/ODM</td>
<td>9</td>
</tr>
<tr>
<td>Industry Capability/Competency</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threats</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition</td>
<td>20</td>
</tr>
<tr>
<td>Rising Cost/Lowering Profit margin</td>
<td>10</td>
</tr>
<tr>
<td>RMB Exchange Rate</td>
<td>5</td>
</tr>
<tr>
<td>HR Related Issues</td>
<td>4</td>
</tr>
</tbody>
</table>

*Note: 1. The percentages were additive.
2. The major issues in each SWOT category were derived on the basis of frequency of the responses in the categories at national and industry level.*
### TABLE 6

**Strengths and Weaknesses**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Capability/Competency</td>
<td>13</td>
</tr>
<tr>
<td>Business Prospects</td>
<td>9</td>
</tr>
<tr>
<td>Organizational Learning</td>
<td>8</td>
</tr>
<tr>
<td>Self Learning</td>
<td>5</td>
</tr>
<tr>
<td>Cost Advantage</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR related issues</td>
<td>25</td>
</tr>
<tr>
<td>Strategy related issues</td>
<td>14</td>
</tr>
<tr>
<td>Job characteristics related issues</td>
<td>8</td>
</tr>
<tr>
<td>Operational issues</td>
<td>5</td>
</tr>
<tr>
<td>Vendor-Client relations</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note: 1. The percentages were additive.  
2. The major issues in each SWOT category were derived on the basis of frequency of the responses in the categories at organizational and individual level.*
TRACING THE EVOLUTION OF ENTREPRENEURS: A MULTI-DOMAIN/MULTI-LEVEL PROBABALISTIC EPIGENESIS PERSPECTIVE

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ABSTRACT

This paper advocates a multidomain/multilevel approach to the study of entrepreneurs and their development overtime. The probabilistic epigenesis model (PEM) of human development argues there is reciprocity within and between the genetic, neural, behavioral, and environmental levels that comprise the development process. Propositions regarding the four levels of activity are generated based on reviews of the epigenesist and entrepreneurship literature. I conclude with suggestions for future research that integrate the neuroscience, biotechnology, and business disciplines.

INTRODUCTION

Epigenetics is the study of the mechanisms by which cells change their form and function, and how those changes in form and function are transmitted to future generations (Gottesman & Hanson, 2005; Hanson & Gottesman, 2007). Both genes and environment are hypothesized to interact overtime to create differences in the development of human traits and behaviors. Employing the concept of epigenesis allows researchers to incorporate a time dimension into a model of development that addresses both genetic and environmental factors (Hanson & Gottesman, 2007). The probabilistic epigenesis model (PEM) of human development further argues there is reciprocity within and between the genetic, neural, behavioral, and environmental levels that comprise the human development process (Cicchetti & Valentino, 2007; Gottlieb, 2007). The concept of bidirectionality among and between all four levels of the model is the very foundation of the PEM. For example, intracellular activity can be initiated by spontaneous factors that are either internally derived or induced through external stimuli from outside the cell or the individual.

Previous studies have examined hypothesized links between neural activity and overt behaviors in a broad range of outcome variables, for example, decision making, brand preferences, and venture creation. Decision making under voluntary and involuntary risk taking has been linked to activation of specific areas of the brain (Rao, Korczykowski, Pluta, Hoang, & Detre, 2008). Another study found risk-seeking and risk-averse choices stimulated two distinct areas of the brain (see Peterson, 2007 for a review). During an investigation of drink brand preferences, researchers unexpectedly found brain regions related to emotional memories were activated, rather than those regions related to taste alone (McClure, Li, Tomlin, Cypert, Montague, & Montague, 2004). Still other research found significant relationships between new venture creation and the entrepreneur’s hormonal (testosterone) levels (White, Thornhill, & Hampson, 2007). A more recent study employed data from the TwinsUK registry (a voluntary twin registry in the United Kingdom) to study the tendency of identical twins and fraternal twins of the same sex to engage in entrepreneurship (Nicolaou, Shane, Cherkas, Hunkin, & Spector, 2008). The
cross-disciplinary studies provide the impetus to extend our understanding of how and why entrepreneurs evolve.

This paper promotes the use of the PEM for examining the entrepreneur. The PEM incorporates a multidomain/multilevel approach for studying entrepreneurs and how they ultimately develop. I begin with a review of the epigenesis literature and its proposed relationship to the evolution of entrepreneurs. Propositions are generated, and I conclude with suggestions for future research.

**LITERATURE REVIEW**

The PEM advocates analyzing four levels of activity that are hypothesized to trigger and support the emergence of the entrepreneur overtime: genetic activity; neural activity; behavioral activity, and environmental activity (Cicchetti & Valentino, 2007).

**Genetic Activity Level**

Our genetic make-up plays an enormous role in our development. Gene sets, or alleles, not only influence early development of the central nervous system, they also impact behavior, emotion, and cognition across a life time (Goos & Ragsdale, 2008). The biological inheritance expressed through the novel combination of genes from both parents is unique to each individual (Nelson, de Haan, & Thomas, 2006). DNA supplies the particulate genes that are handed down by both mother and father to succeeding generations. The inherited alleles that code for the same trait can be found in a given location along a chromosome. The allelic patterns come with sets of instruction, or genotypes, that provide the directions and entrance to the developmental pathway (Cicchetti & Valentino, 2007).

Allelic patterns contribute to the traits that have been found to influence the development of entrepreneurial behaviors. These traits include primary-motivation and social interaction behaviors as well as higher-level cognition functions (Bavies, Isles, Humby, & Wilkinson, 2008). Evidence exists that suggests one or more sets of genes influence the development of two important social competencies. The two skill sets may be particularly important to the successful entrepreneur: executive control abilities (which support planned, purposeful behavior), and mentalization (the ability to understand the thoughts, feelings, and intentions of others with whom we interact) (Goos & Ragsdale, 2008). Individual differences have been used to explain the ability to shift one’s conscious experience to places and times outside the present and into another’s viewpoint (Buckner & Carroll, 2007; Suddendorf & Corballis, 1997). The genes that shape executive control competencies could be the link to an entrepreneur’s ability to discover and exploit opportunities that are perceived to exist in the environment (Shane, 2003). Mentalizing might function to increase the entrepreneur’s ability to calculate future scenarios and respond to the thoughts, feelings, and intentions of his/her competitors.

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1 The DNA specifies the RNA employed in the production of polypeptides. The polypeptides are then transformed into proteins that undergo a protein folding. The folded protein comprise the biological effects, but the causal chain is much longer when relating the effects of the protein on the outcomes. See Rutter, 2007 for a more fully-developed explanation of DNA and its role in epigenetics.
All persons who share a specific allelic pattern may have similar cognitive and behavioral histories. This implies that the transfer of allelic patterns between generations could also include the transfer of patterns that are unique to intergenerational entrepreneurs. Thus one might expect that within-family tests of entrepreneurs will reveal unique allelic patterns that are not shared by non-entrepreneurial families, leading to the first proposition:

Proposition 1: Allelic patterns shared by members of an entrepreneurial family will differ significantly from those shared by members of a non-entrepreneurial family.

Neural Activity Level

Neural activity may be set in motion before the central nervous system is fully formed (Gottlieb, 2007). As a result, inherited allelic patterns have the potential to emerge in a wide array of phenotypes or traits (Turkheimer, Goldsmith, & Gottesman, 1995). Phenotypes are unique combinations of genotype, environment, and time (Hanson & Gottesman, 2007). Individuals possess multiple phenotypes. Each phenotype represents a latent range of reactions and behaviors exclusive to the owner (Gottlieb, 2007). The actual phenotype expressed by an individual is highly dependent on his/her other genes and the interactions with specific environmental contexts. The brain’s sensitivity to experiences varies greatly as it passes through its different developmental stages (Nelson, et al., 2006). An individual may be exposed to a distinctive environment or personally select a specific environment during especially sensitive periods, resulting in a strong correlation between his/her phenotype and the trait or behavior that is manifested. The entrepreneurial phenotype (EP) is the product of both genetic and environmental effects. The EP is a unique combination of genotypes inherited from his/her parents and grandparents, the environments to which they are exposed, and the learned behaviors over time. That is, there must be factors in the entrepreneur’s environment that convert the entrepreneurial phenotype into explicit entrepreneurial behaviors (Gottesman & Hanson, 2005).

How does an entrepreneur make sense of his/her environment and trigger the entrepreneurial phenotype? Two forms of learning hold sway over the entrepreneur’s ability to invoke the entrepreneurial phenotype (Insel & Fernald, 2004). The first form of learning is provided through long-term filial imprinting. The second form of learning emphasizes shorter-term memory. Thus, the brain may change and adapt through new learning experiences, but it is guided by genetic factors enhanced through early socialization with the mother and father (Gottesman & Hanson, 2005).

The brain exhibits great plasticity as it constantly responds to environmental changes. There is some evidence that individuals may be predisposed to some behaviors, but preferences for the behaviors are influenced through exposure and experience. In the entrepreneur’s case, heritability—the allelic patterns supporting entrepreneurial behavior—may be evoked as entrepreneurial experiences increase. For example, entrepreneurship may be deeply embedded in the family structure (Aldrich & Cliff, 2003). The values and preferences of the budding entrepreneur will be greatly influenced through the role modeling of family entrepreneurs. The modeled behaviors may serve to stimulate the EP of the nascent entrepreneur. Imitation of the modeled behaviors by the emerging entrepreneur should be enhanced by the inherited EP (Scherer, Adams, & Wiebe, 1989). This discussion suggests the second proposition:
Proposition 2: Phenotypes shared by members of an entrepreneurial family will differ significantly from those shared by members of a non-entrepreneurial family.

**Behavioral Level**

Our unique genetic make-up provides the nucleus of our distinctive behavior. It causes us to be extraordinarily vulnerable to disparate life events, and leads us to proactively search for environmental niches in which we can definitively act out our genetic predispositions (Rose, 1995). There must be factors displayed in the selected environmental niche that trigger that vulnerability and convert it into real-world behaviors (Gottesman & Hanson, 2005). For example, an entrepreneur may evaluate a risky environment as one that is suitable for venture creation. S/he then purposely exposes him/herself to the risky environment that holds the opportunity for the most growth by opening a new firm.

Entrepreneurial orientation (EO) might be considered a behavioral phenotype prevalent in the nascent entrepreneur. EO behaviors include innovativeness, proactiveness, and a propensity for risk taking (Lee, Lee, & Pennings, 2001). Risk taking is significantly related to EO, and is also positively related to proactiveness and innovation (Naldi, Nordqvist, Sjoberg, & Wiklund, 2007). Recently, entrepreneurial orientation was examined in a comparison of entrepreneurs and non-entrepreneurs (Cools & Van de Broeck, 2007). Non-entrepreneurs were found to score higher on knowing and planning behaviors than the entrepreneurs. These behaviors are thought to be negatively related to the propensity for taking risks under ambiguous circumstances, behaviors that are considered to be positively related to EO. Risk taking in uncertain environments could allow the entrepreneur to concentrate on business creation and strategic success, rather than on activities more important to daily operations (Rauch & Frese, 2007). Another study examined the problem solving styles of entrepreneurs and non-entrepreneurs (Johnson, Damis, & Dollinger, 2008). Results suggest that entrepreneurs are much more likely to display overly optimistic innovative behaviors than non-entrepreneurs. These studies suggest entrepreneurs will tend to exhibit behaviors that enhance entrepreneurial orientation. Further, we anticipate that the entrepreneurial behaviors will differ significantly from those of non-entrepreneurs, leading to Proposition 3:

**Proposition 3:** Behaviors exhibited by an entrepreneur and his/her family will differ significantly from those exhibited by a non-entrepreneur and his/her family.

**Environmental Level**

Different genotypes may respond to diverse environments in very different ways (Gottesman & Hanson, 2005). Further, all genetic factors may not be expressed at birth, but may manifest themselves later in ongoing developmental stages. The PEM contends the environment impacts all levels of activity in a bidirectional manner. Thus, the environment is hypothesized to play an important role in the emergence of entrepreneurial behaviors. Entrepreneurial development may be influenced by four environmental systems: the macrosystem (the impact of macrocultural socialization on beliefs and values); the exosystem (the impact of the entrepreneur’s community, schools, and neighborhood); the microsystem (the impact of within-family factors); and ontogenic development (the impact of successfully negotiating developmentally relevant tasks) (Chicchetti & Valention, 2007).
The Macrosystem
Differences have been found to exist in how individuals from varying cultures collect, process, store, and use information. These differences are manifested in socially shared meanings that are very culture-specific (Hofstede, 1991; Markus & Kitayama, 1991). Common norms, beliefs, and values as well as particular ways of categorizing shared experiences constitute the socially shared meanings. This "collective programming of the mind" distinguishes the members of one group of people from another group (Hofstede, 1991). Sociocultural differences have been described across five cultural dimensions: (1) Power Distance; (2) Uncertainty Avoidance; (3) Masculinity-Femininity; and (4) Individualism-Collectivism; and (5) Long-Term Time Orientation (Chinese Culture Connection, 1987; Hofstede, 1991).

Studies employing the five cultural dimensions have been used to examine entrepreneurial differences among and between cultures. For instance, higher levels of collectivism were found to be negatively related to traits exhibited by successful entrepreneurs (Thomas & Mueller, 2000). Another study found individualistic cultures were determined to be more inventive than other cultures (Shane, 1992). A larger survey of nine countries found systematic differences across individualistic/collectivist cultures in locus of control orientation and high and low uncertainty avoidance cultures in entrepreneurial orientation (Mueller & Thomas, 2000). This growing body of research suggests cultures that support entrepreneurial activity are more likely to value self-reliance, independent actions, and taking risks in uncertain environments (McGrath, Macmillan, Yang, & Tsai, 1992).

The macrosystem has also been linked to the neural activity that supports cognitive function (Han & Northoff, 2009). Recent neuroimaging studies suggest that cognition and orientation is highly dependent on the macrosystem in which the entrepreneur is socialized. Cultural differences have been identified in the brain regions engaged in retrieving knowledge during the perceptual process (Martin, Wiggs, Ungerleider, & Haxby, 1996). Thus, we might expect that entrepreneurial alleles will interact with the macrosystem in which the entrepreneur is socialized to enhance entrepreneurial behaviors.

The Exosystem

Many factors other than the sociocultural context may influence how children grow and develop (Maccoby, 2000). The PEM posits children of the same genotype may actually exhibit very different neural and behavioral outcomes because of the non-shared environmental experiences that influence their development (Gottlieb, 2007). That is, their nonshared environmental influences that interact with their unique allele patterns and phenotypes lead to the exhibition of behaviors unlike other siblings in their families. More importantly, behavior genetic research consistently finds that non-shared experience factors in the exosystem explain more of the variance in behaviors than do shared experience factors (McGue & Bouchard, 1998; Nicolaou et al., 2008).

The non-shared environmental factors may include such aspects as education and work experience (McGue & Bouchard, 1998). Research has found that higher levels of education,
particularly professional degrees in business or engineering, encourage an entrepreneurial orientation (Kim, 2008). Entrepreneurial education also has a positive relationship to attitude and the intentions to start a business (Souitaris, Zerbinati, & Al-Laham, 2007).

Previous work experience influences entrepreneurial development in different yet profound ways. For example, entrepreneurial research has attempted to differentiate entrepreneurial types based on their work experience. Differences have emerged among three entrepreneurial types, the nascent, serial, and portfolio entrepreneurs (Westhead, Ucbasaran, Wright, & Binks, 2005). Nascent or novice entrepreneurs often have no prior experience either as a founder, an inheritor, or the purchaser of a firm. Serial entrepreneurs have been associated with businesses that have been sold or have failed, and currently have a stake in a newly founded, purchased, or inherited business. A portfolio entrepreneur has a significant degree of ownership in two or more businesses that are new, inherited, or purchased. Research suggests that portfolio entrepreneurs are more likely to have had experience running a business at an early age than those who are categorized as nascent or serial entrepreneurs.

The Micro-system

Shared family environmental influences are those experiences that to which all family members are exposed. Examples include sharing the same home and the same neighborhood. Children in the family may all attend the same schools, even sharing the same teachers. The common experiences create behavioral similarities among family members (Thompson & Plomin, 2000). For example, studies of both twin pairs and siblings pairs resulted in comparable behavioral ratings from classmates, teachers, and peers (see Rose, 1995, for a review).

The micro-system explores how parents’ childrearing regimes interact with the child’s genetic pre-disposition to influence behavior. There is evidence that parents can and do influence the child’s behavior (Maccoby, 2000). There are others who argue that the child’s genetic pre-disposition shapes their behaviors, which in turn have an effect on how the parents treat them. Thus, bidirectionality is again manifested in the interactions between parent and child. There is substantial evidence supporting a strong association between rearing practices and psychological outcomes (McGue & Bouchard, 1998). For instance, children with higher IQs tend to have been reared in a home that is intellectually stimulating. It is possible that heritability is reinforced as environmental opportunities increase (Thompson & Plomin, 2000). Further, some children may be more environmentally susceptible to an event in the family environment than other siblings in the family (Maccoby, 2000).

The PEM argues the interaction between individual genotypes and the micro-system in which the individual is nurtured may influence the development of unique phenotypes. For instance, those who have inherited the entrepreneurial genotype may be the beneficiary of a rearing environment that encourages the development of entrepreneurial behaviors. Consequently, families may serve as the breeding ground for future entrepreneurs (Kirkwood, 2007). There is certainly evidence to support this viewpoint. Entrepreneurial research suggests that children raised by parents who are self-employed are more likely to be self-employed in the future (Burke, FitzRoy, & Nolan, 2008). Self-employed fathers and managerial mothers have been found to be significantly related
to a child’s entrepreneurial orientation. For instance, portfolio entrepreneurs are much more likely to have had parents with prior business ownership experience (Burke et al., 2008; Westhead et al., 2005).

**Ontogenic development**

Genes are known to have a strong influence on the evolution of individual differences. Multivariate genetic analyses of normal personality traits reveal substantial genotype-phenotype correspondence (Livesley & Jang, 2008). The relationships were confirmed in studies that found significant genetic and environmental interaction in the factors that defined the Big Five personality dimensions of neuroticism, extraversion, openness to new experience, agreeableness, and conscientiousness (Jang, Livesley, Angleitner, Riemann, & Vernon, 2002; Jang, Livesley, & Vernon, 1996). A recent study found correlations between the Big Five dimensions and entrepreneurs who exhibit the tendency to innovative (Marcati, Guido, & Peluso, 2008). In a comparison of entrepreneurs and non-entrepreneurs, entrepreneurs were found to have higher scores on tolerance for ambiguity, self-efficacy, proactive personality, internal locus of control, and need for achievement (Cools & Van den Broeck, 2008). Wei & Ismail (2008) found that internal locus of control and high need for achievement were related to differentiation and cost advantages of the entrepreneur’s firm.

This discussion of environmental activity in relationship to entrepreneurial development suggests the final proposition:

Proposition 4: Environmental factors—the macro-system, ecosystem, micro-system and ontogenic development—acting on an entrepreneur will be significantly different than the environmental factors acting on a non-entrepreneur.

**DIRECTIONS FOR FUTURE RESEARCH**

The notion that genes might influence behaviors and behaviors influence genes is still controversial among some researchers (Rutter, 2007). Yet the literature review in this paper suggests a dynamic process exists that encompasses activities at four levels. The bidirectionality implied in the PEM calls for the further examination of the four levels that are hypothesized to interact and influence the evolution of an entrepreneur. Our ability to examine the PEM of entrepreneurial development is contingent upon three primary activities: DNA sample collection; new methods used for comparison purposes; and the use of advanced neuroimaging techniques.

The Utah Genetic Reference Project provides a model for the collection of intergenerational DNA samples attempting to establish allele frequency (Prescott, Lalouel, & Leppert, 2008). More recently, the project has begun to collect information that will enable researchers to create a phenotypic database. The creation of an intergenerational entrepreneurial genetic reference pool could provide evidence of entrepreneurial genotypes and phenotypes. There are numerous databases that profile entrepreneurs (Heck, Hoy, Poutziouris, & Steier, 2008). To date, none of them have included the collections of DNA samples. Database organizers should consider the addition of DNA samples to assist in our understanding of the entrepreneur emergence and development.
Pooling the DNA from comparison groups has proven to be a fairly accurate screening tool (Thompson & Plomin, 2000). The pooling technique greatly reduces the costs of testing and the amount of genotyping needed to complete a genome scan for allelic association (Bader & Sham, 2002; Zou & Zhao, 2005). The DNA pooling technique has already enabled researchers to identify genetic similarities in families. Future research into entrepreneurial development should include the DNA pooling of entrepreneurial families and non-entrepreneurial families for comparison purposes. Much could be learned about the presence or absence of common allelic patterns that might be related to the development of entrepreneurs. The comparison tests could help researchers begin to identify the genes thought to be associated with entrepreneurship.

Advancements in molecular genetics and neuroimaging methods may lead to an even greater understanding of how genes and experience interact and shed new light on the development of the thoughts, feelings and actions that differentiate entrepreneurs (Cicchetti & Valentino, 2007, Nelson, et al., 2006). The new methods have the potential to identify an entirely new set of constructs that underlie the evolution of an entrepreneur. Future studies of entrepreneurs and their biological families must employ new imaging methods to examine potential similarities in brain development and function. Multiple techniques have been employed to study brain functions including positron emission tomography (PET), functional magnetic resonance imaging (fMRI), electroencephalography (EEG), magneto-encephalography (MEG), single photon emission compute tomography (SPECT), and diffusion tensor imaging tractography (DTI) (Monchi, Benali, Doyon, & Strafella, 2008; Nelson, et al., 2006; Papanicolaou, 2008; Shiv, et al., 2005). Results of previous brain imaging studies have found that specific portions of the brain are related to social emotions (e.g., guilt, arrogance) (Adolphs, Tranel, & Damasio, 2002), perceptions of fear (Adolphs, Tranel, & Damasio, 2002), and romantic attachments (Bartels & Zeki, 2000). Neuroimaging studies could build on our existing knowledge of brain structure and enable researchers to refine the theory of entrepreneurial development. The studies usually start with pictures of the resting brain, then follow-up with images of the brain regions that are stimulated when specific activities are undertaken. The ability to identify entrepreneurial activity in a distinct set of brain regions has the potential to aid our understanding how entrepreneurs mentally assess their environment and infer competitors’ actions and reactions (Lieberman, 2007). Additional evaluations of the entrepreneur’s parental transmission patterns could provide additional information as to how entrepreneurs evolve over generations.

Finally, future research might look at the relative strength of the entrepreneurial genes and the environment in which entrepreneurial behaviors are triggered in the stages of human development (Rutter, 2007). Rather than looking at each main effect separately, studies of the gene-environment correlation and the gene-environment interactions must also be considered.

Multiple challenges await those who desire to test the probabilistic epigenesis model of entrepreneurial development. One of the most important challenges concerns the ethical issues encountered when DNA sampling is involved (Berg & Fryer-Edwards, 2008). It is vital that researchers find ways to surmount the challenges and proceed with new methods for studying the evolution of entrepreneurs. There is clearly a need to extend our knowledge of that process by investigating the co-active influences of genetics, neurology, behaviors, and environments on entrepreneurial emergence and development.
REFERENCES


TOWARD A BETTER UNDERSTANDING OF PERSONALITY, SELF-EFFICACY COGNITIONS, AND ENTREPRENEURIAL INTENTIONALITY

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ABSTRACT
Based upon Bird’s (1988) Model of Intentionality and social cognitive theory, we introduce a generative model of self-efficacy to gain a greater understanding of how personality translates into entrepreneurial intentionality and action. The results not only indicate proactive personality and trait competitiveness are related to entrepreneurial self-efficacy (ESE), but also that creative self-efficacy and learning self-efficacy serve as cognitive mediators of the relationship between the trait variables and ESE. The study further reveals that the operationalization of entrepreneurial self-efficacy (i.e., venture creation versus venture creation + management) influences the conclusions drawn regarding the factors likely to foster ESE and entrepreneurial intentions.

INTRODUCTION
“Currently, there is widespread agreement that entrepreneurs play a major role in fostering economic growth and job creation in their communities and perhaps in their entire societies as well.” (Baron, 2006: 115). Accordingly, there has been great and growing interest in understanding those factors that are important in moving individuals to pursue entrepreneurial activities (Barbarosa, Gerhardt, & Kickul, 2007; Baron, 2008). Most research in this area has been based upon the view that becoming an entrepreneur is a conscious and intentional career choice (Barbosa, Gerhardt, & Kickul, 2007; Bird, 1988; Boyd & Vozikis, 1994; Zhao, Seibert, & Hills, 2005). Consequently, theories from cognitive psychology, such as social cognitive theory (Bandura, 1997), have served as the basis for much of the recent research examining the process that leads an individual to become an entrepreneur.

Entrepreneurial Self-efficacy (ESE) is an entrepreneurial cognition thought to play a critical role in determining whether or not an individual chooses to become an entrepreneur. Entrepreneurial Self-efficacy is defined as “the strength of an individual’s belief that he or she is capable of successfully performing the roles and tasks of an entrepreneur” (Chen, Greene & Crick, 1998: 301). Current versions of Bird’s (1988) Model of Entrepreneurial Action (e.g., Boyd & Vozikis, 1994; Luthans & Ibrayeva, 2006; Zhao, Seibert, & Hills, 2005) suggest that entrepreneurial self-efficacy provides an explanation for why individual level antecedents, such as personality, are related to entrepreneurial intentions and actions. Yet, there is a paucity of research that has examined any personality traits as antecedents of entrepreneurial self-efficacy. Further, no research has examined why certain personality traits would be related to entrepreneurial self-efficacy and ultimately to entrepreneurial intentions and action.
The present study advances a theoretical model that utilizes a “generative” view of self-efficacy as an explanation for why certain personality traits are related to entrepreneurial intentions. The model is based upon the view that “launching a new venture may require a high level of conviction in one’s ability to overcome challenges” (Markham, Baron, & Balkin, 2005: 3). This suggests that entrepreneurial self-efficacy might be better understood by examining personality traits and cognitions that relate to adaptability and action. The results yield new insight on the extent to which two adaptivity-related personality traits (proactive personality and trait competitiveness) and two adaptivity-related cognitions (creative self-efficacy and learning self-efficacy) underlie entrepreneurial self-efficacy.

MODEL DEVELOPMENT AND HYPOTHESES

Entrepreneurial Self-efficacy

According to Social cognitive theory, self-efficacy “concerns people’s beliefs in their capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives” (Wood & Bandura, 1989: 364). That is, self-efficacy is the perceived capability to perform a specific task (Bandura, 1982). Bandura (2007) stresses that self-efficacy is “concerned not with what one has, but with belief in what one can do with whatever resources one can muster” (Bandura, 2007: 646). In other words, self-efficacy is not about the ability one possesses, but rather the extent to which they believe they can execute certain activities in specific situations (Bandura, 2007: 646). Thus, individuals are able to provide information about domains in which they have no previous experience. Self-efficacy beliefs influence choice of activities and environments, level of motivation and persistence, stress levels, and a variety of other thought processes (Wood & Bandura, 1989). Research also indicates that self-efficacy has a strong influence on career choice (Bandura, 1982).

Although small in size, the extant literature examining antecedents of ESE has reported many interesting findings including relationships with prior family business exposure (Carr & Sequeira, 2007), prior entrepreneurial experience (Zhao et al., 2005), gender (Wilson et al., 2007), risk propensity (Zhao et al., 2005), locus of control (Luthans & Ibrayeva, 2006), and need for achievement (Luthans & Ibrayeva, 2006). While these studies make important contributions to this emerging area of study, they provide little in the way of understanding why personality variables are likely to be related to Entrepreneurial self-efficacy or Entrepreneurial intentions.

Although the importance of personality in the entrepreneurial process has been the topic of substantial debate within the literature, entrepreneurial intentions and actions have long been thought to be rooted in personality. Both Bird (1988) and Boyd and Vosikis (1994) explicitly include personality as a distal antecedent of entrepreneurial intentions and behavior. Korunka et al. (2003) concluded that “the entrepreneurial personality could best be described as a specific pattern of more action-related characteristics” (p. 25). Because Luthans and Ibrayeva (2006) suggest that a combination of personality traits will be required to understand how personality influences entrepreneurial self-efficacy, we include not one, but two action and achievement-orientation-related traits as predictors of ESE-- proactive personality and trait competitiveness.
Proactive personality is defined as “one who is relatively unconstrained by situational forces and who effects environmental change” (Crant, 1996: 43). People with proactive personalities “scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change” (Bateman & Crant, 1993: 105). Crant (1996) suggests that proactive personality is intuitively related to entrepreneurship because of the general importance the entrepreneurship literature ascribes to the tendency or propensity to act (e.g., Krueger & Brazil, 1994; Shapero & Sokol, 1982). As Timmons (1994) notes, an entrepreneur is someone “who pursues an opportunity regardless of the resources they control” (Timmons, 1994: 6). Accordingly, research has indeed tended to support the relationship between proactive personality and entrepreneurship in that it has been related to entrepreneurial intention (Crant, 1996), entrepreneurial posture (Becherer & Maurer, 1999), firm innovation (Kickul & Gundry, 2002), business creation and business success (Rauch & Frese, 2007). Further, proactive personality has also been related to innovative behavior (e.g., Thompson, 2005), and as Shaver and Scott (1991) point out, “new venture creation is nothing if not innovation” (p. 39).

It is likely that proactive personality will be positively related to Entrepreneurial self-efficacy because research indicates that proactive personality is related to a wide variety of self-efficacy measures ranging from general self-efficacy (Cools & Van Den Broeck, 2006) to job/task self-efficacy (Griffen & Hesketh, 2006). Research also indicates that proactive personality is positively related to role-breadth self-efficacy (Parker, Williams, & Turner, 2006) which is an individual’s belief that they can carry out a broad and proactive role within an organization. Entrepreneurs also have responsibility for a wide range of tasks and are required to fulfill many different roles (Chen et al., 1998). Therefore, it seems likely that highly proactive people should feel capable of undertaking the broad roles required of an entrepreneur.

\[ H1: \text{Proactive personality will be positively related to Entrepreneurial Self-efficacy.} \]

Competitiveness has long been assumed to play an important role in the entrepreneurial process. Shumpeter (1934) for example, describes “the will to conquer” (p. 93) as a central trait predicting entrepreneurial action. Trait competitiveness is defined as individual’s “enjoyment of interpersonal competition and the desire to win and be better than others” (Spence & Helmreich, 1983: 41). Trait competitiveness is the internal desire of the individual to be number one in his/her field (Brown, Cron, & Slocum, 1998) and is related to the need for achievement. More competitive people intend to set higher performance goals and these high goals direct individual’s actions (Brown et al., 1998). Because trait competitive people are driven to compete with others and to achieve high performance levels, they tend to seek out comparative information, which helps them to understand where they stand relative to other people, and to learn from other’s mistakes and accomplishments (Wang & Netemeyer, 2002: 219). That is, competitive people are driven to gain skills and knowledge through vicarious learning so that they may gain a “competitive edge”-- which should increase their self efficacy (Wang & Netemeyer, 2002: 220). It seems likely that Trait competitiveness will be positively related with Entrepreneurial Self-efficacy because a core aspect of venture creation is gaining competitive advantage in the marketplace. Therefore:

\[ H2: \text{Trait competitiveness will be positively related with Entrepreneurial Self-efficacy.}\]

Recall that, in general, the entrepreneurial environment is highly uncertain, subject to rapid change, and characterized by highly varied task that change as the process unfolds. Therefore,
part of the reason why we believe these two personality traits should be predictive of Entrepreneurial Self-efficacy is because they influence how the individual perceives the entrepreneurial environment. Theoretically, people who are highly proactive and competitive are likely to view the entrepreneurial environment as less of an impediment to success than people who are more passive and noncompetitive in nature. The question that remains to be answered is why?

In the context of the present study, the question is why would people with proactive and competitive personalities be likely to consider themselves capable of undertaking all of the tasks and roles required to create and run a new venture (i.e., develop Entrepreneurial Self-efficacy beliefs)? In our sample, these potential entrepreneurs have never owned their own business so their Entrepreneurial self-efficacy beliefs are not based upon experience. We believe that proactive and competitive people should develop Entrepreneurial Self-efficacy beliefs because they tend to believe they are (1) capable of being creative and (2) capable of learning and adapting. This is based upon the view that the entrepreneurial process “is governed by experimentation and learning” (Bercherer & Maurer, 1999: 29) and Boyd and Vosikis’ (1994) suggestion that for a strong sense of entrepreneurial self-efficacy to develop, “it is necessary to have direct experience in overcoming obstacles through effort and perseverance” (p. 67). Accordingly, we hypothesize that more general efficacy beliefs, which should be grounded in prior experience, underlie Entrepreneurial Self-efficacy. Specifically, we believe that creative self-efficacy and learning self-efficacy play a critical role in explaining why proactive personality and trait competitiveness should be predictive of Entrepreneurial self-efficacy. That is, most adults will have developed beliefs about their creative self-efficacy and learning self-efficacy based upon actual experiences. In combination, these two self-efficacy beliefs should serve as the foundation for one’s general belief that they can overcome impediments and obstacles in general and thus influence whether or not one approaches an environment that is characterized by uncertainty and change.

With regard to our model containing multiple self-efficacy components, we note that our model is consistent with the view that multiple types of self-efficacy can play a role in performance in a given domain (Bandura, 1997). Further, Bandura (1997) notes that efficacy beliefs fall along a continuum from very specific (i.e., a very narrow domain) to very general (i.e., global) and that one form of self-efficacy can “generate” another form (Bandura, 1997). Both creative self-efficacy and learning self-efficacy are more general in nature than Entrepreneurial Self-efficacy and therefore consistent with the view that self-efficacy measures can be “generative” as long as the tasks are interrelated. This is the same argument that has been used in research that has related general self-efficacy to many different forms of domain specific self-efficacy (e.g., Chen et al, 1998).

\[ H3a: \text{Creative Self-efficacy will be positively related to Entrepreneurial Self-efficacy.} \]
\[ H3b: \text{Learning Self-efficacy will be positively related to Entrepreneurial Self-efficacy.} \]
\[ H4a: \text{Proactive Personality will be positively related to Creative Self-efficacy.} \]
\[ H4b: \text{Proactive Personality will be positively related to Learning Self-efficacy.} \]
\[ H5a: \text{Trait competitiveness will be positively related to Creative Self-efficacy.} \]
\[ H5b: \text{Trait Competitiveness will be positively related to Learning Self-efficacy.} \]

Finally, we expect to replicate previous research indicating that entrepreneurial self-efficacy is a critical determinant of entrepreneurial intentionality (e.g., Carr & Sequeira, 2007; Sequeira,
Mueller & McGee, 2007; Wilson et al., 2007; Zhao et al., 2005). According to Bird (1988), “entrepreneurial intentions are aimed at either creating a new venture or creating new values in an existing venture” (p. 443). Krueger and Brazeal (1994) argue that “for potential entrepreneurs to formulate actual intentions requires that they not be deterred by apparent obstacles” (p. 97). From a social cognitive theory perspective, the more one believes in his or her capability to successfully undertake the tasks and role responsibilities of an entrepreneur, the more likely they are to pursue that course of action.

H6: Entrepreneurial self-efficacy will be positively related to Entrepreneurial Intentions.

METHODS

Data collection was designed to provide a sample of potential entrepreneurs (i.e., people who had not started their own business). Data of this study were collected from students in a university in the southern part of the United States of America. Because the purpose of present study is to examine potential entrepreneurs, using undergraduate students as the sample is appropriate for this study. A total 870 surveys were collected (436 male and 425 female undergraduate students-9 students did not report their gender), including freshman to senior students across 46 majors.

Measurement

Except where noted, the response format for all of the measurement scales used a 5-point response format ranging from 1 (strongly disagree) to 5 (strongly agree).

Proactive Personality. Proactive personality was assessed with Seibert et al.’s (1999) ten-item scale. This scale is comprised of the top 10 loading items from Bateman and Crant’s (1993) original measure. An example item is “If I see something I don’t like, I fix it.” Trait Competitiveness. Trait competitiveness was measured with three items adapted from Brown et al. (1998). An example item is “it is important for me to perform better than others.” Learning self-efficacy. Learning self-efficacy was adapted from the five-item measure developed by Potoshy and Ramakrishna (2002). Examples of this instrument include “I am certain I can perform new tasks well” and “I believe that learning new tasks is something I do well.” Creative Self-efficacy. Based on Tierney and Farmer’s (2002) conceptual definition and measure, we developed a five item measure of creative self-efficacy. Tierney and Farmer (2002) only published one of the items used to measure creative self-efficacy—which we used in our measure. Examples of the items included in our measure of creative self-efficacy are “I have confidence in my ability to solve problems creatively,” “I am confident in my ability to discover new ways of doing things” and “In general, I am more creative than the average person.” The internal consistency of this measure was .87 which is consistent with the alpha reported by Tierney and Farmer (2002) and superior to that reported by Tierney and Farmer (2004). Entrepreneurial Self-efficacy. Given that two different conceptualizations of Entrepreneurial self-efficacy (i.e., venture creation and venture creation/management) are used in the literature utilized one of each (Zhao et al., 2005 & Chen, et al., 1998). Chen et al.’s (1998) measure includes 22 items. This instrument requires respondents indicate the extent to which they believe they can do about the things, such as “Set and meet market share goals” and “Reduce risk and uncertainty”. Zhao et al. (2005) developed a four item measure and concluded that their measure was more general form of self-efficacy and had significant correlation with Chen et al.’s (1998) measure. A five-point response format was used for both of these measures, ranging from “not at all confident” to “completely confident.”
The internal consistency of Zhao et al.’s (2005) measure is 0.81, and while not necessarily appropriate for a formative measure, we calculated the internal consistency of Chen et al.’s (1998) measure (.93-alpha) for purposes of comparison with prior research. Because Chen et al.’s measure includes five subdimensions, we also examined internal consistency for each dimension. Cronbach’s alphas for marketing, innovation, management, risk-taking, and financial control dimension were 0.89, 0.70, 0.71, 0.80, and 0.87 respectively. Entrepreneurial intention. This construct was measured with Zhao et al.’s (2005) 4 item scale. This instrument requires respondents indicate how interested they are in doing the things, such as “starting a business,” “acquiring a small business,” starting and building a high growth business” and “acquiring and building a high-growth business,” over the next 5-10 years. This scale uses a 5 point response format ranging from “no interest at all” to “a great deal of interest.”

Structural equations modeling and hierarchical regression analysis were used to test our hypotheses (LISREL 8.50). The total number of items for the scales used in the proposed model was 31. Although it is important to note that Joreskog and Sorbom (1986) caution that even models with strong theoretical support are difficult to fit in LISREL when the model contains more than 30 indicators, we chose to utilize item-level analysis to test our hypothesized model so that if the results indicated that the model fit the data, there would be strong support for our model (i.e., item-level analysis increases the falsifiability of our model). Because Chen et al.’s (1998) measure of entrepreneurial self-efficacy is not only multi-dimensional but also formative in nature, it makes the use structural equations modeling in a model such as ours more problematic than when only variables that are reflective in nature are used (Jarvis, MacKenzie, & Podsakoff, 2003). Therefore, Zhao et al.’s (2005) measure was used to assess Entrepreneurial Self-efficacy in the structural equations model and hierarchical regression analysis will be used to assess the study hypotheses related to ESE utilizing Chen et al.’s (1998) measure. For these analyses gender, work status (i.e., working or not), and whether or not the respondent had a parent who owned a business were included as control variables due to research suggesting these variables are related to entrepreneurial self-efficacy (Wilson, Kickul, & Marlino, 2007)

Results

The results indicate that proactive personality and trait competitiveness are both positively related to creative self-efficacy and learning self-efficacy. Further, Creative Self-efficacy and Learning Self-efficacy are both positively related to both measures of Entrepreneurial Self-efficacy, as well as all of the subdimensions of the Chen et al. (1998) measure. Both measures of entrepreneurial self-efficacy are positively related to Entrepreneurial Intentions.

Table 1 presents the results of the structural equations modeling analysis. The results show that both the Null Model and Harman’s One-Factor Model provide a poor fit to the data. Overall, the results presented in Table 1 indicate that the measurement model provides an adequate fit to the data. Further examination of the results of this analysis indicated that all the items exhibited a statistically significant loading on the specified latent variable. These results support the discriminant validity of the measures used in the present study thereby meeting the necessary condition to conduct an analysis of a structural model (Anderson Gerbing, 1988).
The results presented in Table 1 indicate that the hypothesized model provides an adequate fit to the data. Figure 1 presents the completely standardized estimates of the relationships between the variables in the hypothesized model. The results indicate that Proactive personality was related to Creative Self-efficacy while Trait Competitiveness was not—this provides support for H4a but not H5a. However, both Proactive personality and Trait Competitiveness were related with Learning Self-efficacy. Therefore, the results support both H4b and H5b. The results depicted in Figure 1 indicate that Creative Self-efficacy was positively related with Entrepreneurial Self-efficacy while Learning Self-efficacy was not related with Entrepreneurial Self-efficacy. These results provide support for H3a, but not for H3b. The results also indicate that ESE is positively related to Entrepreneurial Intentions.

We evaluated a structural model that added pathways between Entrepreneurial Intentions and Creative Self-efficacy and Entrepreneurial Intentions and Learning Self-efficacy (Partially Mediated Model 1). The addition of these two pathways did not result in a significant improvement in fit over the hypothesized model. We also tested another model (Partially Mediated Model 2) in which we added pathways between the two personality variables and ESE. This model did result in a statistically significant improvement in fit. These results support H1 and H2, and suggest that LSE and CSE do not fully account for the relationship between the personality variables and Entrepreneurial self-efficacy.

**Regression Analysis**

The results presented in Table 2 indicate that proactive personality is positively related to creative self-efficacy and learning self-efficacy. Further the results indicate that trait competitiveness is positively related to creative self-efficacy and learning self-efficacy. These results support H1 and H2. The results in Table 3 indicate that presents the results of the hierarchical regression analyses predicting Entrepreneurial Self-efficacy. With regard to Zhao et al.’s (2005) measure of entrepreneurial self-efficacy, the results of the regression analysis mirror the results obtained in the structural equations model analyses—both personality traits and creative self-efficacy are positively related to entrepreneurial self-efficacy (learning self-efficacy is not related with ESE).

However, the results of the analyses examining the different factors of Entrepreneurial self-efficacy identified by Chen et al. (1998) suggest that learning self-efficacy is likely to play an important or even dominant role in the development of entrepreneurial self-efficacy. Indeed, controlling for the influence of gender and parental business owner, learning self-efficacy was positively related to all five dimensions of ESE. While creative self-efficacy appears to be a stronger predictor of the Marketing and Innovation dimensions, Learning self-efficacy appears to be a stronger predictor of the Management, Risk Taking, and Financial Control dimensions. The results show that creative self-efficacy has no relationship with the Financial Control dimension of Entrepreneurial Self-efficacy. These results tend to support the view that Chen et al.’s (1998) measure of Entrepreneurial Self-Efficacy is formative in nature in that there is some difference in the relationships found between the antecedents (Jarvis, MacKenzie, & Podsakoff, 2003).

The results presented Table 4 all support H6 in that all of the ESE measures are positively related to Entrepreneurial intentions. However, the results provide different indications of the extent to
which ESE mediates the relationship between CSE and entrepreneurial intentions or between LSE and entrepreneurial intentions. Different from the analysis using Zhao et al.’s (2005) measure which suggests full mediation (consistent with the SEM results), the analysis utilizing Chen et al.’s (1998) measure of ESE suggests that both CSE and LSE account for unique variance in entrepreneurial intentions beyond entrepreneurial self-efficacy.

**DISCUSSION**

This study provides new insight into why certain personality traits may relate to entrepreneurial self-efficacy and entrepreneurial intentions. Essentially, what we have done is to use Social Cognitive Theory (Bandura, 1997) to expand the self-efficacy component in the Bird’s Revised Model of Entrepreneurial Intentionality (Boyd & Vozikis, 1994). By doing so, this study contributes to the literature by providing a greater understanding of the relationship between personality and Entrepreneurial Self-efficacy (ESE).

However, by utilizing a generative self-efficacy perspective we were able to show why these traits are related to Entrepreneurial Self-efficacy. Our results indicate people who tend to be more proactive and competitive tend to have greater ESE, in part, because they believe in their ability to learn and to be creative. These results are important because they provide new answers to one of Baron’s (2004) three “basic questions” in entrepreneurship—why do some people but not others choose to become entrepreneurs? Baron (2004) suggested that one answer to this question is because “people who become entrepreneurs perceive risks as smaller than other persons do” (p. 237). Our results support Baron’s (2004) answer because greater creative and learning self-efficacy should provide a person with greater confidence in their ability to deal with the uncertainties inherent in becoming an entrepreneur. Thus, the perception of risk associated with starting a new business would be reduced.

Perhaps just as important, our use of a “generative” model of self-efficacy (Bandura, 1997) enabled us to show that the way Entrepreneurial Self-efficacy is operationalized (only venture creation or venture creation as well as venture management) may determine the conclusions drawn from research seeking to understand the antecedents of ESE. Our analysis revealed that the importance of proactive personality, trait competitiveness, creative self-efficacy, and learning self-efficacy depended upon how Entrepreneurial Self-efficacy was operationalized. Creative self-efficacy was strongly related to Zhao et al.’s (2005) measure of ESE, but not learning self-efficacy. This result likely occurred because Zhao et al.’s measure of ESE focuses exclusively upon venture creation—the messy front-end where development of a new product or service as well as a new business model is of primary concern. However, the analysis using Chen et al.’s (1998) measure of ESE shows that learning self-efficacy is indeed likely to be a strong predictor of the development of Entrepreneurial Self-efficacy when one considers aspects of venture management. Learning self-efficacy was strongly related to the management, risk-taking, and financial control dimensions of ESE. The results also suggest that creative self-efficacy is likely to play little role in the development of managerial self-efficacy or financial control self-efficacy. When all the results are considered, it becomes clear that both creative self-efficacy and learning self-efficacy have important roles to play in the development of Entrepreneurial self-efficacy—particularly if the individual conceptualizes the entrepreneurial process as not only starting a business, but also running the business.
Finally, the results of our analysis utilizing Chen et al.’s (1998) measure of ESE suggests that creative self-efficacy and learning self-efficacy are also directly related to entrepreneurial intentions. These results further support the importance of viewing self-efficacy in entrepreneurial pursuits from a generative perspective in that multiple self-efficacy cognitions may be necessary to account for entrepreneurial intentionality.

The primary limitation of the present study is that it utilized a percept-percept research design. However, the structural equations analysis indicates that our constructs are distinct and that one “common factor” does not underlie our data—one indication that common methods bias is unlikely to explain our results. Additionally, while some might view the use of college students as problematic, these people undeniably represent an important part of the overall population of potential entrepreneurs and therefore are acceptable respondents for our study if one keeps in mind it only limits the generalizability of our results.

REFERENCES


FIGURE 1
Results for Hypothesized Model

Note: Completely standardized estimates.
TABLE 1

Results of Structural Equations Modeling

<table>
<thead>
<tr>
<th>Models</th>
<th>$df$</th>
<th>$\chi^2$</th>
<th>$\chi^2/df$</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>GFI</th>
<th>AGFI</th>
<th>PGFI</th>
<th>$\Delta \chi^2$</th>
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<tr>
<td>Null Model</td>
<td>465</td>
<td>12,350.75</td>
<td>26.56</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Harman’s One Factor Model</td>
<td>434</td>
<td>5600.69</td>
<td>12.90</td>
<td>.14</td>
<td>.12</td>
<td>.64</td>
<td>.59</td>
<td>-</td>
<td>-</td>
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<td>Measurement Model</td>
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<td>1680.68</td>
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<td>.06</td>
<td>.05</td>
<td>.89</td>
<td>.86</td>
<td>-</td>
<td>-</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesized Model</td>
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<td>4.17</td>
<td>.06</td>
<td>.06</td>
<td>.88</td>
<td>.86</td>
<td>.75</td>
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<td>.86</td>
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<td>.05</td>
<td>.86</td>
<td>.85</td>
<td>.76</td>
<td>64.90*</td>
</tr>
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</table>

Note. Partially-mediated Model 1 adds pathways from Creative Self-efficacy and Learning Self-efficacy to Entrepreneurial Intentions. Partially-mediated Model 2 adds pathways from the two personality variables to Entrepreneurial Self-efficacy.

* $p < .05$: Represents a significant change in $\chi^2$ from adjacent model accounting for the appropriate degrees of freedom.
**TABLE 2**

**Regression Analyses Predicting Creative Self-efficacy and Learning Self-efficacy**

<table>
<thead>
<tr>
<th>Step 1: Control Variables</th>
<th>Creative Self-efficacy</th>
<th>Learning Self-efficacy</th>
</tr>
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<tr>
<td>Gender</td>
<td>-.23**</td>
<td>-.16**</td>
</tr>
<tr>
<td>Business Owner Parent</td>
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<td>-.01</td>
</tr>
<tr>
<td>Work Status</td>
<td>-.05</td>
<td>.01</td>
</tr>
<tr>
<td>ΔR²</td>
<td>.06**</td>
<td>.01*</td>
</tr>
</tbody>
</table>

| Step 2                     |                        |                        |
| Proactive Personality      | .47**                  | .35**                  |
| Trait Competitiveness      | .07*                   | .17**                  |
| ΔR²                       | .24**                  | .20**                  |

F-Value (Total df) 68.1 (806) 40.5 (799)
Total Adjusted R² .29** .20**

Note: *B* is standardized beta coefficient. The first column displays the beta coefficients derived from the first step. The second column displays the beta coefficients from the final full equation.

*p < .05.  **p < .01.*
### TABLE 3

**Results of Regression Analyses Predicting Entrepreneurial Self-Efficacy**

<table>
<thead>
<tr>
<th></th>
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</thead>
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<td></td>
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<td>-.06</td>
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<td>Business Owner Parent</td>
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<tr>
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<td>.01</td>
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<tr>
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<td></td>
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<tr>
<td>Proactive Personality</td>
<td>.15**</td>
<td>.28**</td>
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<td>Trait competitiveness</td>
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<td>.19**</td>
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<td>Creative Self-efficacy</td>
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</tr>
<tr>
<td>Learning Self-efficacy</td>
<td>-.02</td>
<td>.17**</td>
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<tr>
<td>F-Value (total df)</td>
<td>109.5(820)</td>
<td>70.5(795)</td>
</tr>
<tr>
<td>Total Adjusted R</td>
<td>.48**</td>
<td>.38**</td>
</tr>
</tbody>
</table>

**Note:** B is standardized beta coefficient. Beta values are from final full regression equation.

* *p < .05.* ** *p < .01.*
TABLE 4

Results of Regression Analyses Predicting Entrepreneurial Intentions

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
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<td><strong>Step 1</strong></td>
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<td>Gender</td>
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<td>.02</td>
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<td>Learning Self-efficacy</td>
<td>.00</td>
<td>.09*</td>
<td>.07*</td>
<td>-.01</td>
<td>-.03</td>
<td>-.06</td>
<td>.14**</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
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<tr>
<td>Entrepreneurial Self-efficacy</td>
<td>.43**</td>
<td>.36**</td>
<td>.38**</td>
<td>.35**</td>
<td>.15**</td>
<td>.20**</td>
<td>.25**</td>
</tr>
<tr>
<td>F-Value (total df)</td>
<td>39.22(800)</td>
<td>36.77(769)</td>
<td>44.20(793)</td>
<td>34.8(799)</td>
<td>22.73(791)</td>
<td>24.24(798)</td>
<td>60.9(820)</td>
</tr>
<tr>
<td>Total Adjusted R</td>
<td>.22**</td>
<td>.22**</td>
<td>.25**</td>
<td>.20**</td>
<td>.15**</td>
<td>.15**</td>
<td>.34**</td>
</tr>
</tbody>
</table>

Note: *B* is standardized beta coefficient. Beta values are from final full regression equation.

* p < .05. ** p < .01.
DIFFERENCES BETWEEN TEMPORARY AND PERMANENT EMPLOYEES WITH RESPECT TO WORKPLACE DEVIANCE, ORGANIZATIONAL COMMITMENT, TRUST, AND FAIRNESS

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ABSTRACT

There is a growing trend toward the use of temporary workers to satisfy the staffing needs of organizations. Due to this trend, there is an increasing demand for research that explores the characteristics and behavioral tendencies of temporary workers. This study investigated levels of workplace deviance, organizational commitment, organizational trust, and perceived organizational fairness among temporary employees in comparison to permanent employees within the manufacturing industry. The results of the study suggest that there may be few significant differences between the two types of workers with respect to the aforementioned organizational behaviors and employee attitudes.

INTRODUCTION

A temporary or contingent worker is an individual who engages in a job in which he or she does not have an express and binding contract for long-term employment (Polivka & Nardone, 1989). Such an individual is considered an employee of the temporary help agency and is assigned to a variety of short-term jobs by that agency. The use of temporary employees to fulfill staffing needs is a practice that is being implemented by an estimated nine out of ten U.S. organizations (Bohlander & Snell, 2007). There are a variety of reasons why organizational leaders choose to use this type of strategy. Temporary employment arrangements allow organizations to supplement their core workforces, adding the flexibility often needed in an environment of fluctuating labor demands (Kalleberg, Reynolds, & Marsden, 2003). Such arrangements also provide the potential to reduce labor costs, protect the job security of permanent employees, and serve as an effective way to screen employees for permanent positions within the organization (Houseman, 2001). Since temporary staffing arrangements offer such benefits, the frequency of their use will most likely continue to grow (Connelly, Gallagher, & Gilley, 2007).

Since more and more companies are turning to temporary employment agencies to meet their staffing needs, research concerning the behavioral characteristics and attitudes of such workers is
warranted (Camerman, Cropanzano, & Vandenbergh, 2007). Researchers have noted that relatively little is known about the effects that temporary employment arrangements can have on the attitudes of the employees (e.g., Liden, Wayne, Kraimer, & Sparrowe, 2003; Pearce, 1993). Since the issue is so important from a practitioner’s standpoint and has yet to be thoroughly explored by researchers, academia and industry should join forces to better understand temporary employees. This study was designed to gather behavioral and attitudinal data addressing such topics as workplace deviance tendencies, organizational commitment, organizational trust, and perceived organizational fairness, in a real-world setting; to compare temporary and permanent employees with respect to this information; and to hopefully provide practitioners with valuable knowledge regarding the staffing strategies they implement and the workers they consider hiring.

HYPOTHESES: TEMPORARY VERSUS PERMANENT EMPLOYEES

Workplace Deviance

Workplace deviance has been examined with respect to the general workforce, but the investigation into workplace deviance among temporary employees, a subset of the workforce, is limited. Tucker (1993) found that temporary employees engage in theft, sabotage, and non-cooperative behavior in response to perceived injustice. Unfortunately, the behavior of permanent employees was not measured in this study, and thus, there is no basis on which to compare the two groups. Measuring deviance in permanent employees would have allowed for an informative comparison and more meaningful conclusions. Thus, a specific aim of this study was to evaluate deviance levels among temporary employees and to compare these levels to the deviance among permanent employees. Since the research concerning workplace deviance among temporary employees is minimal and literature searches did not identify studies directly comparing temporary and permanent employees with respect to deviance, hypothesizing which group will report higher levels of this variable is difficult to do with any level of confidence. Therefore, we have proposed a hypothesis that is more exploratory in nature and suggests only that there will be a difference between the two groups.

Hypothesis 1: There is a difference between reported levels of workplace deviance among temporary and permanent employees.

Organizational Commitment

Previous research examining the behavioral and attitudinal characteristics of temporary employees has yielded mixed results. Some researchers have found that temporary and permanent employees tend to differ with respect to organizational commitment, with permanent employees being more committed to the organization (e.g., Biggs & Swailes, 2006). Researchers have also found that temporary employment conditions can lead to increased feelings of job insecurity and decreased commitment (Hesselink & Van Vuuren, 1999).
While the aforementioned research suggests that permanent employees express greater commitment to their organizations, Lee and Johnson (1991) found that temporary employees are capable of possessing high organizational commitment to companies that contract their labor. The temporary employees actually reported higher organizational commitment than permanent employees, depending on the shift the employees were assigned. To blur the results even further, other research efforts have failed to reveal any statistically significant difference between temporary and permanent employees with respect to such employee attitudes (Guest, Oakley, Clinton, & Budjanovcanin, 2006).

While the research results concerning organizational commitment are mixed, the majority of the findings do suggest that permanent employees tend to report greater organizational commitment than temporary employees. Additionally, permanent workers tend to have longer tenure with an organization and this additional time provides the opportunity for commitment to develop (Kline & Peters, 1991).

Hypothesis 2: Permanent employees will report higher levels of organizational commitment than temporary employees.

Trust

In recent organizational restructuring efforts, including the incorporation of new technology, reducing middle management, and replacing permanent jobs with temporary positions, organizational trust stands the potential to be compromised (Wells, 1998). Zucker (1986) suggests that organizations must act reliably and dependably in order to develop trusting relationships with their employees. The contract and the longer tenure that permanent employees have with an organization enhance their perceptions of the reliability and dependability of the organization. Temporary employees do not have the security of such a contract and since they have not worked at the organization as long as permanent employees, they typically will not have had the time necessary to build a trusting relationship. Cook and Wall (1980) found that older employees tend to report more trust in their organization than younger employees. This positive correlation between age and trust may be explained by the variable of tenure. Older employees have generally spent more years in the organization and this time can allow for greater opportunities to establish trusting relationships. As previously mentioned, permanent employees tend to have longer tenure. Since temporary employees have not worked at the organization as long as permanent employees, it is expected that temporary workers will not have had the time required to build a trusting relationship.

Hypothesis 3: Permanent employees will report higher levels of trust than temporary employees.

Perceived Fairness
A survey of 224 contingent workers assessed perceived fairness, commitment, organizational citizenship behavior (OCB), and intent to stay with the organization. Fair treatment was positively related to commitment, OCB, and intent to stay (Geber, 1999). In this study, permanent employees were not evaluated and compared, which limited the meaningfulness and interpretability of the results. Reiners (1999) studied temporary and permanent professionals and found that the two types of workers differed in their perceptions of pay fairness. Although research indicates that the two types of workers differ in their perceptions of fairness toward an organization, the reasons for these differences are unclear. Since temporary employees have usually spent less time in the organization than their permanent counterparts, it is possible that they will not have had the opportunities to reap the rewards that the permanent employees receive from the organization. In accordance with equity theory (Adams, 1965), seeing permanent employees receive rewards and advantages from the organization may seem inequitable and unfair to the temporary employees who may believe they are working just as hard and putting in just as much effort. It is also possible that temporary employees are simply not treated in as fair a manner as permanent employees. Regardless of the reason, the two types of employees are expected to differ with respect to their perceptions of fairness.

**Hypothesis 4:** Permanent employees will report greater perceived fairness than temporary employees.

**Relationships among the Dependent Variables: Toward a Model of Workplace Deviance**

Research suggests that organizational commitment, trust, and fairness are negatively related to tendencies toward deviant workplace behaviors. For example, high organizational commitment has been linked to decreased tardiness (Blau, 1986). Tardiness is considered a subtle form of workplace deviance. Hollinger (1986) revealed that a lack of future commitment may lead to destruction of property by employees. The evidence from these studies suggests that employees who possess a higher level of commitment to an organization are less likely to engage in deviant behavior while on the job.

**Hypothesis 5:** There will be a negative relationship between workplace deviance and organizational commitment.

Most research suggests there is a negative relationship between organizational trust and workplace deviance. Cadenhead and Richman (1996) investigated the relationship between interpersonal trust and aggressive and prosocial behavior. They found a trend toward increased prosocial behavior and decreased aggression when trust was high. Marcovitz (1982) suggests that betrayal of trust can lead to feelings of hatred and actions of destruction. These findings imply that developing a trusting relationship with employees can help organizations reduce the occurrences of deviance in the workplace.

**Hypothesis 6:** There will be a negative relationship between workplace deviance and trust.
Previous research suggests that perceptions of fairness influence tendencies toward workplace deviance. Employees tend to perceive a pay reduction as an unfair act by the organization. During a period in which pay was reduced by 15%, employee theft rates increased significantly (Greenberg, 1990). Greenberg and Scott (1996) offer an explanation for such employee theft in terms of the concept of social exchange. They suggest that employees steal in response to situations they perceive as unfair, in order to make the exchange between their organization and themselves equal. This attempt to match work inputs with payment outputs falls in line with equity theory (Adams, 1965). Besides stealing from the organization, it is possible that employees may engage in other deviant behaviors in order to remedy an unfair situation at work. They may show up late to work or slow down production in an effort to reduce their inputs to a level they believe matches their pay (i.e., output).

Hypothesis 7: There will be a negative relationship between workplace deviance and perceived fairness.

Positive relationships between trust in the organization and organizational commitment have been demonstrated in previous research efforts (Andaleeb, 1996; Tan & Tan, 2000). These studies also emphasize the importance of developing trust as a way to help attain organizational success. Grunberg, Anderson-Connolly, and Greenberg (2000) investigated how employees were affected by layoffs in their company. If employees believed that the layoffs were unfair, their commitment was significantly lowered. This research suggests that fairness and commitment are positively related. Tyler and Degoey (1995) found a positive correlation between fairness and trust. The researchers suggested that higher levels of structural and/or interactional fairness may lead to higher levels of trust among employees. Other research revealed this positive relationship by testing a social exchange model of organizational citizenship behavior. Konovsky and Pugh (1994) found that the level of an employee’s trust in a manager mediated the relationship between fairness in the manager’s decision and citizenship behavior. In a study evaluating the relationships and interactions between all three of the variables, Folger and Konovsky (1989) determined that procedural fairness significantly influences employees’ trust in their supervisors and their organizational commitment. Similarly, in a study about decision-making procedures, procedural fairness affected commitment to the decision and trust in the leader of the decision-making process (Korsgaard, Schweiger, & Sapienza, 1995). Cumulatively, the literature suggests that commitment, trust, and fairness are interrelated. The last two studies cited more specifically suggest that perceptions of fairness are predictive of organizational commitment and trust among employees. These relationships, as well as their combined influence on workplace deviance, were examined in this study.

Hypothesis 8: High levels of perceived fairness will lead to high levels of trust and organizational commitment, which will lead to lower levels of workplace deviance.

METHOD
Participants

Seventy-one participants were recruited from two separate manufacturing organizations in New York State. Fifty of the participants were employed at a packaging plant and the remaining 21 participants were recruited from a bottling plant. Across the two organizations, a total of 34 participants were classified as permanent employees and 37 as temporary employees. All permanent employees had been hired directly by the two participating organizations. All temporary employees were contracted by each plant through a local staffing agency.

Measures

The survey packet consisted of five separate measures. The workplace deviance scale developed and validated by Bennett and Robinson (2000) was used to evaluate workplace aggression. The measure consists of 19 items with a 12-item subscale measure of organizational deviance (deviant behaviors directly harmful to the organization) and a 7-item subscale measure of interpersonal deviance (deviant behaviors directly harmful to other individuals within the organization). Responses were given on a seven-point Likert-type scale, with the following response categories: (7) daily; (6) weekly; (5) monthly; (4) several times a year; (3) twice a year; (2) once a year; and (1) never. The 26-item organizational commitment scale developed and validated by Meyer and Allen (1991) and Meyer, Allen, and Smith (1993), was used to assess three type of commitment: affective commitment, continuance commitment, and normative commitment. The 41-item organizational fairness scale developed by Beugre (1996) was used to evaluate four dimensions of organizational justice: distributive, procedural, interactional, and systemic. The 11-item Trust Inventory developed by McAllister (1995) was used to assess two dimensions of trust: affect-based trust and cognition-based trust. For the commitment, fairness, and trust measures, responses were recorded on a five-point Likert-type scale with a response scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (5). A demographic questionnaire was the final measure in the packet and it included items concerning age, gender, and shift (day versus night work schedule).

Procedure

All data were collected on-site, during employee meetings at the two respective organizations. At the first organization, a packaging plant, employees attended regularly scheduled staff meetings in groups of 10 to 15 individuals. All employees, permanent as well as temporary, were required to attend the meetings in order to discuss production rates, sales, attendance issues, and other policies. The measurement packet was administered to the employees before the regular meeting started to avoid any confounding variables due to the topics discussed at the meeting. Participants were assured that their responses were confidential, would have no bearing on their job, and that the
managers of the organization would never see the surveys or the results of the study. After taking approximately 15-30 minutes to complete the survey, the participants dropped their packets into a sealed box with a drop slot. This method of returning the surveys ensured that the identity of all participants would remain anonymous. At each of the four staff meetings, instructions were given and materials were distributed and collected in the exact same manner.

At the bottling plant, all participants were called into the break room for a meeting concerning production, shipping, and policies. Again, before any of the organization’s own issues were discussed, the survey packet was distributed, explained, and collected in the exact same way as it was at the packaging plant.

**Experimental Design**

A between-subjects design was used to test the hypotheses. The independent variable was employment status (temporary employee versus permanent employee). The distinct groups were predetermined and preexisting. Since the working conditions are real world situations, the use of experimental techniques such as random selection and random assignment were not possible. The dependent variables consisted of overall and subscale scores on the organizational deviance scale (high to low deviance scores), overall and subscale scores on the organizational commitment scale (high to low organizational commitment scores), overall and subscale scores on the organizational fairness scale (high to low organizational fairness scores), and overall and subscale scores on the trust inventory (high to low trust scores) that each participant completed.

**RESULTS**

**Differences between Temporary and Permanent Employees**

Table 1 lists the mean scores and standard deviations for temporary and permanent employees with respect to all of the dependent measures and their respective subscales.

**TABLE 1**

<table>
<thead>
<tr>
<th>Scale or Subscale</th>
<th>Temporary Employee</th>
<th>Permanent Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace Deviance Scale</td>
<td>1.75(0.75)</td>
<td>1.88(0.72)</td>
</tr>
<tr>
<td>Interpersonal Deviance Subscale</td>
<td>2.02(1.17)</td>
<td>2.16(1.11)</td>
</tr>
</tbody>
</table>

105
Workplace Deviance

Since two highly correlated forms of workplace deviance were measured in this study (interpersonal deviance and organizational deviance, $r = 0.69$), a MANOVA was used to investigate this hypothesis. The multivariate results from the MANOVA analysis revealed that there was no statistically significant difference between temporary and permanent workers on the linear combination of interpersonal, $F(2, 68) = 0.39$, $p > 0.05$. The effect size of the effect for the multivariate effect of type of worker on workplace deviance as indexed by the partial eta-squared for the multivariate effect of type of worker was 0.01.

As a follow-up, separate ANOVAs were conducted for the effect of temporary versus permanent workers on each of the two types of workplace deviance. There was no statistical difference between temporary and permanent employees for either interpersonal deviance, $F(1, 69) = 0.27$, $p > 0.05$ or organizational deviance, $F(1, 69) = 0.77$, $p > 0.05$. Overall, there was no support for Hypothesis 1 that predicted that there would be a difference between temporary and permanent employees with respect to reported levels of workplace deviance.

Organizational Commitment

Since the three subscale measures of the Organizational Commitment Scale (Meyer & Allen, 1991; Meyer, Allen, & Smith, 1993) were significantly correlated, a MANOVA was used to investigate the hypothesis. The multivariate results from the analysis revealed that there was no statistically significant difference between temporary and permanent workers with respect to the linear combination of affective commitment, continuance commitment, and normative commitment, $F(3, 67) = 1.31$, $p > 0.05$. The effect size of the effect for the multivariate effect of type of worker on
commitment as indexed by the partial eta-squared was 0.06.

As a follow-up, separate ANOVAs were conducted for the effect of temporary versus permanent employees on each of the three types of organizational commitment. There was no statistical difference between temporary and permanent workers for affective commitment, $F(1, 69) = 2.51, p > 0.05$; continuance commitment, $F(1, 69) = 1.86, p > 0.05$; or normative commitment, $F(1, 69) = 3.19, p > 0.05$. Overall, there was no support for Hypothesis 2 that predicted that permanent employees would report higher levels of organizational commitment than temporary employees.

**Trust**

Since two highly correlated forms of trust were measured in this study (affect-based trust and cognition-based trust, $r = 0.65$), a MANOVA was used to investigate this hypothesis. The multivariate results from the MANOVA revealed that there was no statistically significant difference between temporary and permanent workers on the linear combination of affect-based and cognition-based trust, $F(2, 68) = 0.79, p > 0.05$. The partial eta-squared for the multivariate effect of type of worker on trust was 0.01.

As a follow-up, separate ANOVAs were conducted for the effect of temporary versus permanent employees on each of the two types of organizational trust. There were no statistically significant differences between temporary and permanent workers for affect-based trust, $F(1, 69) = 0.43, p > 0.05$, or cognition-based trust, $F(1, 69) = 0.79, p > 0.05$. Therefore, Hypothesis 3 was not supported.

**Perceived Fairness**

Since the four subscales (distributive fairness, procedural fairness, interactional fairness, and systemic) that constitute the organizational fairness scale that were measured in this study were significantly correlated, a MANOVA was used to investigate this hypothesis. The multivariate results from the MANOVA revealed no significant difference between temporary and permanent employees with respect to organizational fairness, $F(4, 66) = 1.53, p > 0.05$. The partial eta-squared for the multivariate effect of type of worker on fairness was 0.09.

As a follow-up, separate ANOVAs were conducted for the effect of temporary versus permanent employees on each of the four types of organizational fairness. There was a significant difference between temporary and permanent workers for procedural fairness, $F(1, 69) = 3.96, p < 0.05$, but no significant differences with respect to distributive, interactional, or systemic fairness. While the ANOVA results detected a difference between the two groups with respect to procedural fairness, the hypothesis suggested that the difference would be a consequence of permanent employees reporting higher levels of fairness than temporary employees. The results of the ANOVA show the
opposite. Temporary workers actually reported significantly higher levels of procedural fairness than permanent workers, so there was no support for Hypothesis 4.

**Relationships among the Dependent Variables: Toward a Model of Workplace Deviance**

Correlational analysis was used to test the associations between the two forms of workplace deviance (interpersonal deviance and organizational deviance) and the three forms of organizational commitment (affective commitment, continuance commitment, and normative commitment). While all of the relationships between the two forms of workplace deviance and each of the three forms of organizational commitment were negative, none of the correlations were significant. Therefore, Hypothesis 5 was not supported.

With respect to deviance and trust, all of the relationships were negative, but none of the correlations between each of the workplace deviance subscale variables and each of the organizational trust subscale variables were statistically significant. However, when the affect-based and cognition-based trust scores were combined to form an overall trust variable, there were three significant correlations between each of the workplace deviance subscales and the overall, combined deviance scale. Overall organizational trust was negatively related to interpersonal deviance ($r = -0.27, p < 0.05$), organizational deviance ($r = -0.25, p < 0.05$), and overall workplace deviance ($r = -0.29, p < 0.05$). Partial correlation coefficients were calculated, controlling for gender and shift variables. When these potentially influential variables were controlled for, negative relationships between the cognition-based trust variable and organizational deviance ($r = -0.24, p = 0.05$) and overall deviance ($r = -0.25, p < 0.05$) emerged. Hypothesis 6 was partially supported.

Correlational analysis was also used to test the associations between the two forms of workplace deviance (interpersonal deviance and organizational deviance) and the four forms of organizational fairness (distributive fairness, procedural fairness, interactional fairness, and systemic fairness). While all of the relationships between the two forms of workplace deviance and each of the four forms of organizational fairness were negative, only two of the correlations were significant. Distributive fairness was significantly correlated with interpersonal deviance ($r = -0.23, p < 0.05$), and systemic fairness was significantly related to organizational deviance ($r = -0.26, p < 0.05$). When overall deviance and overall fairness scores were added to the correlation matrix, three other significant relationships emerged. Systemic fairness was significantly related to overall deviance ($r = -0.25, p < 0.05$). Overall fairness was significantly related to interpersonal deviance ($r = -0.24, p < 0.05$) and overall deviance ($r = -0.23, p < 0.05$). These findings lend partial support to Hypothesis 7.

Multiple regression analysis was performed to test how organizational fairness, organizational commitment, and trust combined to influence workplace deviance, as proposed in the final hypothesis. The stepwise regression of the Organizational Fairness Scale, its four subscales, the Organizational Commitment Scale, its three subscales, the Trust Scale, and its two subscales on workplace deviance revealed three significant relationships. Overall fairness predicted interpersonal
deviance, systemic fairness predicted organizational deviance, and systemic fairness predicted overall deviance, lending partial support for Hypothesis 8. The statistically significant findings regarding the regression results are included in Table 2.

TABLE 2

<table>
<thead>
<tr>
<th>Deviance Scale Or Subscale</th>
<th>Regression Equation</th>
<th>R²</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTDEV</td>
<td>3.48 – 0.43TOTFAIR</td>
<td>0.06</td>
<td>4.34</td>
<td>1, 69</td>
<td>0.04</td>
</tr>
<tr>
<td>ORGDEV</td>
<td>2.37 – 0.22SYSFAIR</td>
<td>0.07</td>
<td>4.93</td>
<td>1, 69</td>
<td>0.03</td>
</tr>
<tr>
<td>TOTDEV</td>
<td>2.65 – 0.27SYSFAIR</td>
<td>0.06</td>
<td>4.67</td>
<td>1, 69</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note: INTDEV represents the interpersonal deviance subscale of the Workplace Deviance Scale. ORGDEV represents the organizational deviance subscale of the Workplace Deviance Scale. TOTDEV represents the overall Workplace Deviance Scale. TOTFAIR represents the overall Organizational Fairness Scale. SYSFAIR represents the systemic fairness subscale of the Organizational Fairness Scale.

DISCUSSION

Failure to find support for the hypotheses predicting differences between temporary and permanent employees could be viewed as positive news for organizations and their managers, especially since the need for and use of temporary employees in the workforce is continually rising. It is logical to predict that temporary workers, who rarely spend more than a year in one organization, would not care as much as the permanent workers and may therefore be more likely to engage in deviant behavior. However, the results from this study do not support this rationale. Compared to permanent employees, temporary employees reported similar levels of commitment to the organization, trust in the organization, and perceptions of fairness about the organization. These findings suggest that organizational commitment, organizational trust, organizational fairness, and tendencies toward workplace deviance are individual characteristics of the worker and may not be affected by employment status.

Studies have revealed that temporary employees often experience negative treatment from other employees and supervisors while on assignment. Algren (1997) found that temporary workers frequently experience hostile, non-communicative environments when on a job assignment. Sias, Kramer, and Jenkins (1997) revealed that temporary employees were more communicatively isolated
by people in the organization than other new workers. Researchers have revealed that managers who supervise temporary employees generally exhibit negative attitudes and behaviors toward them (Von Hippel, Mangum, Greenberger, Heneman, & Skoglund, 1997). These negative reactions to temporary workers may be the result of false stereotypes that they are low quality workers that lack commitment and possess tendencies toward deviance. The results from this research project suggest that an organization’s employees and supervisors should not be so skeptical of temporary employees since they may not actually differ significantly from permanent employees with respect to important organizational behaviors.

Also, the partial support for positive relationships between commitment, trust, and fairness is an important implication for organizational managers. Managers must make a conscious effort to be fair in their actions. The employees’ perceptions of fairness can influence the amount of trust and commitment the employees develop toward the organization. It is possible that high levels of fairness, trust, and commitment can reduce workplace deviance and the time and monetary costs associated with deviance. This can lead to increased productivity and success for the organization. Good employees, whether permanent or temporary, are the most valuable resources to an organization. Treating them well can make them better.

**Limitations of the Present Study**

While there are noted weaknesses of cross-sectional research that relies upon self-report data, this type of methodology can be useful in the field of organizational behavior (Spector, 1994). Combining the cross-sectional design of the study and the correlational analysis used to test many of the hypotheses, causal relationships cannot be drawn between workplace deviance, organizational commitment, organizational trust, and organizational fairness. However, identifying that relationships between these variables do exist is a necessary first step in determining whether further research is warranted and lending some guidance as to how that research might be designed in the future. As for the fact that survey data was collected and therefore there exists the potential for self-report basis, the researchers felt that the type of information that was sought would be best captured via self-report. While participants may have been influenced by social desirability when responding to sensitive items, in particular, items on the workplace deviance scale, information gathered through other means or sources could result in just as much bias and inaccuracy (e.g., Spector, 1994). With respect to the commitment, trust, and fairness of the employees, collecting information directly from these employees via surveys seemed like the most appropriate method for gathering this type of information. Observational techniques could have helped reduce the bias that might have existed in the reporting of workplace deviance behavior. However, a new bias would surface because there would be a low likelihood of accurately observing and recording every act of workplace deviance for every employee in the organization. By ensuring anonymity and confidentiality to all participants, we hoped to increase the likelihood that participants would respond honestly. However, we do realize that truthfully responding to sensitive survey items is a complex process and often uninfluenced by the mere assurance of confidentiality (Rasinski, Willis, Baldwin, Yeh, & Lee,
The final limitation we will address is the small sample size \( (N = 71) \). While a larger sample size was desired, the partial eta-squared obtained through the MANOVAs were all less than 0.09, indicating that the small sample size was not as significant a limitation as one might think. Such small partial eta-squared values suggest that an extremely large sample size would be needed in order for any significant differences to emerge. Rather than view the sample size as a weakness, we view the small partial eta-squared values as an indication that temporary and permanent employees might be more similar than some researchers and practitioners previously thought.

**Implications for Further Investigations**

Ideally, future investigations of this topic and these relationships should be conducted longitudinally and utilize a variety of methods, measures, and techniques for collecting richer data. Future research should also study temporary employees that do not have any potential to be hired as a permanent employee in the organization to which they are assigned. If the temporary employees in the present study performed well and proved themselves over a certain length of time, they could eventually become a part of the permanent staff. The two types of employees could be significantly different under a different temporary staffing protocol. Finally, future efforts should also extend the research on temporary employees beyond the industrial setting. Examining differences between the two types of workers in an office setting could affect the results. Furthermore, in a non-manufacturing environment, it would most likely be easier to obtain more data from females so that gender differences could also be evaluated.

**REFERENCES**


THE RELATION OF THE PERCEPTION OF MONEY TO EQUITY SENSITIVITY

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ABSTRACT

Past research on equity sensitivity has found distinct differences in work outcome preferences with Entitleds preferring extrinsic outcomes such as pay and benefits while Benevolents have a higher preference for intrinsic outcomes such as achievement and recognition. This study examines these preferences in the context of the meaning of money, finding that Entitleds perceive money as higher in providing achievement, respect and freedom/power, while Benevolents perceive money as higher in the utilitarian budget dimension. The conclusion is that differences in preferred outcomes related to the equity sensitivity model can be understood by differences in the perceived meaning of money.

INTRODUCTION

Huseman, Hatfield and Miles (1985) have developed a construct of equity sensitivity, which divides individuals into three distinct groups: Benevolent, Equity Sensitive, and Entitled. Benevolents prefer a higher ratio of inputs to outcomes in relation to the comparison person. These “altruists” are described as being content in knowing they have made a valuable contribution. They are more concerned with giving than receiving. The Equity Sensitives more strictly follow the equity model that posits a preference for an equal input to outcome ratio in comparison to others. They are likely to react with feelings of inequity to perceptions that their ratio is higher or lower than comparison others. Entitleds prefer to have a higher outcome to input ratio than comparison others. They are described as feeling that they have a right to receive more than their inputs would deserve in relation to others. They are concerned more with receiving than giving. Huseman et al. (1985) demonstrated empirically that these groups reported significantly different reactions to conditions of under-rewarded, equitably rewarded, and over-rewarded. Only those classified as equity sensitive had higher satisfaction scores under conditions of equitably rewarded.

In a later non-empirical article, Huseman et al. (1987) further elaborated on the equity sensitivity construct. They predicted that Entitleds would have increasing satisfaction as they moved from underrewarded situations to overrewarded, while Benevolents would have the opposite, with decreasing satisfaction as they moved from underrewarded to overrewarded. Equity Sensitives would have the highest pay satisfaction when equitably rewarded and lower for both underrewarded and overrewarded situations.

Several additional studies have established empirical support for the equity sensitivity construct. Miles, Hatfield, and Huseman (1989) found that Benevolents preferred lower outcome to input ratios than Equity Sensitive and Entitled subjects, consistent with the equity sensitive model. This difference reflects the greater willingness of Benevolents to have higher levels of
productivity with slightly lower salaries. They estimated that Benevolents could be expected to produce five percent more in a year than Equity Sensitives or Entitleds at a lower salary.

King, Miles and Day (1993) extended this research and supported many of these findings in a later study that found Benevolents tended to have higher levels of satisfaction relative to Equity Sensitives and Entitleds regardless of the reward condition. Entitleds were very intolerant of underreward situations reporting significantly lower satisfaction than benevolents. A second part of this study (King, Miles and Day, 1993) examined differences in exchange ideologies and found that Benevolents placed more importance on the work itself and Entitleds placed more importance on pay.

Miles, Hatfield and Huseman (1994) found distinct differences in outcome preferences for the three levels of equity sensitivity. Entitleds had a higher preference for extrinsic tangible outcomes, such as pay, fringe benefits and job security, while Benevolents had a higher preference for intrinsic outcomes, such as a sense of accomplishment, doing meaningful and challenging work, a feeling of personal worth and a feeling of achievement. This indicates that Benevolents are generally more tolerant of lower outcome to input ratios than comparison others. They are willing to accept lower outcomes in terms of extrinsic tangible outcomes, which have been the types of outcomes often emphasized in past research on the equity model. However, Benevolents prefer higher levels of intrinsic outcomes. Miles et al. (1994) indicate that this higher preference for intrinsic outcomes acts as a balance to the lower preference for extrinsic tangible types of outcomes. This would indicate important differences in the ways in which organizations motivate Benevolents versus Entitleds.

Allen and White (2002) found that the responses for the three groupings of equity sensitivity differed significantly in their responses to scenarios representing under-reward situations for five of nine of their hypotheses. When in a situation receiving less pay for the same amount of work, Entitleds were significantly more likely to reduce their effort or transfer to a different jobs. When receiving the same pay for a greater amount of work, the Benevolents were less likely to respond that they would reduce their efforts, try to make others work harder, attempt to reduce the others pay, and attempt to transfer or quit.

Shore (2004) found similar results in his study, also using scenarios representing conditions of underpayment. He reported that Benevolents indicated the highest levels of pay satisfaction, highest levels of perceived pay fairness and lowest intention to change jobs in comparison to Equity Sensitives and Entitleds.

A possible explanation for the emphasis that Entitleds place on pay compared to Benevolents may be in differences in the perceived meaning of pay. If money has a much more complex meaning to Entitleds that include aspects of intrinsic outcomes, then pay might be seen as a means of satisfying these outcomes. Tang (1992) developed the Money Ethic Scale (MES) to better understand the meaning of money. This scale includes dimensions of good, evil, achievement, respect (self-esteem), freedom (power), and budget (money usage). He groups these into three components: the affective component (good and evil), the cognitive component (achievement, respect, and freedom/power) and the behavioral component (budget) (Tang, 1993.
1995). Tang (1993) indicated that attitudes towards money can have an impact on their perceptions of work-related tasks, rewards, and intrinsic motivation. Employees with different money ethic profiles will be motivated by different extrinsic and intrinsic factors (Tang, Tang, & Luna-Arocas, 2005). Tang and Kim (1995) found that the money ethic was a significant predictor of the combination of organizational citizenship behavior, job satisfaction and organizational commitment. Tang, Furnham and Davis (2002) found that those scoring high on the factor budget tended to have high self-esteem and display organizational citizenship behavior (altruism). They also conclude that these employees are more willing to offer support and help others in the organization. In the equity sensitivity model, Benevolents have been described as altruists, so they might also be expected to score higher on the factor budget than Entitleds.

**HYPOTHESES**

Entitleds rated the importance of pay significantly higher than Benevolents or Equity Sensitives (Miles et. al., 1994). Thus, Entitleds would be expected to have a more positive affective response to money and Benevolents more likely to see money as evil: Hypothesis 1: Entitleds will perceive money as significantly higher on the Good scale than Benevolents or Equity Sensitivities , and Hypothesis 2: Benevolents will perceive money as significantly higher on the Evil scale than Entitleds or Benevolents.

Miles et al. (1994) found that Entitleds had a higher preference for extrinsic tangible items, such as pay, fringe benefits and job security, while Benevolents had a higher preference for intrinsic outcomes, such as sense of accomplishment, doing meaningful and challenging work, a feeling of personal worth and a feeling of achievement. This could reflect different meanings for money. Entitleds might perceive money has providing satisfaction for needs such as achievement, respect, and freedom/power while Benevolents do not. In this case money can satisfy these needs for Entitleds, but Benevolents need to satisfy these needs through other work outcomes: Hypothesis 3: Entitleds will perceive money as significantly higher for Achievement, Hypothesis 4: Entitleds will perceive money as significantly higher for Respect, Hypothesis 5: Entitleds will perceive money as significantly higher for Freedom/power.

Finally, previous research (Tang, Furnham & Davis, 2002) has indicated that those high on the budget factor are likely to exhibit behaviors similar to Benevolents, such as altruistic behavior: Hypothesis 6: Benevolents will perceive money as significantly higher on the Budget factor.

**METHODS**

**Sample**

For the present study, the subjects were university students in introductory management classes. Past studies have demonstrated the usefulness of studying equity sensitivity using student samples (Miles, Hatfield and Huseman, 1989; King, Miles and Day, 1993; King and Miles, 1994). Out of 324 questionnaires distributed, 322 were returned. Sixteen students who did not have work experiences were excluded from the study and six were not usable, leaving a final sample of 300. The average age for the sample is 24.2 (s.d. = 5.4) and 48% are males.
Measures

Almost all of the past research on equity sensitivity has used the 5-item Equity Sensitivity Instrument (ESI) developed by Huseman, Hatfield and Miles in 1985. In 2000, Sauley and Bedeian introduced the 16-item Equity Preference Questionnaire (EPQ). In developing this measure, they discussed shortcomings of the ESI and proceeded to develop the EPQ, which they describe as being “both psychometrically sound and useful for advancing equity sensitivity research” (Sauley & Bedeian, 2000). Wheeler (2006) compared the two scales and found that they were highly correlated (r = .60; p < .001). He reported that they gave very similar results to each other and in relation to past studies concerned with the importance of work outcomes and cultural values. However, a study by Foote and Harmon (2006) produced quite different results. The two measures of equity sensitivity were not highly related to each other produced quite different results in relation to Machiavellianism and positive affect/negative affect. The current study will utilize both measures. This can further contribute to a better consideration of the relationships of the two measures as well as determine the relation between equity sensitivity and the money ethic (meaning of money) for each of the two measures.

The Equity Sensitivity Instrument (ESI) developed by Huseman, Hatfield and Miles (1985) consists of five questions asking subjects to divide 10 points between two possible answers for each question. The questions ask if it is more important to get or give from the organization, if it is more important to help others or watch out for one’s own good, whether the individual is more concerned about receiving or giving to the organization, whether the hard work one does should benefit the organization or oneself, and whether one has a personal moral philosophy to look out for oneself or that it is better to give or receive. Points are totaled so that the maximum possible is 50 and the least zero. Huseman, Hatfield and Miles (1985) reported a coefficient alpha of .83. The present study has a coefficient alpha of .83. Miles et al. used specific breakpoints to identify three groups: Benevolents, Equity Sensitives, and Entitled. These breakpoint were approximately 1/2 standard deviation from the mean. This resulted in 81 (27.0%) Benevolents, 130 (43.3%) Equity Sensitives, and 89 (29.7%) Entitleds for the present study.

Sauley and Bedeian (2000) developed a 16-item Equity Preference Questionnaire (EPQ), and included a thorough examination of its psychometric properties. The 16 items are rated on a five point scale from strongly disagree (1) to strongly agree (5). These include items that relate to the individuals desire to do as little as possible, get out of work, getting as much as possible while doing very little, helping others do their jobs, doing the best one can, and feeling obligated to do more than one is paid to do. Sauley and Bedeian used multiple samples in their study. They found coefficient alphas of .87 and .86 with two pilot studies. The present study has a coefficient of .85. Using the breakpoint of approximately 1/2 standard deviation from the sample mean for the EPQ yielded 92 (30.7%) Benevolents, 132 (44.0%) Equity Sensitives, and 76 (25.3%) Entitleds.
Tang (1992) developed a 30-item Money Ethic Scale (MES) with six factors. The factor Good is measured with 9 items, such as money is good, money is important, money is attractive and money can buy you luxuries. Evil is measured with 6 items, such as money is shameful, money is the root of all evil and money is useless. Achievement is measured with 4 items, such as money is a symbol of success, and money can buy everything. Respect (self-esteem) is measured with 4 items, such as money will help you express your competence and abilities, and money is honorable. Freedom (power) is measured with 4 items, such as money gives you autonomy and freedom, and money means power. Budget is measured with 3 items, such as I pay my bills immediately in order to avoid interest or penalties, and I use my money very carefully. The response format uses a 7-point scale from 1 (disagree strongly) to 7 (agree strongly). Cronbach’s alpha for Good is .73; Evil is .59, Achievement is .75; Respect is .68; Freedom is .70 and Budget is .76.

Since all of the measures were obtained from the subjects at a single time, common method variance is a threat. A common check for common method variance is to load all of the variables into an exploratory factor analysis (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). If common method variance is a major concern, then a single general factor should be found. A principle component analysis extracted thirteen factors with eigen values greater than one. No general factor was apparent for the unrotated factor structure, with Factor 1 accounting for only 19% of the variance. This indicates that common method variance is not a major concern in this study.

RESULTS

The means, standard deviations and intercorrelations of all of the measures is presented in Table 1. A MANOVA was used to determine if the three categories of equity sensitivity were significantly different from each other for the set of six money ethic dimensions (Table 2). Because of the unequal cell sizes, Pillai’s trace was used to determine the significance of the MANOVA since it is more robust than Wilks’ Lambda (Olson, 1976) resulting in an F value of 3.44 (d.f. = 12, 586; p < .001). This indicated significant differences across the six dimensions, so ANOVA’s were used to test the differences for each dimension, followed by Duncan’s test to determine the significant groupings for the three categories of Entitleds, Equity Sensitives, and Benevolents for each of the six dimensions of the Money Ethic scale.

TABLE 1

Means, Standard Deviations and Intercorrelations of all Measures (N = 300)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. EPQ</td>
<td>3.87</td>
<td>.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. ESI</td>
<td>5.04</td>
<td>1.27</td>
<td>.60***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Good</td>
<td>5.81</td>
<td>.67</td>
<td>-.12*</td>
<td>-.32***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Evil</td>
<td>3.19</td>
<td>.86</td>
<td>.04</td>
<td>.12*</td>
<td>-.29***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Achieve</td>
<td>3.63</td>
<td>1.30</td>
<td>-.30***</td>
<td>-.33***</td>
<td>.43**</td>
<td></td>
<td></td>
<td></td>
<td>-.08</td>
</tr>
<tr>
<td>6. Respect</td>
<td>3.67</td>
<td>1.19</td>
<td>-.27***</td>
<td>-.30***</td>
<td>.33***</td>
<td>.06</td>
<td></td>
<td></td>
<td>.55***</td>
</tr>
</tbody>
</table>
TABLE 2

Results of ANOVAs and Duncan’s Tests

Cell means and Duncan’s tests

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>BEN</th>
<th>EQS</th>
<th>ENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPQ</td>
<td>1.17</td>
<td>5.74</td>
<td>5.79</td>
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<tr>
<td>ESI</td>
<td>8.92***</td>
<td>5.58</td>
<td>5.82</td>
<td>6.00</td>
</tr>
<tr>
<td>Evil</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPQ</td>
<td>.41</td>
<td>3.13</td>
<td>3.22</td>
<td>3.24</td>
</tr>
<tr>
<td>ESI</td>
<td>.36</td>
<td>3.30</td>
<td>3.19</td>
<td>3.11</td>
</tr>
<tr>
<td>Achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPQ</td>
<td>10.36***</td>
<td>3.19</td>
<td>3.68</td>
<td>4.07</td>
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<tr>
<td>ESI</td>
<td>11.62***</td>
<td>3.22</td>
<td>3.54</td>
<td>4.13</td>
</tr>
<tr>
<td>Respect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPQ</td>
<td>10.83***</td>
<td>3.24</td>
<td>3.74</td>
<td>4.06</td>
</tr>
<tr>
<td>ESI</td>
<td>8.05***</td>
<td>3.33</td>
<td>3.62</td>
<td>4.04</td>
</tr>
<tr>
<td>Freedom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPQ</td>
<td>6.71***</td>
<td>4.69</td>
<td>5.00</td>
<td>5.31</td>
</tr>
<tr>
<td>ESI</td>
<td>12.72***</td>
<td>4.52</td>
<td>5.03</td>
<td>5.34</td>
</tr>
<tr>
<td>Budget</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPQ</td>
<td>4.45**</td>
<td>5.42</td>
<td>5.32</td>
<td>4.85</td>
</tr>
<tr>
<td>ESI</td>
<td>2.25*</td>
<td>5.16</td>
<td>5.41</td>
<td>5.03</td>
</tr>
</tbody>
</table>

Groups connected by underline are not significantly different from each other

*p < .10; **p < .01; ***p < .001

The first hypothesis concerning the factor Good was supported using the ESI as the measure of equity sensitivity, but not with the EPQ. Using Duncan’s test found two distinct groups, with Entitleds and Equity Sensitives grouped together and significantly higher on the factor Good than Benevolents. The second hypothesis for the factor Evil was not supported for either the ESI or EPQ, with no significant differences between the groupings.
The results for Achievement are consistent with hypothesis 3. Duncan’s test using the EPQ as the measure for equity sensitivity found three distinct groups with Entitleds significantly higher than Equity Sensitives or Benevolents, and Equity Sensitives higher than Benevolents. Duncan’s test for the ESI found Entitleds to be higher for Achievement than both Equity Sensitives and Benevolents. The results for Respect support hypothesis 4 for both measures of equity sensitivity. Entitleds and Equity Sensitives group together as significantly higher than Benevolents for the EPQ and Entitleds are significantly higher than Equity Sensitives and Benevolents grouped together for the ESI. The hypothesis for Freedom/power is also supported, with Entitleds significantly higher than Equity Sensitives and Benevolents together using the EPQ and all three groups distinct from each other with Entitleds significantly higher than Equity Sensitives who are in turn significantly higher than Benevolents.

Finally, the hypothesis concerning Budget is supported using the EPQ, with Duncan’s test showing Benevolents and Equity Sensitives to be significantly higher than Entitleds. However, when using the ESI as the measure for equity sensitivity the results fall short of the p > .05 criteria for significance at p = .065. However, consistent with the hypothesis, Benevolents tend to be higher than Entitleds. Interestingly, although not significant, Equity Sensitives tend to be higher than Benevolents or Entitleds.

**DISCUSSION**

The results for the good/evil dimensions indicated limited differences across equity sensitivity levels. Good was significantly higher for Entitleds using the ESI, but there was no significant difference for the EPQ. Evil was not significantly different for either measure of equity sensitivity. Entitleds were significantly higher than Benevolents in identifying money with Achievement, Respect, and Freedom/power for both the ESI and EPQ. Benevolents were significantly higher than Entitleds in perceiving money in terms of the budget dimension for paying bills using the EPQ. The results using the ESI was just short of significance, although the Equity Sensitives were highest followed by the Benevolents.

Combining the present findings with previous studies would indicate that Entitleds prefer extrinsic tangible outcomes such as pay and fringe benefits, but money has a richer meaning for them than for Benevolents. Money can potentially provide for a greater range of needs for Entitleds, such as achievement, respect, and freedom/power. Benevolents are more likely to perceive money in terms of the utilitarian needs for paying bills (budget), and seek satisfaction for intrinsic needs such as achievement, a feeling of personal worth, and a sense of accomplishment (Miles et al., 1994).

The two measures of equity sensitivity provided the same statistically significant results for four of the six dimensions on the Money Ethic scale. The ESI yielded significant results for Good, but although the results for the EPQ were in the same direction, they were not significant. For Budget, the EPQ provided significant results while the ESI did not. So, for this study the results for the EPQ and ESI were quite similar but there are also some differences that would indicate the potential value of using both measures in future research.
Understanding the differences between Entitleds and Benevolents in the meaning of money and in preferences for work outcomes has major implications for management. For Entitleds, the focus would be on pay, benefits and extrinsic factors since they perceive money as providing for outcomes such as achievement, respect and freedom/power. On the other hand, Benevolents are less likely to see money in terms other than a budget factor in terms of utilitarian uses. Reward systems need to include more concern with intrinsic factors that include these outcomes as well as others such as meaningful and challenging work. Management could assess the preferences of their employees through measures of equity sensitivity measures and the Money Ethic Scale. In addition to using the results as a consideration in reward system design, future research could also assess the utility of using these measures in selecting or placing employees in an appropriate reward environment.

REFERENCES


IS IT MENTORING OR A DEVELOPMENTAL RELATIONSHIP?
DOES IT MATTER?

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Sherry E. Sullivan, Bowling Green State University, ssulliv@bgsu.edu

ABSTRACT

This paper examines the various facets of workplace mentoring relationships, paying particular attention to the question of how mentoring can be distinguished from other types of developmental relationships. The dimensions of mentoring relationships discussed include the functions, participants, reciprocity norms, and time horizon. Distinguishing mentoring from other types of developmental relationships suggests particular resolutions for issues in mentoring research, such as whether or not peer, formal, or external relationships can really be termed “mentoring.” Mentoring must be carefully distinguished from other types of developmental relationships because it is difficult to draw conclusions about the effects or effectiveness of mentoring if the definitions used by researchers vary widely.

THE DEFINITION OF MENTORING

In the past 25 years, there has been a great deal of research on mentoring relationships. The catalyst for the interest in mentoring relationships seems to have been Kram’s (1985) seminal work in the area, which generated an explosion of publications focused on mentoring relationships. Interest in mentoring has grown to the point where PsychNET lists 2,510 publications with the term “mentoring” included in the abstract, with 841 of those published in just the past three years. Clearly, mentoring is receiving a great deal of attention in both the research and the practitioner literature.

Given the amount of interest and attention that mentoring has attracted, it would seem reasonable to assume that there is a clear consensus among researchers and practitioners about the definition of a “mentoring” relationship and how mentoring differs from other types of developmental relationships in the workplace. Unfortunately, this consensus does not seem to have emerged thus far, although some progress has been made in offering guidelines for defining mentoring relationships (Bozeman & Feeney, 2007; Eby, Rhodes, & Allen, 2007). Thus, the research on “mentoring” may have been addressing any of an array of developmental relationships (cf. Higgins & Kram, 2001), with the criteria for including or excluding relationships stated only in very general terms or not at all (Dougherty & Dreher, 2007).

While it would be quite presumptuous to attempt to provide a definition of mentoring that would be acceptable to the field as a whole, it is important to begin to clarify what is meant by the term. In this paper, we will consider some of the issues that must be addressed in arriving at a consensus about the definition of a mentoring relationship. This paper will build upon previous work (Bozeman & Feeney, 2007; Dougherty & Dreher, 2007; Eby, Rhodes, & Allen, 2007) examining the boundary conditions of mentoring at work.

Functions

As a first step, it is important to consider what functions a mentoring relationship might serve. There has been much more attention to the mentoring functions provided to the protégé by the mentor than to identifying functions the mentoring relationship serves for the mentor. Generally, mentoring functions directed toward the protégé have been categorized as instrumental (or career) support and psychosocial support (Chao, 1997, 1998; Fagenson, 1988, 1989; Kram, 1985; Lankau & Scandura, 2002), with role modeling sometimes included within psychosocial support and sometimes identified as a third function (Baugh & Fagenson-Eland, 2005; Scandura, 1992; Scandura & Schriesheim, 1991). Instrumental functions include sponsorship, coaching, protection, exposure and visibility, and assignment to challenging tasks. These functions are directed toward assisting the protégé to develop task-related competence and to prepare for advancement. Psychosocial functions help the protégé to develop confidence and a sense of
professional identity, and include counseling, acceptance and confirmation, and friendship. Role modeling, which may be included as a psychosocial function, allows the protégé to learn role-appropriate behavior through observing the mentor (Kram, 1983, 1985).

In some studies, mentors have been identified only by the provision of instrumental support (e.g., Dreher & Ash, 1990; Whitely, Doherty, & Dreher, 1991, 1992). In other research, mentors are identified as providing instrumental and psychosocial functions, including role modeling (e.g., Baugh & Fagenson-Eland, 2005; Baugh, Lankau, & Scandura, 1996; Mullen, 1998; Mullen & Noe, 1999). The question, then, is how extensive the relationship must be with respect to functions provided to the protégé in order to be termed a “mentoring” relationship.

We propose that a true mentoring relationship must include both instrumental and psychosocial functions (including role modeling). While some mentors may emphasize different functions, depending on the mentor’s abilities and the protégé’s needs, a relationship that includes only one of the two functions could easily be defined as something different than mentoring. That is, a relationship that includes only the instrumental functions might be termed simply “supportive” (Gibson, 2005), whereas a relationship that includes only the psychosocial functions appears to be something more like a friendship (Bozeman & Feeney, 2007). We suggest that a mentor must be concerned about both the protégé’s ability to accomplish tasks and take on new challenges as well as his or her motivation and psychological durability in the work role.

It is much more difficult to define a mentoring relationship in terms of its functions from the perspective of the mentor, as less attention has been focused on the mentor (Allen, 2007). While some benefits are expected to accrue to the mentor, including support, acceptance and confirmation from the protégé, recognition from peers and superiors as a developer of talent, and the internal satisfaction of having been influential in another’s career success (van Emmerik, Baugh, & Euwema, 2005), the actual functions of mentoring provided by the protégé have not been clearly identified or measured. In our estimation, however, however, the relationship must be recognized by both parties as being (at least potentially) mutually beneficial in order to be considered a mentoring relationship.

**Participants**

As a first step, it is important to consider who might be involved in a mentoring relationship. Traditionally, a mentor was defined as an individual who was hierarchically superior to the protégé (Levinson, Darrow, Klein, Levinson, & McKee, 1978; Kram, 1985), although the definition has been expanded to include peers in a “peer mentoring” process (e.g., Allen, Russell, & Maetzke, 1997; Eby, 1997; Ensher, Thomas, & Murphy, 2001; Kram & Isabella, 1985; McManus & Russell, 2007). Further, it is not entirely clear whether a supervisor can be considered a mentor (Bozeman & Feeney, 2007). Finally, there have been some attempts to extend the definition of mentoring to include group mentoring (e.g., Dansky, 1996) or to focus only on the functions of mentoring, regardless of who may provide them (Dougherty & Dreher, 2007).

To begin the discussion, we advocate that mentoring, as a mutually beneficial relationship, must be defined as a dyadic relationship. While it is possible for group to individual and individual to group exchanges to take place, the mutuality of the relationship will be most evident in a one-to-one exchange. Thus, a mentoring relationship involves more than just the provision of functions to the protégé, but also includes the exchange process by which the protégé offers something of value to the mentor. We suggest that mentoring relationships should be viewed exclusively as dyadic in nature.

While mentoring relationships must be dyadic, individual protégés and mentors may be involved in multiple relationships, either simultaneously or sequentially. There is some evidence to suggest that protégés, at least, report multiple relationships (Baugh, 2008; Baugh & Scandura, 1996). While the intensity and duration of mentoring relationships may set a limit on the number of relationships in which one individual can engage, our definition of mentoring allows for the existence of serial or contemporaneous relationships. Further, individuals may assume different roles over time, in that an individual who has previously been a protégé may later become a mentor (Ragins & Scandura, 1999).
The traditional definition of mentoring involves a hierarchical separation of participants such that the mentor is more advanced in his or her career than the protégé (e.g., Hunt & Michael, 1983; Kram, 1985; Levinson et al., 1978; Ragins, Cotton, & Miller, 2000). While peers may be able to provide some of the mentoring functions for one another (e.g., Kram & Isabella, 1985), the extent to peers can provide instrumental functions is somewhat limited. For example, a “peer” must be advanced in some way over the dyadic partner in order to provide sponsorship, protection, or exposure and visibility. Further, there may be an element of competition between peers (e.g., competition for challenging assignments) that is not present in a hierarchical relationship. As a result, we believe that a mentoring relationship involves a hierarchical separation between the parties, while noting that there may be a great deal of overlap between a high quality supervisor-subordinate relationship and a supervisor-subordinate mentoring relationship (Scandura & Schriesheim, 1994).

As a mutually beneficial, dyadic relationship, mentoring requires that both parties must acknowledge the relationship as such. While some mentoring functions, such as role modeling and sponsorship, can be performed “at a distance,” both parties must acknowledge their inter-connectedness in order for a relationship to exist. To date, there has been no empirical attention directed to the extent of agreement (or disagreement) between parties about the nature of their relationship. However, research on dyadic agreement between supervisors and subordinates (Paglis & Green, 2002) and on prediction of impressions (DePaulo, Kenny, Hoover, Webb, & Oliver, 1987) suggests that mis-perceptions about mentoring relationships may occur.

**Norms of Reciprocity**

A mentoring relationship is, in our perspective, mutually beneficial. Thus, each party to the relationship will both give to and receive from the dyadic partner something of value. Relationships utilize either communal or exchange norms to govern this process (Clark & Mills, 1993). In a relationship governed by an exchange norm, a debt is incurred whenever a benefit is provided, with the understanding that the debt will be repaid at a later point in time. In a relationship governed by a communal norm, benefits are given according to the partner’s need or to demonstrate support for the partner, but they do not create an obligation or expectation for repayment.

We suggest that a mentoring relationship can utilize either a communal or an exchange norm for the provision of benefits. Clearly, the highest quality mentoring relationships will be governed by a communal norm and the parties will demonstrate support for one another through the provision of benefits without expectation of return. While this situation requires very high levels of trust, it will also result in very high levels of personal development (Fletcher & Ragins, 2007; Ragins & Verbos, 2007).

A relationship can be governed by exchange norms, however, and still result positive outcomes for both parties (Ragins & Verbos, 2007). However, for a mentoring relationship to successfully utilize exchange norms, the parties must take a long-term view of the exchange, trusting that a benefit provided now will be reciprocated at some unspecified point in the future. In addition, rather than requiring an exchange of benefits that are similar in kind, the parties must be willing to acknowledge that benefits are equivalent in value. A relationship that is limited to exchange of well-defined benefits within a short time frame cannot offer the either the amount of time or the breadth of support needed for development to occur for either party.

It is clear that a mentoring relationship cannot be governed by a norm of exploitation, wherein one or both parties attempt to maximize benefits without regard for the partner’s well-being (Mills, Clark, Ford, & Johnson, 2004). It would be impossible to develop trust in this situation, and thus both long-term commitment and individual development would be unlikely outcomes. A relationship based on a norm of exploitation may not necessarily be short-lived, but it cannot be considered mentoring.

**Time Frame**

Some mention has been made of the time frame necessary for relationships to be considered mentoring. The development of mentoring relationships, as opposed to other supportive relationships, takes a reasonable amount of time. Kram (1983) reported that the average length of mentoring relationships within her sample was five years. Further, estimates of the various phases of the mentoring relationship (initiation, cultivation, separation, and
redefinition) suggest that developing and reaping the benefits of a mentoring relationship may take approximately 3 to 5 years (Chao, 1997; Kram, 1985). Thus, mentoring relationships have a relatively long time frame, rather than being relationships that are developed, utilized, and discarded quickly.

Mobility is a characteristic of the changing career landscape, however, and long term relationships may not be as feasible as in the past, at least if the dyadic partners prefer to be co-located for a significant portion of the duration of the relationship (Arthur, 1994; Feldman & Ng, 2007). As a result, the time frame may be reduced somewhat, but trust cannot be developed too quickly. Trust is essential to a mentoring relationship based on either communal or exchange norms. Mentoring relationships will be characterized by a relatively long actual or expected time horizon.

The previous delineation of the functions, participants, reciprocity norms, and time frame of mentoring relationships has implications for research that is conducted on mentoring. We will now turn our attention to those implications, indicating how mentoring research would be affected by the limitations on the definition of a mentoring relationship we have suggested.

THE NATURE OF MENTORING RESEARCH

We first suggested that in order to qualify as a mentoring relationship, both instrumental (or career) and psychosocial support must be provided to the protégé. If this restriction is incorporated into a definition of mentoring, then the range of dependent variables investigated should be expanded beyond career-related benefits to outcomes indicating individual growth and development (Fletcher & Ragins, 2007). One might want to include career commitment, professional identity, and willingness to engage in risky, challenging work as possible outcomes for the protégé, or even to expand to variables related to personal learning and growth (Lankau & Scandura, 2007).

The greater focus on protégés as the recipients of benefits from mentoring relationships has resulted in more attention directed to the functions of mentoring provided to the protégé than those provided by the protégé. However, we define a mentoring relationship as mutually beneficial, and as a result, it is important to look not only at the benefits that the mentor receives, but how protégés act to create those benefits. There has been very little empirical research directed at the actions or activities of the protégé in the context of a mentoring relationship. While there has been much concern expressed about making mentoring a more “equal opportunity” resource (Blake-Beard, Murrell, & Thomas, 2007; Giscombe, 2007), research has offered no behavioral prescriptions for protégés with regard to developing or maintaining a mentoring relationship.

Introducing a requirement of a hierarchical difference between mentors and protégés suggests that the term “peer mentoring” is something of a misnomer. That is, while peers may engage in relationships that involve giving and receiving career advice as well as psychosocial support, peers would not normally be in a position to provide even true coaching, much less the full range of instrumental functions. Peer relationships may well be developmental, but they would not meet the criteria for mentoring relationships.

We indicated that in order for a relationship to be termed “mentoring,” both parties to the relationship must acknowledge it as such. In much of the research on mentoring to date, only one party has been queried about the existence of the relationship. For the most part, individuals have been given a broad definition of a mentor, and then asked if they have ever had (or been) a mentor (Dougherty & Dreher, 2007; Scandura & Pelligrini, 2007). The other party to the exchange has rarely been asked to verify this assertion. It is quite possible that individuals may be highly motivated to indicate that they have been party to a mentoring relationship, especially when they have heard that “everyone who makes it has a mentor” (Lunding, Clements, & Perkins, 1979).

While it is most desirable for investigators to include both parties to the mentoring relationship in research studies, this requirement may limit the accessibility of empirical evidence about mentoring. At a minimum, some research should be conducted in order to ascertain the extent to which individuals nominated as mentors (or protégés) by a research participant agree on the role designation. If the parties generally agree on the nature of their relationship, then surveying only one member of the dyad about his or her experience of the relationship poses less concern than if it is determined that such disagreement is common. However, questions remain about whether or not the parties truly agree on the mentoring functions provided and received (e.g., Baugh, Fagenson-Eland, & Lankau, 2005).
Formal mentoring relationships—that is, mentoring relationships that are developed through the instigation of a formal, organizationally-supported program—are neither included nor disqualified by the definition of mentoring adopted here. The question of whether a formally-developed relationship constitutes mentoring can only be answered empirically, by determining if the relationship meets the criteria specified. Studies that have been conducted in order to investigate the outcomes of formal mentoring programs likely provide evidence about the outcomes of a variety of different types of relationships, only some of which meet the criteria for mentoring relationships. Research on formal mentoring programs should first address the issue of whether the program is successful in creating mentoring relationships at all, before determining if the relationships produce the organizationally-desired outcomes (Baugh & Fagenson-Eland, 2007).

A related issue is the question of the physical location of mentor and protégé. Can a mentor outside of a protégé’s employing organization provide sufficient career support to the protégé and can the protégé offer the mentor sufficient benefits in return to support a mentoring relationship? While research has been conducted on mentoring across organizational boundaries (Baugh & Fagenson-Eland, 2005), it seems that external mentoring may be difficult to accomplish. External mentoring may be more likely among professionals, where commitment to the profession may equal to or stronger than commitment to the employing organization (McAulay, Zeitz, & Blau, 2006), or in situations where job changes after the development of the relationship have resulted in the mentor and protégé working in different settings. Once again, the researcher should first establish that external relationships can truly be characterized as mentoring before drawing conclusions about external mentoring relationships.

The definition of mentoring proposed also has implications for the study of dysfunctional mentoring relationships. Given that mentoring relationships are defined as mutually beneficial, dysfunctional relationships could not be considered mentoring relationships. While it can be freely acknowledged that all relationships encompass some relational problems (Eby, 2007; Eby, Butts, Lockwood, & Simon, 2004), true dysfunctions violate both communal and exchange norms. Relationships that are governed by exploitive norms or that result in damage to the other party, either through neglect of the partner’s needs or through adversarial actions, could not be considered mentoring relationships.

It is possible that a mentoring relationship could evolve (or degenerate) into a relationship that is dysfunctional. External events, violations of trust, or a growing need for autonomy on the part of the protégé may disrupt the stability of the mentoring relationship. If the parties are unable to recover from the disruption, however, and the relationship becomes dysfunctional, it ceases to be a mentoring relationship in that it is no longer mutually beneficial. Interesting questions arise as to what sorts of events or actions would result in the apparent destruction of a mentoring relationship.

**CONCLUDING THOUGHTS**

This paper has illustrated how the definition of mentoring that is adopted will influence the nomological network that is developed and the empirical questions that flow from it. At the present time, there are no generally accepted criteria for defining mentoring relationships (Dougherty & Dreher, 2007). The lack of clarity or agreement with respect to a definition of mentoring is problematic in two ways.

First, it is difficult to organize the findings from mentoring research into a coherent body of knowledge or to utilize empirical results to stimulate theoretical development (Scandura & Pellegrini, 2007). The weak or variable relationship of mentoring to outcomes (Allen, Eby, Poteet, Lenz, & Lima, 2004) may be the result of studying different kinds of relationships, particularly if involvement in a mentoring relationship is a self-report variable. As we work toward greater theoretical development, it is important to direct some attention to the definitional complexities of mentoring in order to ensure that generalizations and prescriptions with regard to mentoring are actually addressing the same subject matter.

A second problem arises in the application in organizational settings of the empirical findings with respect to mentoring. While organizations may wish to encourage the development of mentoring relationships or even to provide programs that assist in the initiation and development of such relationships, they are offered little guidance
in this endeavor. Practitioners need to know more about what a “good” mentoring relationship encompasses and what sustains such relationships in order to nurture these mutually beneficial relationships within their organization.
REFERENCES


ABSTRACT

In recent years the airline industry has encountered numerous challenges affecting their profitability and survival. In such a competitive environment airlines should strive to increase their customer retention by effectively recovering from service failures. South African airline passengers’ relationship length with the airline as well as their satisfaction with the airlines’ service recovery efforts were used to determine what the effect of a service failure was on their relationship with the airline as well as their willingness to recommend the airline to others following a service failure. The results are compared with the findings from a similar study among south-eastern United States airline passengers. The comparison reveals while relationship length influence the effect of service failures on U.S. passengers’ relationship with and their willingness to recommend an airline, South African passengers are more influenced by their satisfaction with airlines’ service recovery efforts in this regard.

INTRODUCTION

Sigala (2005:409) suggests that service industries are undergoing significant developments, including that the focus is shifting from customer acquisition to customer retention. It is therefore vital that organizations not only attract new customers and satisfy their immediate needs, but also do their utmost to retain their customers as this will probably give them a greater chance of survival than organizations that don’t actively try to retain their customers (Choi & Chu, 2001:289). Once organizations successfully retain their customers, they will be able to start building relationships with them (Reichheld & Sasser, 1990:105-108; Hoffman, Kelly & Chung, 2003:334). The importance of building relationships with customers lies in the fact that repeat business not only promotes profitability, it can actually be the lifeblood of the organization (Zineldin & Philipson, 2007:230). Due to the many challenges they face, airlines in particular must build relationships with their customers and retain them as customer retention leads to lower customer acquisition costs, leading to increased profitability as it is more expensive to acquire new customers than retaining existing customers (Magnini & Ford, 2004:280; Knox, Maklan, Payne, Peppard, & Ryals, 2003:26; Kim & Cha, 2002:322).

Airlines have for a number of years faced challenges influencing not only their profitability but often also their survival. Some of the challenges include increasing competition; global economic decline that led to the decreased demand for air transport (Fodness & Murray, 2007:493); declining profitability in the industry as the world’s airlines cumulatively lost $43
billion between 2001 and 2005; rising oil prices (attributing approximately 15% of an airline’s costs. Oil costs for the industry surged to $97 billion in 2005 at an average price of $57 per barrel of oil – this is much higher now); and supply exceeds demand (Tiernan, Rhoades & Waguespack, 2008:213; Anon, 2006:33). In addition to these influences (over which they have very little, if any, control), airlines are also prone to service failures due to the service processes employed in service delivery (Bejou & Palmer, 1998:8). Although airlines cannot always prevent all service failures from occurring, they can influence the outcome of the failure through their service recovery efforts.

The aim of this paper is to report on the effect of service failures on South African airline passengers. Data was gathered from passengers departing from O.R. Tambo International Airport, the busiest airport in Africa (SouthAfrica.info, 2008), catering for more than 17 million passengers per annum (ACSA, 2008). O.R. Tambo International Airport is situated in Gauteng province, the smallest of South Africa’s nine provinces (covering 1.4% of total land area). Despite being the smallest province, Gauteng is home to 8 million people (Gauteng Provincial Government, 2008) and contributes a third of South Africa’s GDP and 10% of Africa’s GDP (Gauteng Economic Development Agency, 2008). The findings from this study will be compared to a similar study by Bejou and Palmer (1998:7-22) among airline passengers in the south-eastern United States to determine if South African airline passengers reacted similarly or differently to service failures than passengers from the U.S.

**LITERATURE REVIEW**

Despite organizations and their customers seeking faultless delivery of core and supplementary services (Mattila & Cranage, 2005:271; La & Kandampully, 2004:390), this is almost impossible in service settings due to the inseparable and intangible nature of services as well as the human involvement in the production and consumption thereof (Palmer, Beggs & Keown-McMullan, 2000:513).

Whenever customers deal with organizations, their service delivery expectations will be influenced by their previous experiences with the organization and specifically their service encounters with the organization. Customers’ service expectations can be categorized into one of the following levels: desired service (service level the customer hopes to receive); adequate service (service level the customer believes the service could be), predicted service (service level the customer anticipates receiving) and a zone of lenience that falls between the desired and adequate service levels (Grönroos, 2004:106; Gabbott & Hogg, 1998:52; Olsen, Teare & Gummesson, 1996:167-168). Whenever discrepancies occur between any of these service levels, the customer will experience a service failure. A service failure, from the customer’s perspective, can therefore be regarded as a real or perceived problem or where something has gone wrong in dealing with an organization (Palmer, 2001:74&492; Maxham, 2001:11). The organization has therefore not met the customer’s expectations during the service encounter (Chan & Wan, 2008:775).
Research has shown that, despite airline customers expecting a certain level of service prior to traveling (Coye, 2004:60), service failures are likely to occur in a number of areas influencing customers’ service encounters, including flight cancellations, delays or diversions; attitudes of ground and cabin staff; strikes; reservation problems; and overbooking of flights (Bamford & Xystouri, 2005:314). It therefore appears as though airlines are susceptible to service failures due to the nature of the service process they apply in service delivery (Bejou & Palmer, 1998:8).

Cragnage (2004:210) and Colgate and Norris (2001:215) explain why it is important for organizations to pay attention to service failures by suggesting that service failures not only negatively impacts on customers’ confidence in an organization, it could also result in customers leaving the organization for a competitor. It is therefore important for organizations to identify areas where service failures occur and to implement measures to prevent service failures from reoccurring (Cragnage, 2004:211).

Even though it is unlikely that organizations can eliminate service failures from occurring, they can through their service recovery efforts learn how to effectively handle these failures to maintain and possibly even enhance customer satisfaction (Bamford & Xystouri, 2005:307; Maxham, 2001:11; Miller, Craighead & Karwan, 2000:387).

Service recovery, according to Grönroos (1990:7), refers to the actions organizations take in response to a service failure. Bell (1994:49) and Miller et al. (2000:388) add that through their service recovery efforts, organizations attempt to change customers’ dissatisfaction to satisfaction, with the ultimate aim to retain customers that experienced a service failure. By not effectively offering service recovery to service failures, customers could be let down for a second time. Lewis & McCann (2004:8) and Maxham (2001:12) continue by explaining that this could lead to customers leaving the organization for a competitor, spreading negative word-of-mouth communication, or rating the organization lower than it would have done directly following the service failure.

Magnini, Ford, Markowski and Honeycutt (2007:213) and Ngai, Heung, Wong and Chan (2007:1388) suggest that, despite the potential negative consequences of service failures, effective service recovery can lead to a mutually beneficial situation for both the customer and the organization. This is possible since well executed service recovery can enhance customer satisfaction and loyalty (Torres & Kline, 2006:294; Magnini & Ford, 2004:279; Miller et al., 2000:387) and influence whether dissatisfied customers will leave or remain with the organization (Yuksel, Kilinc & Yuksel, 2006:12). Effective service recovery could, therefore, potentially lead to an even higher level of satisfaction than what the customer would have experienced if a service failure did not take place (Schoefer, 2008:216; Lorenzoni & Lewis, 2004:12; Baron & Harris, 2003:64).

Service recovery efforts that organizations can implement to effectively deal with service failures include: communicating with customers by providing an explanation for the reason for the service failure; recovering the failure immediately; ensure professional action by

Since service failures are inevitable in the airline industry, airlines should try to minimize the possible damaging effect thereof by putting service recovery strategies in place. The manner in which airlines react to service failures could, therefore, potentially influence whether a customer will stay with an airline or defect to a competitor. The ultimate goal for the airline by implementing service recovery strategies, therefore, is to enhance customer satisfaction, strengthen relationships with customers and ultimately attempt to minimize customer defections (Christopher, Payne & Ballantyne, 2002:60).

PROBLEM STATEMENT AND OBJECTIVES

Internationally the airline industry has encountered numerous challenges facing not only their profitability but in fact their survival. Within the last year a number of international airlines ceased their operations, including U.S. carriers ATA Airlines, Aloha Airgroup, Skybus Airlines, Champion Air and Maxjet, as well as Hong Kong’s Oasis Hong Kong (Starmer-Smith, 2008), to name but a few. South Africa has also recently seen the demise of one of its seven national airline carriers, namely Nationwide Airlines with a fleet of 17 planes, carrying more than a million passengers per annum (Theunissen & Sguazzin, 2008). Even though airlines cannot control most of the challenges affecting their survival, they can enhance customer retention by effectively dealing with customers’ service failures. To do this, airlines need to determine what the service failure and service recovery effects are on customers’ satisfaction with the airline. While service failure and recovery have received considerable research attention, few South African studies have addressed this topic. In addition to the above, no studies could be found that compared the effect of service failures of South African passengers with studies conducted in other countries.

The following objectives are set for the paper:

- To determine what the effect of service failures and airlines’ service recovery efforts are on South African airline passengers’ relationships with the airlines;
- To determine what the effect of service failures and airlines’ service recovery efforts are on South African airline passengers’ willingness to recommend the airline to others; and
- To compare the findings from this study to that of a similar study among airline passengers in the south-eastern United States.

METHOD

Sample and measuring instrument
A non-probability, convenience, sampling method was used to survey passengers of domestic airlines in South Africa. Trained field workers randomly distributed a self administered questionnaire to passengers at the check-in counters of the various domestic airlines at O.R. Tambo International Airport in Gauteng province. Self-administered questionnaires were chosen as it offers respondents greater anonymity, thereby encouraging the respondent to more readily disclose feelings and attitudes (Cooper & Schindler, 2003:341) and because of its cost-effectiveness (Struwig & Stead, 2001:86-88). Fieldwork was carried out over a two week period outside holidays in an attempt to ensure that the data would not be skewed by holidaymakers. Questionnaires were distributed throughout the day from early morning to early evening to accommodate the departure times of the various airlines.

Data Analysis

Cross tabulation was used to determine if associations exist between various variables. The Pearson’s Chi-square statistic was used to determine whether values calculated for the cross-tabulations were statistically significant, where a value of $p < 0.05$ can be considered to be indicative of statistical significance (Reid, 1987:113). T-tests were used in addition to the cross tabulation to test for statistical significance (Field, 2005:296) to determine if differences exist between respondents who were satisfied and those who were dissatisfied with the airlines’ response to the service failure. Although it is important to determine whether a value is statistically significant, the size of the value or effect needs to be determined in order to establish whether the effect is practically significant and important (Bagozzi, 1994:248). Practical significance was calculated by considering the effect sizes according to Cohen’s $d$-values by determining the difference between means for the two groups (satisfied versus dissatisfied respondents) (Cohen, 1988:20-27).

Sample profile

A total of 324 of the distributed 405 questionnaires were completed (80%). Respondents flew with one of the following domestic South African airlines: South African Airways (33.3%), Kulula.com (21%), Nationwide Airlines (15.4%), Mango (14.5%), 1-Time (7.4%), South African Express (5.9%) or South African Airlink (2.5%). Although Nationwide Airlines ceased operations in April 2008, the airline was still operational at the time of the study and the results obtained from passengers flying with Nationwide Airlines were therefore retained.

Almost 22% of the respondents indicated that they have experienced a service failure with a domestic airline they have flown with before. Respondents were predominantly male (59.2%) and their ages ranged between 20-30 years (28.2%), 31-40 years (25.4%), 41-50 years (25.4%) and 51-60 years (19.7%). The respondents indicated that they usually travel for business (59.2%) or leisure (36.7%) purposes; made their own decision with which airline to fly (57.7%) or that their business policy dictates which airline to fly with (22.5%); and have
flown three to six times (66.2%) or seven to twelve times (33.8%) with the domestic airline they have flown with most in the 12 months preceding the study.

**Reasons for service failure and airlines’ response**

Respondents had to describe what the reason for the service failure they experienced was. The majority of respondents indicated that their service failure could be attributed to a delayed flight (62%), poor service (16.9%) or lost luggage (11.3%). These reasons can, unfortunately, not be compared to those of Bejou & Palmer (1998:7-22) as their study categorized service failures as either “big” or “small”, without explaining how the service failures were categorized into these two groups. However, the reasons provided for the service failure correspond with those of Bamford and Xystouri (2005:314), who found that the majority of European airline passengers (Bamford, 2008) who experienced a service failure complained about flight cancellations, diversion of flights or delays (62.53%) or the attitude of ground staff (11.83%).

When respondents were asked how the airline responded to the service failure, the majority indicated that the airlines did nothing (57.7%), offered discounts or vouchers for a next flight (21.1%), booked the respondent on a next flight (9.9%) or apologized for the failure (8.5%). It is not surprising that, considering the high percentage of respondents who indicated that the airlines did nothing to rectify the failure, the majority of respondents (68%) were dissatisfied with the airlines’ service recovery efforts. Respondents’ explanations to the airlines’ service recovery efforts, categorized by respondents’ satisfaction or dissatisfaction with these efforts, are listed in Table 1. Respondents that were satisfied with the airlines’ recovery efforts indicated what the airline did to ensure their satisfaction (part “a” of Table 1), while dissatisfied respondents indicated what they thought the airline should have done in response to the failure (part “b” of Table 1).

<table>
<thead>
<tr>
<th>a) Satisfied customers: reason for satisfaction</th>
<th>%</th>
<th>b) Dissatisfied customers: what airline should have done</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kept me informed by giving explanation for service failure</td>
<td>47.8</td>
<td>Keep me informed and apologize</td>
<td>51.1</td>
</tr>
<tr>
<td>Professional and friendly staff</td>
<td>34.8</td>
<td>Offer better service</td>
<td>31.9</td>
</tr>
<tr>
<td>Put me on the next flight</td>
<td>8.7</td>
<td>Offer discounts</td>
<td>12.8</td>
</tr>
<tr>
<td>Provided me with vouchers</td>
<td>8.7</td>
<td>Put me on the next flight</td>
<td>4.2</td>
</tr>
</tbody>
</table>

From Table 1 it can be derived that the majority of respondents who were satisfied with the airlines’ service recovery efforts attributed their satisfaction to the airline keeping them informed by giving an explanation for the failure (47.8%) or the airlines’ friendly and professional staff dealing with the service failure (34.8%). Dissatisfied respondents listed
similar responses when asked what the airlines should have done to rectify the service failure, namely that the airlines should have kept them informed and apologize for the service failure (51.1%) or that the airlines should have offered better service (31.9%).

Effect of service recovery on respondents’ relationship with the airline

When asked to indicate what the effect of the service failure (and the airlines’ service recovery efforts) had on the respondents’ relationship with the airline, the majority of respondents (66.2%) indicated that their relationship with the airline was either weakened (52.1%) or broken (14.1%). The balance of the respondents indicated that their relationship was unchanged (29.6%), while only 4.2% indicated that their relationship with the airline was strengthened. A T-test was performed to determine whether a difference exist between respondents who were satisfied and those who were dissatisfied with the airlines’ response to the service failure with regards to their relationship with the airline. The T-test realized a p-value ≤ 0.05, indicating a statistical significant difference between satisfied and dissatisfied respondents (p = 0.0001). The realized effect size (d = 1.00) indicates a practical significant difference between the two groups. Further analysis of the data showed that respondents who were dissatisfied with the airlines’ response were of the opinion that their relationship with the airline was weakened or broken, whereas satisfied respondents felt the relationship was either unchanged or strengthened.

Unlike the study by Bejou & Palmer (1998:7-22) where the effect of service failures was determined by considering the duration of the relationship with the airline (less than one year; 1-2 years; 2-3 years; and more than three years), this study measured the relationship with the airline by considering how often respondents have flown with an airline during the 12 months preceding the study (categorized as one to six times or seven times and more). Two cross tabulations were performed to compare the two groups in terms of their respective relationship lengths to determine the effect that the service failure on their relationship with the airline as well as their satisfaction with the airlines’ service recovery efforts.

The first cross tabulation showed that 65.96% of respondents who have flown one to six times and 66.67% who have flown seven or more times with the airline indicated that their relationship with the airline was weakened or broken. A Chi-square test was performed to determine whether a statistically significant association exists between the relationship length and the effect of the service failure on their relationships with the airline. The test realized an exceedence probability of p = 0.952, indicating that there is not a statistically significant association between the variables.

The second cross tabulation showed that 61.70% of respondents who have flown between one and six times and 79.92% who have flown seven times or more with the airline indicated that they were dissatisfied with the airlines’ service recovery efforts. Despite the seemingly difference between the two groups, a Chi-square test realized an exceedence probability of 0.137, indicating that there is not a statistically significant association between the relationship length and their satisfaction with the airlines’ service recovery efforts.
Effect of service recovery on recommending the airline to others

Two cross tabulations were performed to determine the effect of the service failure and recovery on respondents’ willingness to recommend the airline to others. The first cross tabulation considered the influence of the relationship length, while the second determined the effect of respondents’ satisfaction with the airlines’ service recovery efforts on their willingness to recommend the airline.

The first cross tabulation showed that 63.83% of respondents who have flown between one and six times with the airline will recommend the airline to others after suffering a service failure. A somewhat lower percentage of respondents who have flown with the airline seven times or more (58.33%) also indicated that they would recommend the airline to others. A Chi-square test was performed to determine whether a statistically significant association exists between the relationship length and whether they would recommend the airline to others following a service failure. The test realized an exceedence probability of $p = 0.652$, indicating that there is not a statistically significant association between the variables.

From the second cross tabulation it could be determined that 91.30% of respondents who were satisfied with the airlines’ service recovery efforts will recommend the airline to others. In contrast to the satisfied respondents, less than half (47.92%) of respondents who were dissatisfied with the airlines’ recovery efforts indicated that they would recommend the airline to others. A Chi-square test was performed to determine whether a statistically significant association exists between respondents’ satisfaction with the airlines’ service recovery efforts and if they would recommend the airline to others. The test realized an exceedence probability of $p = 0.000$, indicating that there is a statistically significant association between the variables.

DISCUSSION

From this study it can be concluded that although the majority of respondents who have flown with the airline one to six times as well as those who flew seven times or more indicated that their relationship with the airline was weakened or broken following the service failure, no statistical significant difference as far as the length of the relationship could be determined. On the other hand, in their study among 214 airline passengers flying with various airlines in the south-eastern U.S., Bejou and Palmer (1998:15-17) found that the seriousness of the service failure as well as the length of the relationship with the airline appeared to have an effect on passengers’ relationship with the airline. Passengers who have a longer relationship with the airline (2-3 years and longer than 3 years) still trusted the airline, regardless of the severity of the failure (“big” or “small”). Bejou and Palmer (1998:16) therefore concluded that the effect of the service failure on passengers’ relationship with the airline tends to decrease as the relationship duration increase, albeit it not straightforward and linear.
In this study it was furthermore determined whether the length of the relationship influenced passengers’ satisfaction levels with the airlines’ recovery efforts. Despite a greater majority of passengers with a longer relationship being satisfied than passengers with a shorter relationship, no statistical difference could be determined as far as the length of the relationship is concerned.

From this comparison it can be concluded that, irrespective of the relationship length with the airline, South African passengers felt that their relationship with the airline was either weakened or broken following a service failure. South African passengers’ level of satisfaction with the airlines’ service recovery efforts were also not influenced by the relationship length. In contrast, as the U.S. passengers’ relationship length increased, the effect of the service failure seemed to decrease. It therefore seems that South African and U.S. airline passengers differed in terms of the effect of a service failure when considering the length of the relationship with the airline.

When considering what the effect of the service failure was on passengers’ willingness to recommend the airline, it could be concluded from this study that although the majority of respondents, irrespective of relationship length, would recommend the airline, that the length of the relationship with the airline did not significantly influence whether passengers would recommend the airline.

From the U.S. study it was found that, with the exception of those who have a relationship with the airline of between one and two years, passengers with all other relationship lengths (less than one year; 2-3 years; and more than three years) were willing to recommend the airline after suffering a “small” service failure. It was furthermore found that, as far is “big” services failures were concerned, only passengers with relationships longer than three years were willing to recommend the airline to others. Bejou & Palmer (1998:15) concluded that, regardless of the severity of the service failure, the likelihood of recommending the airline increased as the relationship duration increased.

In this study it was furthermore determined whether passengers’ level of satisfaction with the airlines’ service recovery efforts influenced their willingness to recommend the airline. From the analysis it was found that, unlike relationship length, passengers’ level of satisfaction with the airlines’ service recovery efforts significantly influenced whether they would recommend the airline to others, with the majority of satisfied respondents (91.3%) indicating that they would recommend the airline while less than half (47.92%) of dissatisfied passengers that would do so.

From this comparison it can be concluded that, irrespective of the relationship length with the airline, South African passengers indicated that they would recommend the airline to others. It can therefore be concluded that South African passengers’ relationship length with the airline is not indicative of their willingness to recommend the airline following a service
failure. When considering the effect of passengers’ level of satisfaction with the airlines’ service recovery efforts on their willingness to recommend the airline, it could be concluded that satisfaction levels indeed influenced their willingness to do so. It can therefore be concluded that South African passengers’ level of satisfaction with the airlines’ service recovery efforts is a more indicative indicator of their willingness to recommend the airline to others. The results from the U.S. study, in contrast, indicated that passengers’ relationship length did effect their willingness to recommend the airline as the likelihood of recommending the airline increased as the relationship duration increased.

It therefore seems that South African and U.S. airline passengers differ in terms of their willingness to recommend an airline when considering the length of the relationship with the airline. While U.S. passengers’ relationship length with the airline can be used to measure their willingness to the recommend the airline, it would probably be better to consider South African passengers’ level of satisfaction with the airlines’ recovery efforts, rather than their relationship length.

CONCLUSION

Service organizations, and especially airlines, are susceptible to service failures. By not effectively offering service recovery, airlines stand to lose their customers to competitors. Organizations can, by effectively recovering from service failures, ensure that customers not only remain with the organization, but also enjoy greater satisfaction than if the failure did not occur. From the study among South African passengers it was determined that the relationship length with the airline did not influence their relationship with the airline nor their willingness to recommend the airline. South African passengers’ satisfaction with the airlines’ service recovery efforts did, however, influence their willingness to recommend the airline. In contrast, the U.S. passengers’ relationship length influenced both their relationship with the airline as well as their willingness to recommend the airline. It can therefore be concluded that while relationship length can be used to evaluate the effect of service failures on U.S. passengers’ relationship with the airline and their willingness to recommend the airline, the effect of service failures on South African passengers should rather be considered by taking their level of satisfaction with the airlines’ service recovery efforts in mind.

REFERENCES


Bamford, D. (DBamford@dom01.mbs.ac.uk) 29 September 2008. Re: Academic Request: A Case Study of Service Failure and Recovery Within an International Airline. E-mail to: Mostert, P.G. (Pierre.Mostert@nwu.ac.za).


INTERNAL COMMUNICATION AT DAIMLERCHRYSLER SOUTH AFRICA: A QUALITATIVE PERSPECTIVE ON TWO-WAY SYMMETRICAL COMMUNICATION AND INTERNAL MARKETING

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ABSTRACT

This paper investigates internal communication at DaimlerChrysler South Africa (DSCA) from a two-way symmetrical model of internal communication and internal marketing perspective. The results indicated that neither of these perspectives explains internal communication at DCSA. It is argued that, for DCSA to improve effective internal communication and corporate efficiency, it needs to adjust its corporate culture and nature of internal communication according to the principles of two-way symmetrical communication and internal marketing.

INTRODUCTION

Kennan and Hazleton (2006:312) debate that the relationship between management and employees has never been an easy one, and is often characterized by frustration and hostility. Yet, the ability to achieve organizational success (financially or socially) has always been directly connected to the effective link between the efforts of management and staff. According to Grunig, Grunig and Dozier (2002:15) and Walker (1997:37), one way to establish this connection is through effective internal communication, which is also an important requirement if organizations want to achieve set goals and objectives.

This paper takes a closer look at internal communication in the marketing and administrative division of DaimlerChrysler South Africa’s (DSCA) head office in Zwartkop, Centurion (approximately 25 miles from Johannesburg). The authors use two theoretical perspectives to analyze DCSA’s internal communication, namely internal marketing and two-way symmetrical communication.

The importance of internal communication and internal marketing in the South African business context is evident when one examines results from a survey of 400 heads of marketing at various companies in 2007. These respondents indicated that (Anon, 2008:8-11):

- Their marketing department was very involved with their companies’ internal communication (63%) as well as employee satisfaction initiatives (46%);
- Aligning employees with the company brand (52%), internal communication (47%), building stronger relationships within the organization (46%), and internal marketing (33%) were serious challenges their marketing departments faced; and
- 50% of them intended to spend more money on internal communication in 2008.
DAIMLERCHRYSLER SOUTH AFRICA (DCSA) – A PROFILE DESCRIPTION

DCSA is a wholly-owned subsidiary of DaimlerChrysler Aktien Gesellschaft (DCAG). DCSA became one of the largest foreign investors in South Africa when DCAG opened a R1.4-billion plant (approximately $175 million) in East London in 2000 (Bezuidenhout, 2003:2; Schnetler, 2002:151-153). DCSA’s head office in Zwartkop, Centurion houses the marketing and administrative divisions of the business (DaimlerChrysler, 2005:1).

DCSA subscribes to the “CORE” values of Customer Excellence (that employees would place customers first in all situations), Ownership (that employees would manage and participate in the business as if it were their own), Respect (that employees will show real trust in their colleagues, leaders and staff) and Example (that employees would show a positive attitude and “walk the talk”) (Bezuidenhout, 2003:1). These “CORE” values are of particular interest to this paper, as they all depend on effective internal communication.

DCSA’s internal communication initiatives are, however, implemented in an emerging market context where the South African business environment presents a number of political, economic, financial and operational risks to management (Van Wyk, Dahmer & Custy, 2004), while the prevalent German organizational heritage still requires employee loyalty to the company amidst a hierarchical internal culture that exerts strong influence and control (Workman, 2008a; Workman, 2008b).

INTERNAL COMMUNICATION

Internal communication is defined as the full series of strategies people in an organization use to communicate with each other (Orsini, 2000:31). As such, it is a catalyst for organizations to reach its goals and objectives, as it enables organizations to effectively develop structure and culture (Grunig et al., 2002:480).

Employee satisfaction with internal communication is an important factor in their performance (and ultimately organizational success) (Erasmus-Kritzinger, 2002:15). Effective internal communication can give meaning to jobs, make people feel connected and accountable, and increase productivity (Roberts, 2002:20). Internal communication policies should thus encourage frequent, honest, open, job-related, two-way communication among managers and subordinates facilitated by an accommodative internal environment (Van Heerden, 1994:96).

Unfortunately, this is not always the case. Employees are often unhappy with both the quality and quantity of information they receive. Moreover, they want to be a part of something significant and see their work make a difference (Taylor & Cosenza, 1997:5). Employees thus want more interaction with management, personal job-satisfaction, more responsibility and more control over the decisions that affect them (Roberts, 2002:20). Heil, Parker and Stephens (1999:20/21), however, differ. They found that few employees want responsibility, know more,
learn more or be accountable for more because they fear the risk and failure often associated with responsibility.

To combat the Theory X inspired culture described above (see Daft, 2008:49) organizations must create an environment that encourages employees to see mistakes as opportunities, and view failure as temporary and the key to learning (Heil et al., 1999). This environment requires open communication – the “glue” that keeps interdependent parts of an organizational system together (Puth, 1994:5).

**TWO-WAY SYMMETRICAL INTERNAL COMMUNICATION**

People establish and maintain interpersonal relationships, which require varying degrees of interaction and interdependence. It therefore also requires different levels of social, political and economic exchanges (see Rensburg & Cant, 2003:34). Scholes (1997:110) similarly argues that “(t)he key to communication is understanding another’s needs, and putting yourself in their shoes, so that sender and receiver are literally on the same wave-length.”

The purpose of the two-way symmetrical model of communication is to gain mutual understanding and build dialogue (Woodward, 2000:258) between parties based on two-way communication with balanced effects (Wilcox, Ault, Agee & Cameron, 1998:50). In this model, communicators thus use research and dialogue to manage conflict, improve understanding and build relationships (Grunig & White, 1992:39). As such, it represents the most acceptable and mutually rewarding form of communication (Stoker & Tusinski, 2006:156; Fill, 1999:399).

The same is true for two-way symmetrical communication in an organizational context. Mersham, Rensburg and Skinner (1995:39) argue that “People should be given equal opportunity and be respected as fellow human beings. Anyone, regardless of education or background, may provide valuable input into an organization”. McGowan (2007:63-64) found that internal activism among employees can even prompt two-way symmetrical communication by management.

In the two-way symmetrical model of communication, power is spread equally between the organization and its stakeholders; communication is reciprocal; all parties are prepared to adjust their attitudes and behavior; and a true dialogue subsequently emerges (Gower, 2006:178; Fill, 1999:399). Fluid feedback also exists up and down reporting channels (Holtz, 2004:127; Roberts, 2002:20) – an element Rensburg and Cant (2003:71) consider vital in any communication process.

Given these characteristics, two-way symmetrical communication presents the benefits of building a participative culture that increases employees’ motivation and job satisfaction (Grunig et al., 2002:xi); fosters their loyalty to and identification with the organization they
work for (Grunig et al., 2002:329); and facilitates understanding between managers and staff (Argenti, 1998:168; Scholes, 1997:103; Foreman, 1997:23).

INTERNAL MARKETING

As industries have matured, changes in market demand and competitive intensity shifted the marketing focus from transaction marketing to relationship marketing (Payne, 2006:6). Relationship marketing recognizes the importance of relationships with various stakeholders (e.g. employees, suppliers, distributors, retailers rather than only customers) founded in extended markets. As a result, relationship marketing also emphasizes the role of employee-focused internal marketing (Kale, 2006:3), which supports the management of relationships between the organization’s management and internal markets (employees) (Hollensen, 2003:66).

According to Grönroos (2000:ix) internal marketing is an umbrella concept for a range of internal activities in an organization aimed at enhancing a service culture and maintaining a service orientation among its employees. In this way, internal marketing aims to develop awareness among employees of their external and internal customers (Payne, 1995:38).

Although internal marketing lacks a widely accepted definition (Mosley, 2007:128), Mahnert and Torres (2007:55) offer the following inclusive definition:

Internal marketing is the accumulation and application of functions and tools aimed at the formation and maintenance of a consistent, efficient, effective and customer-oriented workforce. These objectives are achieved through the communication with and attraction, retention, motivation, education and management of suitable employees. Suitable employees in this context are defined as those employees who are conscious of and committed to the needs of the organization and other employees at all levels in the internal value chain.

The objective of internal marketing is therefore to establish and maintain relationships between management and employees and between organizational functions (Kelemen & Papasolomou, 2007:748; Gummesson, 1999:161) – arguably one of the most promising uses of internal marketing (Davis, 2001:126). Building and maintaining relationships occurs through unifying organizational culture based on the values of internal and external customer service, employee empowerment and service quality (Kelemen & Papasolomou, 2007:745; Yoon, Choi & Park, 2007:386; Papasolomou & Vrontis, 2006:178; Miller, 2002:1; Barnes & Morris, 2000:S473). Various studies (e.g. Chang & Chang, 2007; Keller, Lynch, Ellinger, Ozment & Calantone, 2006:123; Hwang & Chi, 2005:291) also found significant correlations between the above values and organizational performance (also see Ahmed et al., 2003:1227). It also holds the additional benefit of attracting and retaining good quality employees, saving organizations the cost and trouble of having to hire and train new employees (Mahnert & Torres, 2007:55; Hennig-Thurau & Hansen, 2000:184). This enables organizations to respond to external market conditions by better aligning their internal capabilities with external opportunities (Gounaris, 2006).
The mechanics of internal marketing imply the use of marketing-like techniques to facilitate employees’ understanding of how individual objectives align with organizational goals (Ferdous, 2008:223; Mosley, 2007:128; Keller et al., 2006:111; 123). One of these techniques refers to internal promotion – the design and distribution of positive messages that instill productive employee attitudes, openness and interest in the workplace. Internal promotion relies on affirming communication and positive reinforcement (Keller et al., 2006:117). Managers can utilize affirming communication to create a fair and non-threatening work environment, enhance feelings of ownership, belonging camaraderie and bonding among employees (Kale, 2006:8-9) and ultimately increase their job satisfaction (Lee & Chen, 2005:663; 671).

Given the above, Ferdous (2008) developed the concept of Integrated Internal Marketing Communication (IIMC) by extending the notion of Integrated Marketing Communication (IMC) to the organization’s internal market. One of the prerequisites for implementing IMC is that the organization creates the appropriate atmosphere for internal communication and subsequently improves its profitability by fostering employee ‘buy-in’, commitment and trust.

RESEARCH METHODOLOGY

Research problem and research objectives

This paper critically and qualitatively analyses the nature of internal communication at DCSA’s head office, as perceived by its management and staff. This is based on the theoretical perspectives of both two-way symmetrical communication and internal marketing. Given this, the researchers aim to determine how:

- Management perceive internal communication at DCSA’s head office in light of the theoretical perspectives of two-way symmetrical communication and internal marketing; and
- Staff perceive internal communication at DCSA’s head office in light of the theoretical perspectives of two-way symmetrical communication and internal marketing;

Research Design

The researchers followed an interpretive view, aiming to understand social reality from the perspective of those in it (Henning, 2004:19; Daymon & Holloway, 2002:4, 14). As such, the aim was to capture the (organizational) lives of participants in order to understand and interpret the meaning they attach to events or objects related to internal communication. Consistent with the interpretive view, qualitative research methods were used to explore the way people “make sense of their social worlds and how they express these understandings through language, sound, imagery, personal style and social rituals” (Deacon et al., quoted by Daymon & Holloway, 2002:4).
In order to substantiate data obtained from the different respondent groups, the researchers implemented three types of triangulation, namely (Janesick, 1994:214-215; Du Plooy, 2001:39, 81):

- **Data triangulation** by means of qualitative data from manager and staff respondents;
- **Theoretical triangulation** by using two-way symmetrical communication and internal marketing frameworks to interpret a single set of data; and
- **Methodological triangulation** by means of semi-structured interviews and focus group interviews with the two respondent groups.

**Research Population and Sample**

The research population included all managers and staff of DCSA’s head office. The company employs approximately 180 employees on top, senior and middle management levels, as well as approximately 650 employees on non-managerial levels.

A purposeful sample of five key top and senior managers was drawn, based on their expertise and knowledge of internal communication at DCSA. Two respondents held top positions in the Corporate Affairs department, while the other three were senior departmental managers. Semi-structured interviews were conducted with these respondents.

A total of 45 staff members were also selected for focus group interviews based on the organizational levels on which they were appointed and the departments in which they worked at DCSA’s head office. The samples were drawn on a volunteer and availability basis.

**Research Instruments**

As indicated above, the research instruments for this study consisted of semi-structured and focus group interviews to obtain managers’ and employees’ personal perspectives and interpretation of internal communication at DCSA (Murphy as quoted by Hocking, Stack & McDermott, 2003:210).

Given the theoretical backdrop of two-way symmetrical communication and internal marketing, the researchers developed an interview framework for the semi-structured interviews. However, interviewees had the freedom to introduce and discuss related topics not included in the original interview schedule. The researchers subsequently used these topics to revise the interview schedule for focus groups. Interviews lasted approximately one hour.

Researchers in organizational communication often use focus groups to probe respondents about their attitudes, values, and behaviors in attempts to identify their true feelings and
motivations (Welman, Kruger & Mitchell, 2005:201; Hocking et al., 2003:204; Litosseliti, 2003:1). Similarly, the researchers in this study used focus group interviews with members of DCSA’s non-managerial staff to probe their perspectives and experience of the company’s internal communication.

Although the researchers developed an interview framework for the focus groups (Wisker, 2001:176) discussions were kept interactive (Litosseliti, 2003:2) and respondents built on the views expressed by others in the group.

At the point where the fourth focus group started to discuss some of the same issues expressed by the first group, the researchers knew that a point of data saturation had been reached (see Baxter & Babbie, 2004:340). Each focus group discussion lasted approximately one hour.

Data Collection

The researchers conducted interviews with management over a two-day time period. Data from focus groups was collected over a four-week period after the researchers completed the management interviews in order to accommodate participants’ schedules.

Data Analysis

Because of the interpretive and qualitative nature of the research, all interviews were recorded and transcribed verbatim. The researchers then analyzed the transcribed text in light of the theoretical perspectives discussed earlier. This text also served as a framework to develop themes upon which data was organized (Daymon & Holloway, 2002:234).

RESULTS

Internal Communication

Results indicate that managers perceive DCSA’s internal culture and value system predominantly authoritarian and top-down in nature, resulting in most of the internal communication problems they experience. Despite these views, managers also indicated that they strike a purposeful balance between authoritative and participative communication, depending on the issue they wish to communicate. For instance, when they want to achieve a strategic goal and get staff’s buy-in, they would rather take a participative communication approach. Some managers indicated that an authoritative communication and management style is detrimental to organizational progress and that they refrain from using it.
In general, however, managers stated that the level of participation and feedback in each department depends on individual managers’ communication style. Those with good interpersonal relationships in their departments, experience “open” communication and feedback.

Staff members described internal communication as “authoritarian”, “top-down” and “them versus us”, with managers rather focusing on mistakes than achievements. As a result, staff feel isolated, unheard and unappreciated.

Given the top-down authoritative (asymmetrical) character of internal communication at DCSA, it displays a transactional rather than a relational character (associated with internal marketing). It thus neither displays characteristics of two-way symmetrical communication nor internal marketing.

**Internal Communication Instruments**

According to managers DCSA has no formal policy that instructs managers on how to use the internal communication instruments available to them, and that departments and managers decide independently on this issue. Nonetheless, managers describe formal internal communication structures as “good”; “consistent” and “standardized”, hosting plenty, information-rich, top-down communication instruments. Managers mostly use these instruments to inform staff on decisions and how these will affect departments. However, managers expressed the need for more targeted information, as the current communication approach often leaves employees feeling “left out”.

Staff, however, experience miscommunication and non-targeted messages as a big problem at DCSA, despite the company having “adequate communication structures” in place. In their view, email is over-used and has taken the place of interpersonal communication and relationships. They subsequently prefer alternative communication instruments.

In summary, the above indicates that formal internal communication structures and instruments at DCSA are firmly established, providing (almost excessive) information. Despite this, the lack of a formal internal communication policy hampers the effective use of internal communication instruments. The challenge for DCSA is thus not to introduce different or additional communication instruments, but to use the existing ones more effectively.

**Nature of Internal Communication between Managers and Staff**

Results on the nature of internal communication between managers and staff indicate the following:
Communication approaches: Managers seem to realize the importance of caring for and treating employees well in order to reach organizational goals. As one manager commented, having “the right people who are empowered ... happy and smiling, content and motivated” will enable DCSA to lead the marketplace. Their interview comments also showed that they realize the need to change staff attitudes and loyalty and make employees proud to work for DCSA. Failing to do this will prevent them from being the company they aspire to be.

Focus group data, however, shows that management has probably not achieved the above yet. Staff responses show that they neither feel empowered nor proud to be part of the company. They also highlighted their need to “belong” in the company, be recognized and involved in decision-making processes in the company. In their view, the majority of management is uncaring and lacks transparency.

Results thus show managers’ intent to treat staff members well, be caring towards them and make them proud to work at DCSA – all elements of internal marketing. However, the fact that staff experience the exact opposite indicates that managers fail to effectively implement internal marketing;

Open-door policy: In managers’ perspective, they have an open-door (communication) policy – visibly illustrated by the open plan office layout. Although they believe that adequate opportunities for communication exist, they also acknowledged that negative relationships between themselves and staff prevent dialogue.

Staff fondly described the individual managers who they perceive as transparent and inviting to open dialogue. However, they also expressed the need to be “heard” more often and to “participate” in dialogue. According to staff, time pressure is one of the main factors preventing effective dialogue.

Results show that physical infrastructure and layout do not necessarily translate into effective internal communication. Instead, managers’ personalities, communication styles, and relationships with subordinates play more decisive roles to facilitate or internal communication;

Communication flow: DCSA managers outlined that communication flow depends on the issue and the urgency thereof. They described that company policies are communicated in a top-down fashion, whereas departmental and team communication is more multi-directional.

Staff agreed with management on this issue. They also stated that they find it easier to speak up in more informal situations, although many seem reluctant to speak up during meetings with management. They again emphasized individual managers’ role in communication flow. Depending on the manager, staff’s ideas either reach those higher up in the organizational hierarchy, or not.

Results highlight a one-directional communication flow, restricting two-way symmetrical communication and compromising effective internal marketing. Communication flow thus displays characteristics of transactional rather than relational communication;

Feedback: Managers are of the opinion that DCSA must create an environment conducive to open, honest and constructive feedback. They also agree with staff that individual managers’ leadership styles determine staff’s ability for feedback. In addition, managers acknowledged that (especially junior) staff members do not feel at liberty to effectively communicate with their managers.

Some staff members agree with managers on this issue. They indicated that DCSA’s formalized, documented and impersonal organizational structure often prevents them from giving feedback. They also discussed the fear of making a “career limiting move”
by not utilizing formal feedback channels. Other staff members, however, have a positive view on opportunities for feedback. They also perceive managers as being accessible when they want to discuss an issue, although they experience that staff should still take the initiative for this to happen.

Respondents’ desire for more effective communication and feedback underlines the need for more effective implementation of both two-way symmetrical communication and internal marketing principles;

- **Employees’ responsibility for upward organizational communication:** Managers hold the opinion that enough formal opportunities exist for upward organizational communication at DCSA. They emphasized, however, that both managers and staff are responsible to utilize these opportunities. In their view, some employees complain about feedback opportunities and criticize management, but fail to take ownership or utilize existing initiatives (such as a letters column in the company newsletter and suggestion box). Managers did, however, express their ambition to improve this situation.

  Staff members agree with management that they share the responsibility to improve upward internal communication. Yet, they expressed their inability to do so, because they lack courage and do not feel empowered. They admitted that they do not “push” for better communication either.

  The above situation prevents DCSA from effectively implementing both two-way symmetrical communication and internal marketing;

- **Availability of information:** According to manager respondents, employees have access to an abundance of information. In their view, DCSA should rather distribute less, but more focused information, especially through informal communication such as conversations and social gatherings.

  Staff members agree with management on this issue – they even complained about information overload. Nevertheless, they are of the opinion that a lack of time sometimes prevents managers to distribute vital information to them.

  The amount of information available at DCSA satisfies the prerequisites of two-way symmetrical communication. The untargeted nature thereof, however, violates a principle of internal marketing, namely targeting information to suit the needs of the intended audience; and

- **Interdepartmental communication:** From managers’ point of view, a “silo mentality” persists in DCSA, making it easy to forget that all departments and functions form part of the same company. In their view, collaboration across departments and functions can be a key factor to address this issue.

  Staff members agreed, outlining that the extent to which different departments function separately (and in competition with each other) creates communication barriers. However, this view also strongly depends on the department in which individual staff members work.

  The above views violate the premise of free flowing communication supported by both two-way symmetrical communication and internal marketing.

**RECOMMENDATIONS**

This section of the paper outlines recommendations on how DCSA can improve internal communication at its head office in Zwartkop, Centurion. These recommendations are based on
the principles of both two-way symmetrical communication and internal marketing, and entail the following:

- **Internal communication**: DCSA must employ a more participative approach if it wishes to improve the nature and effectiveness of its internal communication. This entails that managers must actively listen to staff and establish an environment that facilitates and encourages bottom-up communication – not only to reach organizational goals, but also to empower staff and benefit the company’s other constituencies;

- **Internal communication instruments**: DCSA should establish a formal internal communication framework to promote internal communication. In addition, the company must provide all managers with training and support to improve their ability to use the available internal communication instruments. This will enable the company to improve internal (and departmental) communication in a standardized manner;

- **Nature of internal communication between managers and staff**: For managers to reach their organizational and internal communication goals, the company needs a formal framework that guides the use of internal communication. If DCSA aims to follow an internal marketing approach, it must ensure that it effectively implements the various aspects thereof. In line with the two-way symmetrical approach to communication and internal marketing, internal communication must focus on building open, trusting and reciprocal relationships;

- **Open-door policy**: Even though managers stated that they currently have an open-door approach to internal communication, it is important that they also establish and maintain better relationships with staff. One way to achieve this is to communicate with staff in a symmetrical way, empowering them to contribute to the conversation. Given the company’s organizational culture, managers may have to take the first step in this process. The company should deliberately assist managers who lack interpersonal communication skills to achieve this through a formal communication policy and training initiatives;

- **Feedback**: Managers must respect employees and listen to them interactively and frequently. As part of a formal internal communication policy, the company should create an environment in which managers and staff can interact and communicate openly and informally. Given staff members’ view on horizontal communication, it is important that managers encourage this type of communication during departmental meetings, in attempts to promote interpersonal relationships and teambuilding;

- **Direction of communication flow**: For internal communication to be interactive, it should be two-way and symmetrical. Give staff members’ experience of the direction of communication flow, managers should consciously create opportunities for more informal communication between themselves and subordinates;

- **Employees’ responsibility for upward organizational communication**: Since DCSA’s organizational structure (and thus the foundation for internal communication) is firmly established it currently requires managers to take the responsibility for effective organizational communication. This responsibility can only be delegated to staff once the company is successful in establishing sound interpersonal and symmetrical internal communication structures. An environment that encourages staff to see mistakes/failures as opportunities will ultimately empower them to give feedback and increase their ownership of responsibilities delegated to them;

- **Availability of information**: DCSA should work on segmenting information into relevant, department-specific formats. Such a move will assist departments to more effectively perform their responsibilities. Moreover, the company should work towards
distributing information in a timely, honest and direct manner, in an attempt to combat information overload and miscommunication. Finally, the company will also benefit from managers investing time in communicating with staff informally; and

- **Interdepartmental communication:** DCSA needs to establish and maintain an environment that contributes to open, symmetrical communication in and among departments. This will assist the company in reaching interdepartmental and organizational goals more easily.

CONCLUSIONS

This paper qualitatively investigated internal communication at DCSA from the theoretical perspectives of two-way symmetrical communication and internal marketing. The researchers found that internal communication at DCSA neither fully subscribes to the principles of either these perspectives. These findings are consistent with a qualitative study by Kelemen and Papasolomou (2007:760) about internal marketing in the banking industry which found that effectively implementing internal marketing principles is a difficult process that can result in “divisions, ruptures and ambiguity” in organizational culture. Papasolomou (2006) also argues that bureaucratic organizations find it difficult to implement internal marketing when their mechanistic structures counteract their efforts. This seems to be the case at DCSA where an organizational culture that originated in a traditionally hierarchical and authoritative society (Workman, 2008a) must now adapt in a multicultural, multilingual and compromising South African society. This situation presents an opportunity for the company to implement two-way symmetrical communication, as Guiniven (2002) found that such communication tends to gain greater acceptance in a society that embeds compromise. It seems as if the company can succeed in this process by adjusting their internal communication approaches according to the principles of two-way symmetrical communication and internal marketing.

REFERENCES


ABSTRACT

In the new age of a globalized economy, there is a great need for research that considers differences across international borders, across different cultures, and across different political and economic systems. Research that compares the business practices of the U.S. and other countries is vital to inspire new ideas and an understanding of business operations in other countries. Such research projects are challenging on multiple levels. An even more daunting challenge is conducting research that crosses more than just international and cultural boundaries— one that also crosses disciplines. Developing projects and securing funding, even limited funding, requires perseverance and long-term dedication.

RESEARCH CHALLENGES IN THE AGE OF GLOBALIZATION

Background

A person who speaks two languages is bilingual. A person who speaks three languages is trilingual. What do you call a person who speaks one language? An American.

In the beginning . . . well, there wasn’t much, at least not from a business perspective. There was no marketing, no management, no accounting, and no finance. There was nothing to sell, no projects to manage, and nothing to count. In time, humans subsisted through gathering and hunting, eventually, an agrarian society developed. At that time, not much interaction was necessary; humans grew their own crops, their own food, and did not really need other people that much—there was little reason to trade, and in the early years, not that much to trade. People did not other need people. Then came technology. As we moved away from the Stone Age and into the bronze and iron ages and beyond, specialization of work developed and people for the first time needed goods and products produced by others. In the Stone Age, broken tools were readily replaced by ubiquitous stones; by the Iron Age, it became necessary to trade.

In time settlements formed and the fundamentals of business and trade began. At first trade was difficult. There was no monetary system, no common language, no agreements on trade, no infrastructure, and differences in cultures. Trade at the time of Marco Polo was an adventure and exploration as much as anything else, and in retrospect, in many ways, those were the easy years. In time, complications began to develop. Trade lead to conflict as some nations strengthened and others weakened based on location and access to the trade routes. Trade lead to wealth, but also spread diseases. Medical developments too could be exported, but concentrations of wealth lead to war. Different governing systems developed constraints, technology added restrictions, and
clashes developed among ideas, religions, and cultures. With so many complications, trading became more and more complicated.

Then it got very simple.

In 1945, at end of WWII, only one industrialized nation remained fundamentally unscathed. In 1945, if you wanted to participate in international trade, you traded with American companies, in English, and in U.S. dollars. For the next 40 years, trade was fairly simple again. Some countries used the U.S. dollar as their own currency and other nations tied the value of their currency to the dollar. These conditions served the international trade community for several years. Then, complexities began as other countries built and rebuilt after the war.

In the 1960s, if merchandise was labeled “Made in Japan,” it may as well have said, “Piece of Crap.” By the 1980s, the same label implied higher quality than its American counterparts. In the 50 years that followed, we have seen emerging nations across the globe. We saw the rebirth of industrialized Europe, the creation of super powers, and the economic collapse of Soviet Union. We have seen a number of attempts to start new economies in Africa, post war development of Japan, and witnessed the reunification and revitalization of Germany. We’ve observed country building going on in former Soviet Union, and unparalleled growth and development in some parts of the Middle East. Other nations have gone from the Stone Age to the 20th century in as few as 30 years. India today is a complex, economically differentiated, culturally diverse, multilingual nation. The most recent economic power-house on the world stage is undoubtedly China. China is arguably the most complex nation in the world with over one billion people. Portions of the nation survive on subsistence farming while other parts of the nation are among the most technologically advanced areas of the world. In less than 30 years, the nation has gone from an inhibited, constricted, constrained, marginally important nation to the supplier of the world’s merchandise. It supplies the world’s labor force in a nation where the 1700s live somewhat comfortably beside the new age.

Today we find ourselves immersed in an environment where a simple fast-food meal becomes a literal international experience—the meat was imported from Argentina, the bun contains wheat from Canada, tomatoes from Mexico, served on a tray manufactured in China, and ordered on a cash register assembled from parts made in Malaysia, Japan, and Vietnam, running software written in India. Today’s business, in any real sense is a multinational, multicultural, multidisciplinary endeavor; it’s a place where a unilingual ethnocentric American might well be an endangered species.

In 1945, the U.S. experienced an amicable but restrained relation with China. It was a valued ally in WWII, but as the country drifted toward Marxism in the 1950s, the U.S. fought a proxy war with China involving the separated nations of Korea. Strained relations followed until a new gleam of hope developed between the U.S. and China in Richard Nixon’s 1972 diplomatic visit to China. From that time to the present day, despite differences in economic and political systems, relationships grew that in the past twenty years became one of the most significant trade partners in the world and the two nations became undeniably dependent on each other. China depended on the U.S. for money needed to modernize the nation, and the U.S. became dependent
on China’s low-cost manufacturing. According to the U.S. Census Bureau, in 2007, the most recent numbers available, the U.S. bought over $256B from China alone. The success of the nations are interdependent as illustrated by the current economic crisis—as the U.S. economy slows, the economies of China and other nations suffer (Batson, 2009 Jan 22; 2009 Jan 23). For the foreseeable future, it is important that we understand our interdependence.

In our current age of a global economy, the needed understanding can be developed through research that examines similarities and differences in the business operations of U.S. companies and those in other countries. Differences among various cultures as well as political and economic systems need to be examined so that we inspire new ideas and develop an understanding of business operations in our new global economy. In the modern marketplace, it is important for managers to have a basic understanding of how their peers in other countries work, act, and think.

Such research projects are challenging—on multiple levels—and can prove very difficult. Such projects require knowledge of multiple cultures and methods of business operations, thus requiring multiple researchers. An even more daunting challenge is conducting research that crosses more than just international and cultural boundaries. An example of this is research that crosses disciplines as well. Projects such as these require expertise in different academic fields of study.

In academe, each one of us is busy within our own field: engaging in teaching, student support, university service, and creative/scholarly endeavors. These burdens on our time constrain us in a way that makes interdisciplinary research projects difficult to develop and complete. Often, it takes years to bring such research to fruition.

**Introduction to the authors and the project**

Knowledge grows so fast that it is no longer possible for a single individual to possess it all. That time probably passed several hundred years ago. Today, we live in a time when knowledge is very specialized – we become good at what we do, but rely on someone else to complete many of our more mundane tasks for pay. This development of specialized knowledge has allowed the growth in individual wealth, but it has also served to limit our quill of creative arrows. This hyper-specialization has isolated us from one another as well as isolated our creativity at finding unique solutions to problems and questions. In music, a pianist will find a pianistic solution, barely realizing that a cellist or clarinetist might have a unique solution that could inspire an even better understanding of the problem. In business, a manager will find a management solution to a problem, barely realizing that a marketing specialist might have a good idea – and could possibly even inspire a better solution to the dilemma at hand. With the current complexity of life and business dealings in our global society, it is vital that we build a larger web of inter-disciplinary relationships in order for cross-fertilization to inspire solutions greater than those we arrive at alone. It is important to step outside of our discipline-specific cages and embrace a more multi-disciplinary viewpoint. If you teach management, have you sat in on a marketing class recently? Many of the concepts that are taught in marketing courses are very similar. If you play the violin,
have you sat in on a piano lesson recently? Most of the musical concepts taught by a pianist are exactly the same. Our differences may well be arbitrary rather than useful in our current age.

**How the project began**

Nine years ago, the two of us met during new-faculty orientation. Both newly-hired assistant professors at a medium-sized state institution here in the U.S., we were seated beside one another completely by happenstance. Our backgrounds and disciplines could not have been more different: one a lawyer and businessman, the other a classical pianist. At first glance, one would not see anything that might inspire a joint research project. As the term got underway, we both became engrossed in our respective jobs and we lost track of one another until one day we bumped into one another while crossing campus. We visited briefly – debating the unmitigated marginality of our students – and decided that we needed to meet for lunch. Over lunch, we uttered those famous words “We should work on something together!” Given our diverse interests, different disciplines and both of us having to dance the tenure tango; it was more a polite utterance than a sincere expectation of actually developing something. As we visited more, the thought developed from only an abstraction to a project that was interesting to both disciplines. Moreover, we both believed that it was potentially something that was useful to society at large. Surprisingly, the cliché did lead to a unique exploratory project, a research study to compare the entrepreneurial business practices of private music teachers in the United States to those of private music teachers in China. As both an interdisciplinary and intercultural study, the research was conceived to develop a unique multicultural understanding of two very different cultures. The expectation was that the project might provoke discussion in both the business and music communities.

In essence, we wanted to learn more about the economic survival of the individual who is providing a purely discretionary service under very different circumstances – small, largely home-based, businesses operating in the two most diverse political and economic superpower systems in the world.

**Funding challenges**

On the surface, the design of the project was relatively simple: it was a comparison of small business owners, their attitudes, business practices, clientele, and related issues. As we developed the specifics of the study, a multitude of problems developed: what specifically did we want to measure? How do we develop and administer a research instrument across thousands of miles, in different languages, under different political and economic systems, and in different cultures?

Our first question, what to measure, was the easiest challenge to overcome. Over a period of several months, we developed a survey relating to issues based on one author’s experience as a private studio instructor, factors that are important, and issues that might be different given the very different circumstances. We added additional items based on our interest in collecting exploratory data with consideration and expectations regarding cultural differences and results that might vary based on underlying economic and political systems. We ultimately agreed on an
instrument with approximately fifty questions that covered a multitude of diverse aspects of the ownership and operation of a private music teaching studio. Questions included demographic information regarding ownership, use of owners’ time both inside and outside the studio, business practices, formal and informal training in business and music, satisfaction, student/customers demographics and outcomes, interactions with parents, and related information.

At first glance conducting the study seemed rather simple. But, as we began to operationalize the actual process, difficulties arose. We needed to collect data from two populations. The U.S. population was not a major issue because of one author’s contacts and experiences as well as the numbers of studios in the U.S. that could be potential participants, but the more we began to look at the China population, the more problematic data collection became. One of the authors had previously preformed in China and had more than minimal interactions with Chinese nationals. In time, we discovered several issues, both actual and potential, relating to cultural differences: the reserved nature of the potential studio owners, issues related to free speech, and a history of governmental repression on free expression. All of our evidence showed that Chinese nationals would be reluctant to complete a survey, especially if a pre-existing relationship with a researcher did not exist. A number of researchers have examined this very issue. Differences in culture have been empirically considered in studies by Geert Hofstede (2001), an early preeminent researcher of differences in international cultures, and Michael H. Bond the author of Psychology of the Chinese People (Compton, & Heeter, 2008). Potential subjects were disinclined to participate in a study conducted over the internet. After several attempts to collect data, we arrived at the conclusion that it would be necessary to collect at least some of the data in person—we needed to send someone there absent the required relationships that are necessary as part of the Chinese culture.

Ultimately, the greatest challenge we faced was securing funding, even limited funding, to gather data. In the end, overcoming this obstacle required perseverance and long-term dedication. While many institutions overtly support research, structures and policies in place can discourage faculty from participating in such activities. Our first attempt at funding included a funding request for minimal expenses for travel to China. We required only minimal funding because one of the authors had already planned an upcoming trip to the nation. The marginal cost of collecting data was minimal, mostly relating to additional time to conduct interviews, and potentially more travel to meet with individual studio owners. Although we believe the funding necessary was almost trivial, the funding request was rejected by the university primarily because the project did not fit nicely into any pre-existing category for which the institution provided funding. We looked for ways to change the study to align it more closely with existing funding sources. We also looked for alternative sources of funds, but after exhausting every avenue for proceeding with the research, we ultimately decided that the project was unviable given the resource and cultural restraints. With the limitations in place, the research was beyond our ability to move forward. Given the situation and the nature of our respective positions, ultimately the project was shelved.

Our friendship continued, we had lunch frequently and on occasion visited about the project. Once during lunch, we were involved in yet another postmortem of the project that lead to a
discussion of the application for funding. One of the questions on the application that we had struggled with concerned potential outlets for the dissemination of the research outcomes. This led to an interesting, lengthy discussion that ultimately came to the conclusion that even though this project contained an entrepreneurial element, it was not really an entrepreneurial study; although it concerned music, it was not really a study about music; although we talked about management, it did not fit nicely into any of the various subdisciplines of management; even though we asked about marketing techniques and practices, it was not really a marketing study; and it had elements of education, but was not education. So what exactly was this project? Where did it fit? We thought it was a fascinating project, and the results – some of which we share with you below – are very interesting, but did this project fit anywhere? And was it did not fit anywhere, was it even important?

Eventually, we did receive limited funding from the dean of our University’s College of Arts and Sciences, but the project had to be scaled back from its initial conception.

Challenges collecting data

Our next major challenge was the collection of data. Differences in the cultures of the two countries demanded very different approaches in the collection of primary data. After a considerable amount of discussion, we determined that we could proceed with data collection in the U.S. sample relatively easily. In the several years since this study was conceived, advancements in technology in general and web-data collection technology specifically, provided a simple, easy method for collecting a great deal of data with minimal costs or time investment. Based on the instrument previously developed, we created a web-based survey that generated over 120 participants in just a few days at minimal cost.

The collection of data for the Chinese portion of the study, however, proved to be a much more daunting task. The complications of conducting the survey in China were due largely to cultural differences. As the Chinese culture requires an appropriate relationship before undertaking business-related activities, we decided to conduct telephone interviews with Chinese subjects in their native language rather than attempt an online survey. It was a personal relationship with a Chinese national – one developed in graduate school – that provided our entry into the Chinese culture. We were very fortunate in that the relationship was with a musician, an individual who had knowledge of the discipline we were studying, and the professional contacts we needed.

But each step of the way was time consuming. Just the translation of the survey instrument itself took a significant amount of time. Sometimes just finding the right Chinese word was problematic and we went through several iterations before the translators were comfortable with the Chinese version. Finally, the translation was complete, and upon review, it was acceptable to all parties. In the end, we were very fortunate to find a translator who was fluent in both languages and, equally important, understood the concepts we were studying.

Making contact did not pose a challenge, technological advances in China over the past decade allowed us to contact potential participants easily, and inexpensively, by telephone. Nearly everyone in China now has either a land line or wireless phone now. But our study still
demanded a significant amount of time investment in developing and cultivating those contacts. It usually took several calls just to get a person on the phone and at least two conversations before the idea of participating in a survey could be discussed with a potential participant. Only then could a survey be administered. Once that was successful, the completed survey had to be translated back into English and that translation reviewed. Each survey took two or more hours to conduct, then another hour to two to translate into English. With time invested in finding the proper participant, initiating contact, building a rapport, conducting the survey and then translating the results, an average of six hours was consumed in the collection of each survey severely limiting the amount of data we could collect. With over sixty hours of our translator’s time invested in just the collection of data, we were able to complete only ten surveys.

Value of such research

In spite of all these challenges, the data we collected were fascinating. We believe the quality of the data and the distinctiveness of the findings far outweighs the challenges and frustrations we encountered in the process. We expected certain similarities and differences, and that nearly all the differences we found were due to cultural difference between the two populations. One of our most striking observations was that there were no fundamental differences in the way individuals from the two countries operated their businesses despite different economic and political systems.

Interesting similarities we found included marketing activities and the teachers’ perceptions of their students. The way that individuals market their services in the two countries is almost exactly the same. For private studio teachers in both the U.S. and China, word-of-mouth is the most successful. Some advertising and mailings are used in both countries but this activity is minimal and neither group found the activity particularly useful.

Participants were also asked about the motivation of their typical student. “How motivated is your typical student? Rank on a scale of 1 (very unmotivated) to 7 (very motivated).” The perception of students’ motivations were almost exactly the same. U.S. teachers ranked the motivation of their students at 4.78 (s.d. = 1.04) while Chinese instructors ranked their student at 4.75 (s.d. = 1.64; p = 0.95). Perceptions regarding talent were also comparable with 4.56 (s.d. = 0.88) in the U.S. and 4.55 (s.d. = 1.04) in China (p = 0.97).

What makes this similarity in perception interesting is that in spite of these perceptions of motivation, there was a huge contrast between how much work students actually put into their music studies. Participants of this survey were asked how much time they believed their students practiced each day. American teachers believe their students practice an average of 25.6 minutes (s.d. = 15.09) each day while in China, it is about 43.1 minutes (s.d. = 14.97). Based on the perceptions of the teachers who participated in this study, Chinese students practice about 65% more than American students (p < 0.01)! This is particularly interesting given the perceived motivation and talent of students.

This difference was expected and is a reflection, we believe, of the different cultures regarding work ethic, expectations, and motivation in the respective nations. These differences were
examined carefully in the recent documentary “Two Million Minutes: A Global Examination” (Compton & Heeter, 2008) where the authors compare the four years that students spend in high school by comparing the habits and motivations of high school students in the U.S., China, and India.

One area where we found the greatest difference between the nations was in the way individuals spent their time. Perhaps the most startling difference can be seen in time used in networking. Over half of American music studio educators in our sample spend time networking with their peers while in China, we found virtually no indication that it happened at all, and we even perceived some confusion among our Chinese participants as to why people would want to do it. At first impression this seemed counterintuitive in light of Hofstede’s observations regarding differences between collectivist and individualistic cultures; however, on closer observation, such is not the case because people in collectivist societies are significantly less likely to form strong relationships outside family and personal ties.

A more detailed question we asked about time investment was: “Considering all your money-making activities, what percentage is consumed by the following activities?

- All activities in/relating to the teaching studio
- Performing
- Teaching in a school (public or private)
- Working as an organist, pianist, or music director for another organization (e.g. a church, opera company, choral organization, etc.)
- A job outside of music”

We found that Chinese teachers spend about 38% of their time teaching in a public or private schools. This is very different from instructors here in America, who spend an average of 6% of their time teaching in schools. In addition, Americans are much more likely to work for some other musical organization (such as serving as a church musician). The root of these differences is essentially a reflection of cultural differences between the two countries. In the study, we asked the question: “If you have a job(s) outside of your studio, do you do this to earn extra income or to portray a more professional image?” We asked respondents to rate this on a scale of 1 to 7 (extra income 1, professional image 7). U.S. teachers responded with an average of 3.33 (s.d. = 1.94). While near the middle of the scale, their involvement in work outside of their teaching studio was driven more by a desire for extra income. The incentive for Chinese teachers to hold a job outside of their studio is related to professional image. On the same scale, they had a mean of 5.26 (s.d. = 1.93; p = 0.01). During telephone interviews, follow-up questions were asked regarding employment outside of the studio. One Chinese instructor said that she held a position as a university professor purely for the image that this gave her. Her position gave her an image of a high-level professional, and this allowed her to easily charge much higher fees than her competitors. This particular instructor spent about 20% of her time teaching in her own private studio, time that generated 80% of her annual income.

Studies that examine both multiple disciplines and cultures bring surprising similarities and differences to light, things that cannot be predicted and are often very different from what one would expect. These similarities and differences have a large impact on how different countries
and cultures operate their businesses. Our current global economy, combined with the vast complexities of the world’s cultures, demand that we understand the roots of these differences. Even the most subtle nuances that make us each unique and valuable can have an enormous impact on the way we interact and how we conduct business with one another.

**Comments on the reviews**

One of the major advantages of doing peer reviewed academic research is the blind review process itself, although it may not seem that way while we are going through the process. Typically, as we conduct research and fashion the document, we are so intimately aware of the project that we may fail to discuss points that may appear, at least to us, trivial. Then the reviews arrive. At first it appears that someone is attacking us—why are they being so mean? Then, after around the third drink, as we read the reviews for the fourth or fifth time our stance begins to soften—“Yeah, maybe I wasn’t clear on that point.” In this case, we would like to use the comments made by reviewers who considered the proposal to this conference to assist in illustrating difficulties of doing this type of research.

In our initial proposal for this conference, we were interested in discussing the process employed in this project rather than the outcomes of the project. We were a little unsure of where to submit because of the previously mentioned issue regarding fit. That we were less than successful in our intent is illustrated by one reviewer who wrote, “. . . the details of this project are kept secret . . . .” Apparently, we did not make it entirely clear that this presentation is about the process and not the data. Our intent is to inspire the beginning of a dialogue with respect to basic research—research has little immediate application—that crosses multiple cultural, political, social, and disciplinary lines.” Another reviewer wrote about the concerns of its added value—“what … does it contribute to our knowledge on the antecedence and entrepreneurial prospective?” Again, the problem here is the structure of the process—the reviewer, as an individual well versed in his or her respective discipline was interested in the end point—the results, and not the trip to get to those results.

Another reviewer “worried about the quality of the measures used.” We agree with the assessment. Our study had two samples, one with over 100 subjects and the other with only ten, a comparison that we all know is at the very least problematic. We contend, however, that we should learn to become more comfortable using different and diverse methods of measurement to compare cross disciplinary and culture data. We may also need to become more comfortable in unmatched samples. At first glance this appears to be hypocrisy at the highest levels—a simple violation of the rules of research we all know; however, we contend that we as researchers must decide for ourselves, does doing the flawed research add more value than doing no research at all?

**Recommendations for pursuing similar research**

The most interesting aspect of this project is not in the data itself; rather it is the process and the challenges we faced along the way. We faced unique and often unforeseen difficulties every step of the way: from the initial conception of the project, to the development of the research survey,
to the collection of data, and finally to the reporting of the data. In the end, we overcame, each challenge ended up with interesting data. Although our resulting samples sizes do not conform to typical research standards, we found the data valuable. At the beginning of our project we had a few assumptions and expectations, but those suppositions proved incorrect. Despite huge differences in economic systems, political systems, and freedoms in personal expression, we found no fundamental differences in the way individuals from the two countries operated their businesses. This finding was completely unexpected; we found minor distinctions – slight variations created by cultural difference rather than underlying political and economic differences. Had we not pursued our project, we would simply have continued to assume that fundamental differences in economic and political structure dictated differences in how one operates a small business.

We encourage everyone to seek out unique projects that take us outside of our discipline-specific cages. By embracing a more multi-disciplinary viewpoint, we find better and more inclusive solutions to the complexity of doing business in our current global society. Building a wider network of inter-disciplinary relationships will help us inspire solutions that are greater than those we arrive at alone. Conducting interdisciplinary, cross-cultural research of this nature leads to unique data and distinct findings – data and findings that far outweigh the challenges and frustrations one encounters in the process. Similarities and differences between U.S. business operations and those of other cultures are not always predictable and can be very different from what one would expect.

In our experience, we found a couple things that make such research projects successful. First and foremost, have perseverance and patience. Projects of this nature consume unbelievable amounts of time nearly every step of the way. Second, realize that you may have to be content with relatively small sample sizes and become comfortable using various research methods to compare data gathered across diverse disciplines and international/cultural boundaries. You may also need to become comfortable in extremely unmatched samples, especially when it comes to working across vast language and cultural divides. While this might seem to violate the most basic rules of research, we need to ask ourselves the question: which adds more value, doing flawed research or doing no research at all?

**APPENDIX**

**About the project authors**

Anthony Olson is currently Associate Professor of Piano at Northwest Missouri State University. He also teaches at Adelphi University in New York City. Olson frequently serves as a guest professor and lecturer. He has taught at Imperial College in London, England (fall of 2005) and Teikyo University in Masstricht, Holland (summer of 2008). He has presented piano recitals and lectures on a variety of musical topics at conferences for European Piano Teachers Association and the Music Teachers’ National Association. An active author, Olson has written articles for Clavier Magazine, Classical Singer Magazine, The Piano Journal and the Choral Journal.
Terry Coalter is an Associate Professor of Management at Northwest Missouri State, having previously taught in Florida and Texas. Before teaching, he was a practicing attorney, and an entrepreneur before that. Dr. Coalter writes primarily in the areas of organizational behavior and pedagogy. In addition to publishing in various journals, Dr. Coalter has also received several awards for excellence in teaching, including Missouri Higher Education Teacher of the Year Award and a regional Teaching Excellence Award from the Association of Collegiate Business Schools and Programs.

REFERENCES


HIGH PERFORMANCE WORK PRACTICES AND KNOWLEDGE TRANSFER
WITHIN U. S. MULTINATIONAL CORPORATIONS: THE MODERATING EFFECTS
OF HOST COUNTRIES INSTITUTIONAL AND CULTURAL ENVIRONMENTS

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ABSTRACT

Based on organizational learning theory and resource-based view, we propose a new theoretical model to understand how high performance work practices influence knowledge transfer within U.S. MNCs. Within an institutional theory framework, we further argue that host countries institutional and cultural environments moderate the relationship between high performance work practices and knowledge flows. We conclude by discussing contributions and limitations of this study and managerial implications.

INTRODUCTION

In recent years, knowledge transfer within multinational corporations (MNCs) has been given much attention by both knowledge management and international management researchers (e.g., Ghoshal, Korine, & Szulanski, 1994; Gupta & Govindarajan, 1991, 2000; Szulanski, 1996; Schulz, 2001). “The primary reason why MNCs exist is because of their ability to transfer and exploit knowledge more effectively and efficiently in the intra-corporate context than through external market mechanisms” (Gupta & Govindarajan, 2000, p. 473). Knowledge is a more reliable and sustainable source of competitive advantage because it is very difficult to be imitated and to be adopted compared to products, technologies and other resources (e.g. Adams & Lamont, 2003; Grant 1996; Meso & Smith, 2000). Their ability to transfer and exploit knowledge internally and manage their intra-corporate knowledge flows is one of the main competitive advantages of MNCs (Gupta & Govindarajan, 2000; Kogut & Zander, 1992; Minbaeva, Pedersen, Bjorkman, Fey & Park, 2003). A great deal of attention in knowledge transfer literature has been given to the determinants of knowledge flows. Among these studies, both host country variables and organizational characteristics have been demonstrated as having significant impact on knowledge transfer within MNCs. However, human resources management (HRM) practices especially high performance work practices (HPWPs) have been examined less extensively. The importance of HPWPs is obvious in considering knowledge transfer. Knowledge especially tacit knowledge is embedded in people. HPWPs are directly related to people in terms of building their capacity to absorb knowledge and explore knowledge. In essence, the creation, management and transfer of knowledge are inseparable from the influence of the HRM practices of a firm (Sparkes & Miyake, 2000). Therefore, this study investigates the impact of HPWPs on knowledge transfer between MNCs units. We limit our argument within American MNCs considering HPWPs emerged in the U.S. Resource-based view and organizational learning theory provide theoretical background for this study. Specifically, exploitation and exploration as two types of learning capabilities mediate the effect of HPWPs on knowledge flows. In addition, host countries’ institutional and cultural environments are considered as crucial factors influencing and regulating HR system (Budhwar & Sparrow, 2002).
American MNCs that establish their subsidiaries in other countries have to adapt their management practices to host countries’ national systems. Hence, host countries’ institutional and cultural influences on the link between knowledge transfer and HPWPs are further discussed.

KNOWLEDGE TRANSFER WITHIN MNCS

Knowledge, Knowledge Transfer, and Knowledge Flows

Organizational knowledge has been defined as certain information such as the information based on individual’s experience and understanding (Marwick, 2001); the information in the minds of individuals (Alavi & Leidner, 2001); the information of combined data, assimilated with a set of rules, procedures, and operations learnt through experience and practice (Keskin, 2005); the information held by an organization that all, part, or parts of the organization share (Huber, 1991); the information frequently stored in standard operating procedures (Cyert & March, 1963), routines (Levitt & March, 1988), or rules (March, Schulz, & Zhou, 2000); “a high value form of information that is ready to apply to decisions and actions” (Davenport, De Long, & Beers, 1998, p. 43); “context-specific, relational and action-oriented network of information that organizations develop in order to interact with their environment” (Nonaka & Takeuchi, 1995, p. 57). Corresponding to these definitions, knowledge can be differentiated between explicit knowledge and tacit knowledge (De Long & Fahey, 2000). Explicit knowledge is the type of knowledge that can exist either individually or collectively and be easily documented and shaped. It can be created, written down, transferred, or transmitted in a formal and systematic way through rules, policies, and procedures among organizational units or through computer programs, patents, diagrams and information technologies (Choi & Lee, 2003; Pablos, 2004; Perez & Pablos, 2003; Polanyi, 1962). Tacit knowledge can exist either in the heads of individuals or a collective body (Kostova, 1996) that is what we know but cannot explain (De Long & Fahey, 2000). This form of knowledge is acquired through practices and experiences and is embodied in mental processes. It is expressed through ability applications and is transferred in the form of learning by doing and learning by watching. Therefore, it is hard to be imitated which creates competitive advantage and plays a key role in individual creativeness and innovation process (Choi & Lee, 2003).

Knowledge transfer has been defined as an attempt by an entity to copy a specific type of knowledge from another entity (Rogers, 1983); either the identical or partial replication of knowledge transferred from one place to another involving both a provider and a receiver (Kostova, 1996; Szulanski, 1996) which forms knowledge flows. Schulz (2001, p. 662) defines knowledge flows as “the aggregate volume of know-how and information transmitted per unit of time, which intends to capture the overall amount of know-how and information transmitted between subunits in all kinds of ways, including via telephone, e-mail, regular mail, policy revisions, meetings, shared technologies, and reviews of prototypes”. Specifically, intracorporate knowledge flows are defined by Gupta and Govindarajan (1991) as the transfer of either expertise, which refers to input processes (e.g., purchasing skills), throughput processes (e.g., product designs, process designs, and packaging designs), or output processes (e.g., marketing knowledge, distribution expertise); or external market data of strategic value, which refers to the transfer of globally relevant information about key customers, competitors, or suppliers. Researchers also indicate that knowledge flows through the inter-organizational
network of differentiated units can be studied from at least three different levels of analysis: nodal (i.e., a focus on the behavior of individual units), dyadic (i.e., a focus on the joint behavior of unit pairs), and systemic (i.e., a focus on the behavior of the entire network) (Ghoshal & Bartlett, 1990; Gupta & Govindarajan, 1991; Hedlund, 1994). Given the highly complex nature of the knowledge transfer networks, most studies limit their investigation to the “nodal” level by focusing on the individual subsidiaries (e.g. Gupta & Govindarajan, 2000). On this level, knowledge flows can be differentiated between knowledge inflows (from its parent corporation or peer subsidiaries to the focal subsidiary) and knowledge outflows (from the focal subsidiary to its parent corporation or peer subsidiaries).

Similar to Schulz’s (2001) definition, we adopt a fairly broad notion of knowledge transfer in this study to capture the overall amount of knowledge and technology transferred between MNCs’ units. We define knowledge flows as the aggregate volume of know-how and information transmitted to (knowledge inflows) or from (knowledge outflows) the focal subsidiary within MNCs including the knowledge and technology related to research and development (R&D) of new products or services, production and operations, sales, promotion, distribution, and other aspects of marketing, and general management and administrative procedures. By this definition, we only focus on intra-organization knowledge transfer. We limit our analysis to nodal level, i.e. individual subsidiary is the focus of analysis. We include both explicit knowledge and tacit knowledge. We explore both directions of knowledge flows – knowledge inflows and knowledge outflows.

HPWPS AND KNOWLEDGE TRANSFER WITHIN MNCS

A major part of the knowledge transfer literature has been put on exploring the determinants of knowledge flows. Many factors have been investigated to be closely associated with knowledge transfer, including some host country variables (legal regulatory environment, relative economic level, and national culture) and bunch of organizational characteristics (entry mode, autonomy, formalization, subsidiary size, global responsibility, authority, head-quarter control, ownership, strategic role, resource independence, etc). In addition to these factors, HRM practices have also been examined as having an important impact on knowledge transfer. Hakanson (2005) states that effective knowledge transfer will not come about automatically but requires appropriate and concerted managerial action. Knowledge is embedded in individual’s mental process and people are the main driver of knowledge management (Civi, 2000; Gooijer, 2000; Robertson & Hammersley, 2000; Soliman & Spooner, 2000). Knowledge, especially tacit knowledge with the experience-based nature, can only be transferred in personal, therefore, employees at all employment levels play a great role in creating and transferring knowledge. HRM practices can help improve employees’ opportunity, motivation, and ability to access and mobilize one another’s knowledge (Alder & Kwon, 2002; Dyer & Nobeoka, 2000; Leana & Van Buren, 1999; Nahapiet & Ghoshal, 1998). The daily tasks of HRM in building a learning organization are to assist employees in creating and exploiting knowledge, establishing appropriate networks, and engaging in learning (Garavan, Gunnigle & Morley, 2000). This suggests that HRM plays a pivotal role in facilitating knowledge flows and organizational learning. HRM, organizational learning, and knowledge transfer are closely linked together.

HPWPs and Knowledge Flows
In recent years, HPWPs have gained widespread interest in the HRM literature (e.g., Becker & Gerhart, 1996; Huselid, 1995; Pfeffer, 1998). Strategic HRM (SHRM) theorists consider HPWPs as performance enhancing HRM practices including comprehensive employee recruitment and selection procedures, incentive compensation and performance management systems, flexible work arrangements, and extensive employee involvement and training (Huselid, 1995; Pfeffer, 1998). HPWPs invest in the skills and abilities of employees, design work in ways that facilitate employee collaboration in problem solving, and provide incentives to motivate workers to use their discretionary effort (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Delery & Doty, 1996). SHRM theory asserts that the use of HPWPs can improve employees’ knowledge, skills, and abilities (KSAs), empower employees to leverage their KSAs for organizational benefit, increase employees’ motivation, reduce shirking, and enhance retention of quality employees while encouraging non-performers to leave the firm (Becker & Huselid, 1998; Becker et al., 1997; Delery & Shaw, 2001; Jones & Wright, 1992; U.S. Department of Labor, 1993).

Knowledge transfer researchers enrich the literature by adding the evidence that HPWPs also have impact on knowledge flows in MNCs. As an important contribution to the literature and the first study testing the relationship between knowledge transfer and HRM practices, Minbaeva et al. (2003) demonstrated that competence/performance appraisal and training are positively related to employee abilities; performance-based compensation and internal communication are positively related to employees’ motivation; employee ability and motivation as absorptive capacity are needed to facilitate the transfer of knowledge from other parts of the MNC (knowledge inflows); and only the interaction between employees’ ability and motivation increases the level of knowledge transfer to the subsidiary. Align with other researchers (e.g., Gupta and Govindarajan, 2000; Lane and Lubatkin, 1998; Szulanski, 1996), they view the role of absorptive capacity as the most significant determinant of knowledge transfer. Absorptive capacity has been defined as the “ability to recognize the value of new external information, assimilate it, and apply it to commercial ends” (Cohen & Levinthal, 1990, p. 128). After reviewing the literature of absorptive capacity, Minbaeva et al. (2003) suggest that absorptive capacity should be conceptualized as being comprised of both employees’ ability and motivation. The employees’ ability to use knowledge as the key aspect of a subsidiary’s absorptive capacity that in turn enables a subsidiary to benefit from internal knowledge flows. However, if the subsidiary’s employees only have the ability without the motivation, absorptive capacity will not be realized and the knowledge flows will not be stimulated. “The ability/can do factor usually denotes ‘a potential for performing some task which may or may not be utilized’ (Vroom, 1964, 198), while the motivation/will do factor reflects drive” (Minbaeva et al., 2003 p. 589).

In her more recent research, Minbaeva (2005) further demonstrate that besides absorptive capacity, corporate socialization mechanisms employed across MNCs units and flexible working practices employed within the subsidiary as the supporting learning environment also increase knowledge inflows. She also demonstrates that not only can individual HRM practices enhance the ability and motivation of knowledge receivers which correspondingly facilitate the knowledge inflows to the subsidiary, but also these HRM practices are expected to have a stronger effect on the degree of knowledge transfer when they are applied as a system of mutually reinforcing practices. This is in line with the resource-based view of the firm which suggests the importance of “complementary resources” (Barney, 1991) and also in line with the
discussion of synergy, external and internal fit, bundles, holistic approaches, configurations, contingency factors, and so forth appeared in SHRM literature that a system of HRM practices may be more (or less) than the sum of the parts (Becker & Gerhart, 1996).

Collins and Smith (2006) develop and test another theory of how HRM practices affect the organizational social climate conditions that facilitate knowledge exchange. Based on the assumption that commitment-based HR practices do not affect performance directly, they argue that commitment-based HR practices affect firm performance through their effects on organizational social climates and on knowledge exchange and combination among knowledge workers. Their study shows that commitment-based HRM practices are positively related to the organizational social climates of trust, cooperation, and shared codes and language. In turn, these measures of a firm’s social climate are related to the firm’s capability to exchange and combine knowledge.

Though both theoretical argument and empirical evidence have supported the link between HPWPs and knowledge inflows, there has been less focus on the relationship between HPWPs and knowledge outflows. Recently, the idea of reverse knowledge transfer from locals to foreigners (knowledge outflows) has received increasing attention, especially within the context of MNCs (Haas & Hansen, 2004; Hakanson & Nobel, 2000, 2001; Mudambi, 2002; Napier, 2006; Schlegelmilch and Chini, 2003; Schulz, 2001). Host country employees have been put in an important position since they provide valuable input for expatriate training programs, help an expatriate gain cultural and contextual knowledge once he or she arrives, and help with training content and process, all of which help in cross-cultural learning and adaptation of the expatriate (Feldmen and Bolino, 1999; Vance & Ensher, 2002). As many American parent companies have put their research and development center to other countries these days, the corresponding subsidiaries in those host countries take the responsibility to create new knowledge or modify existing knowledge for the entire MNCs, which encourages risk taking, discovery, and innovative behaviors and at the same time requests the exploratory learning capability of their employees. In this study, we draw resource-based view and organizational learning theory to explore a new model of how HPWPs influence knowledge transfer. We focus on two organizational learning capacities – exploitation and exploration and argue the mediating effects of these two learning capacities on the link between HPWPs and knowledge flows.

Theoretical Background

Resource-based view (Barney, 1986; Cohen & Levinthal, 1990; Foss, 1996; Grant, 1996; Kogut & Zander, 1993; Teece & Pisano, 1994) and organizational learning theory (Huber, 1991; Levitt & March, 1988; March, 1991) have been viewed as the theoretical basis for knowledge transfer research. Resource-based view of the firm addresses that resources, which are valuable, imperfectly imitable, and non-substitutable, provide sustainable competitive advantage for firms. As a later notion, knowledge-based view of the firm is an outgrowth of the resource-based view to the extent that it focuses upon knowledge as the most strategically important of the firm’s resources (Grant, 1996). Firms able to effectively manage their knowledge resources can expect to gain sustainable competitive advantage. Organizational learning has been identified as one of the most important perspectives for understanding organizational knowledge transfer (Gupta & Govindarajan, 2000; Schulz, 2001). Organizational learning is a focused, time-framed activity
aimed at developing a given set of skills or gaining a relatively narrowly targeted set of knowledge (Nonaka, 1988). Organizational learning theory describes how organizations change their knowledge or their behavior in response to experiences. Organizations learn how to create new knowledge and modify existing knowledge to make their knowledge base better in serving as a source of sustainable competitive advantage (Dierickx & Cool, 1989; Lippman & Rumelt, 1982). Exploitation and exploration, defined by March (1991) as two types of learning capacities, have gained much attention in the field of organizational learning. Explorative learning is captured by such terms as “search, variation, risk taking, experimentation, play, flexibility, discovery, and innovation”, while exploitative learning includes such things as “refinement, choice, production, efficiency, selection, implementation, execution” (March, 1991, p. 71).

Exploration/Exploitation and Knowledge Flows

These two types of learning capabilities affect the amount and the type of subsidiary’s knowledge stock, which in turn stimulate or constrain the knowledge flows between MNC units (Schulz, 2001; Ozsomer & Gencturk, 2002). Exploration generates new and unsettled knowledge which is potentially relevant to other subsidiaries other than the one doing the exploration (Schulz, 2001). Subsidiaries with explorative learning capabilities have higher potential to transfer their newly established knowledge to other units compared to those without explorative learning capacities, which makes knowledge outflows from that subsidiary possible. Exploitation utilizes existing knowledge and resources to generate incremental knowledge in order to reduce cost and enhance the certainty of return. Subsidiaries with exploitative learning capabilities tend to use the current available knowledge from other parts of the organization, which stimulate knowledge inflows from outside of that subsidiary. Therefore, we expect a positive relationship between exploration and knowledge outflows and a positive relationship between exploitation and knowledge inflows.

*Proposition 1a: A subsidiary’s explorative learning capacities are positively associated with its knowledge outflows.*

*Proposition 1b: A subsidiary’s exploitative learning capacities are positively associated with its knowledge inflows.*

HPWPs and Exploration/Exploitation

Organizations derive their primary competitive advantage through the ability of their employees to create and manage knowledge (Bettis & Hitt, 1995; Grant, 1996). HRM practices can effectively influence employees’ behaviors and motivations (Huselid, 1995; Wright, Dunford, & Snell, 2001). HPWPs influence employees’ skills and competencies through the development of the firm’s human capital (Huselid, 1995). Specifically, the staffing subsystem can facilitate hiring high quality employees, the training subsystem can enhance employees’ ability to absorb knowledge from outside of the subsidiary and recombine them for immediate returns, and the reward system can motivate personnel to achieve an organization’s goal of innovation and profitability. All of these HPWPs can enhance a subsidiary’s exploitative learning capabilities to absorb and utilize the current available knowledge from other parts of the organization efficiently. On the other hand, researchers have identified the role of HPWPs in the
organizational learning as fostering innovation and creativity. For instance, Gupta and Singhal (1993) have investigated how different HRM practices are related to creativity and innovation in which human resource planning is used to analyze and determine personnel needs so as to create effective innovation teams; performance appraisal is used to appraise individual and team performance so that there is a link between individual innovativeness and company profitability; reward system is used to motivate personnel to achieve an organization’s goal of productivity, innovation, and profitability; and career management is used to match employees’ long term career goals with organizational goals through continuing education and training. Scarbrough (2003) also argues that selection methods, compensation strategies, and career systems as HRM factors exert important influences on the development of innovations and knowledge flows. Therefore, all of these HPWPs can encourage employees’ innovative behaviors through which explorative learning capacities are stimulated.

Proposition 2a: HPWPs are positively associated with a subsidiary’s explorative learning capacities.

Proposition 2b: HPWPs are positively associated with a subsidiary’s exploitative learning capacities.

The Mediated Effect of HPWPs on Knowledge Flows

As discussed above, knowledge is embedded in people’s mental process and people are the main driver of knowledge transfer. HPWPs help improve employees’ learning capabilities to absorb and create knowledge in building a learning organization and facilitating knowledge flows (Garavan, Gunnigle & Morley, 2000). We argue that HPWPs affect a subsidiary’s knowledge flows through their effects on employees’ learning capacities. However, other factors are also likely to play mediating roles in the link between HPWPs and knowledge transfer. For instance, as we have reviewed above, organizational social climates can mediate the relationship between HRM practices and knowledge exchange (Collins & Smith, 2006). Thus, we propose that explorative and exploitative learning capacities will only partially mediate the relationship between HPWPs and knowledge flows.

Proposition 3a: HPWPs affect a subsidiary’s knowledge outflows partially through its explorative learning capacities.

Proposition 3b: HPWPs affect a subsidiary’s knowledge inflows partially through its exploitative learning capacities.

HOST COUNTRIES INSTITUTIONAL AND CULTURAL ENVIRONMENTS

MNCs as major players in the global economy have great concerns about how their subsidiaries employ HPWPs outside the parent country and to what extent these practices would adapt to the environments of host countries. Each country has its own institutional and cultural environments, which are viewed as crucial factors influencing and regulating its own HRM system (Budhwar & Sparrow, 2002). MNCs that establish their subsidiaries and operate in other countries have to consider how to adapt their HRM practices to host countries’ local environment when they
transfer HPWPs from MNCs’ parent companies to their international subsidiaries. Host countries’ institutional and cultural constraints affect the extent that HPWPs are adopted and implemented in MNCs’ international subsidiaries, which in turn influence knowledge transfer within MNCs.

**Institutional Barrier as Moderator**

Institutional theory has been widely used to study the adoption and diffusion of organizational practices. The basic argument within the institutional perspective is that organizations are under social influence and pressure to adopt practices – such as HPWPs – that are viewed as being appropriate in their environment (DiMaggio and Powell, 1983, 1991; Scott, 2001). Institutions are defined as the “cognitive, normative, and regulative structures and activities that provide stability and meaning to social behavior” (Scott, 1995: 33). Once established, institutions are said to have considerable staying power and are compelling for actors within a society. Societies have their own institutional environment in terms of laws, norms, and social constraints. Institutional theory is concerned with how these environmental forces promote homogeneity among organizations with regard to structure and process and how organizations adapt to and be consistent with their institutional environment. DiMaggio and Powell (1983) have identified three mechanisms of institutional isomorphic change: coercive isomorphism, which emphasizes political influence of powerful constituency (e.g., the government) on organizations; mimetic isomorphism, which states uncertainty as a powerful force for organizations to model themselves on other organizations in their environment that are viewed as successful; and normative isomorphism, which addresses professionalization as the appropriate organizational patterns so that organizations adopt certain professional standards under the influence of the professional organizations. Similar to DiMaggio and Powell’s three isomorphisms, Scott (2001) has suggested three ‘pillars’ of institutional processes: regulatory (corresponding to coercive isomorphism), cognitive (corresponding to mimetic isomorphism) and normative processes (corresponding to normative isomorphism). This framework is useful for understanding tendencies of international subsidiaries of MNCs to adopt HPWPs from their parent companies and to what extent the institutional factors affect the relationship between HPWPs and knowledge flows.

Different laws, norms, and social constraints emerge across societies. The institutional perspective points out that environmental forces influence organizational practices. Cognitive and normative institutional processes enfolded in the local context play an important role in explaining the management practices implemented in MNC subsidiaries (DiMaggio and Powell, 1983; Levitt and March, 1988). Country-of-origin effects for HR systems in MNC subsidiaries are substantial, persistent, and rooted in cross-national differences in business systems and related institutions (Ferner, 1997; Ferner & Quintanilla, 1998; Ferner & Varul, 2000). Host countries’ institutions become barriers more or less when MNCs transfer HPWPs to their international subsidiaries. To what extent HPWPs can be adopted in an international subsidiary to a great extent depends on how strong its host country’s institutional barrier. For example, management practices in some European countries have been affected by cultural constraints, extensive use of works council, and more rigorously regulatory labor laws. These country-specific institutional barriers, to some extent, limited the transference and efficacy of American-style HPWPs. The literature suggests that local legislation such as host-country employment
laws and regulations may restrict the implementation of HRM practices. A subsidiary’s HR system might also reflect efforts and power of managers to align practices with local environment to gain optimal levels of organizational performance (Ferner, Almond, & Colling, 2005; Bjorkman, Fey, & Park, 2007). A subsidiary’s managers often have taken-for-granted views about good HRM practices, which are embedded in the values and behavioral norms shared by people in local environment and also influenced by local labor market characteristics (Bjorkman, Fey, & Park, 2007). Therefore, when the institutional barrier is strong, i.e. more rigorously regulatory labor laws, strict local labor market, local managers’ anti-opinions toward HPWPs etc., the transference of HPWPs from MNCs’ parent companies to subsidiaries becomes difficult. On the contrary, more HPWPs would be adopted and implemented in a subsidiary where the institutional barrier is smaller. Since HPWPs are positively associated with both knowledge outflows and knowledge inflows, more knowledge flows are expected when HPWPs are transferred to a host country with smaller institutional barrier.

Proposition 4a: Institutional barrier will moderate the relationship between HPWPs and knowledge outflows such that the relationship will be stronger if institutional barrier is smaller between the US and host country.

Proposition 4b: Institutional barrier will moderate the relationship between HPWPs and knowledge inflows such that the relationship will be stronger if institutional barrier is smaller between the US and host country.

Cultural Distance as Moderator

The concept of culture has been proposed by many researchers with different perspectives. Although there exist these many ways to define culture, researchers have come to a consensus on the general meaning of culture that, as a group-level phenomenon, refers to the central tendencies of a group with respect to a range of attributes. Similarly, the concept of national culture per se is complex, however researchers in this field have come to agree with the common notion that national culture relates to shared values and beliefs of a society such as sets of values, perceptions, attitudes, norms, and thinking practices typical of a society (Triandis, 1994) and to shared motives, identities and interpretations or meanings of significant events that result from common experiences of members of society (House et al., 1999).

The cultural perspective, rooted in the work of Hofstede (1980), Triandis (1995a) and others, holds that national culture affects dominant values and norms. National culture is the software of the mind (Hofstede, 1991), and it is deeply embedded in people’s everyday life (Newman & Nollen, 1996). National culture has a significant relationship with HRM policies and practices in terms of shaping HRM and explaining cross-national HRM differences (Hofstede, 1993; Wilkins & Ouchi, 1983; Denison & Mishra, 1995; Schuler, Dowling & De Cieri, 1994; Schuler & Florkowski, 1996; Rogovsky, 1996; Schuler, Jackson, Slocum & Jackofsky, 1996). There is ample evidence that HRM practices vary as the national cultures vary (Luthans, Welsh, & Rosenkrantz, 1993; Sparrow & Hiltrop, 1995; Newman & Nollen, 1996). Studies have shown that HRM practices that reinforce national cultural values are more likely to yield predictable behavior (Wright & Mischel, 1987), self-efficacy (Earley, 1994) and high performance (Earley, 1994) because congruent HRM practices are consistent with existing behavioral expectations and
routines that transcend the workplace (Newman & Nollen, 1996). HRM systems need to be aligned with key aspects of national culture or there will be negative performance outcomes. On the other hand, when HRM practices are inconsistent with the cultural values, employees are likely to feel dissatisfied, distracted, uncomfortable, and uncommitted so as to be less able or willing to perform well (Newman & Nollen, 1996). Therefore, MNCs can enhance their performance and increase their competitive advantage by understanding the cultural environment in which they operate their international units and adapting HRM practices to the national culture of host countries (Schuler, Dowling, & De Cieri, 1993; Sparrow, Schuler, & Jackson, 1994; Taylor et al., 1996).

Theoretical work on international HRM has addressed the issue of the impact of culture on localization and transference, which posits that the greater the cultural differences between host and home countries, the more difficult will be the transference process and the more likely that affiliates will localize (Schuler, Dowling, and De Cieri, 1993; Taylor, Beechler, and Napier, 1996). Empirical evidence also shows that cultural distance between host country and home country positively affects localization (Rosenzweig & Nohria, 1994). Therefore, the implementation of HPWPs in a subsidiary is expected to be negatively associated with the cultural distance between host and home countries. Correspondingly, more knowledge flows are expected when HPWPs are transferred to a host country where cultural distance is smaller between the U.S. and host country.

Proposition 5a: Cultural distance will moderate the relationship between HPWPs and knowledge outflows such that the relationship will be stronger if cultural distance is smaller between the US and host country.

Proposition 5b: Cultural distance will moderate the relationship between HPWPs and knowledge inflows such that the relationship will be stronger if cultural distance is smaller between the US and host country.

DISCUSSION AND IMPLICATIONS

Based on organizational learning theory, we proposed a new theoretical model to understand how HPWPs influence knowledge transfer within U.S. MNCs. Exploration and exploitation, as two major types of learning capabilities, provided new paths that connect HPWPs and knowledge flows. In addition, from institutional perspective, we argued that host countries’ institutional and cultural environments moderate the relationship between HPWPs and knowledge flows. We further explored the moderating effects of each cultural dimension on the link between HPWPs and knowledge flows.

Organizational learning theory has been heavily drawn to study knowledge transfer related issues. However, as the most important organizational learning capacities, exploration and exploitation have not been given much attention. Our theoretical model contributes to literature by exploring the mediating effects of these two organizational learning capacities to understand the impact of HPWPs on knowledge transfer within MNCs. In particular, we argue that HPWPs do not impact directly on knowledge transfer but through organizational learning capacities. It is people that create, absorb, and transfer knowledge. Therefore, HPWPs affect knowledge transfer through
enhancing people’s learning capabilities which facilitate knowledge transfer. In addition, a large body of research on the link between HRM and knowledge transfer focuses only on knowledge inflows. This research further demonstrates that HPWPs can also influence knowledge outflows. As another important contribution of this study, we put the link of HPWPs and knowledge flows in the real situation i.e. international context since host countries’ influences are unavoidable when knowledge is transferred across borders. Institutional factors and specific cultural dimensions are further discussed.

It is important to note that this study has several limitations. First, when we develop the new model, we only consider one perspective of organizational learning. We only use exploration and exploitation as mediators to explain the mechanisms of HRM impact on knowledge transfer. There are many other meaningful perspectives in organizational learning theory. Beyond that, other theories such as human capital theory and the perspectives embedded in knowledge management literature can also put value on understanding the link. Future research might consider adding these to make the model more sophisticated. Second, this study only investigates host countries’ institutional and cultural effects as moderators without considering organizational factors. Previous research suggests that not only host country effects but also subsidiary factors such as the role of the HR function and the number of expatriates can be expected to influence the likelihood that how decision-makers manage human resources (Bjorkman, Fey, & Park, 2007). Therefore, as another set of moderators, subsidiary factors might be added to future research scope. Finally, we discuss HPWPs in a very general sense. There still exists debate in literature whether to view HPWPs as positively inter-correlated coherent ‘bundles’ or to take a ‘best practices’ view in selecting HPWPs approaches. Empirical studies are needed to examine which way is better for current research question.

Despite these limitations, our analysis has a number of managerial implications. This study emphasizes the important role of employees and their learning capacities. HPWPs are important in developing employees’ learning capacities. Knowledge workers are the keys in shaping successful organizations. In order to generate effective knowledge transfer between MNCs units to reach organizational goals, employees and correspondingly management of employees should be given more attention. It is also important for both researchers and practitioners to know that HPWPs, learning capabilities, and knowledge management as an organic system should be considered at the same time. Organizations’ executives should manage and balance this system in an effective way to get better organizational goals. On the other hand, the success of MNCs also depends on if they can manage their knowledge workers in other national contexts. American MNCs will inevitably encounter institutional barrier and cultural difference when they transfer their domestic management practices (e.g. HPWPs) to other countries outside the U.S. MNCs have to learn how to adapt their management actions to international subsidiaries’ local environment in order to gain competitive advantage in the world market.

In conclusion, there are many ways to understand how HPWPs affect knowledge transfer within MNCs. We propose a new perspective in this study and put it in host countries’ institutional and cultural environments to reflect the real situation. This is just a starting point. Future empirical research is needed to test the propositions we have presented here.

REFERENCES


NORTH AMERICAN ECONOMIC INTEGRATION AND TERRORISM

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ABSTRACT

While terrorism remains concentrated outside North America, its potential repercussions are an ongoing concern to North American firms. Canada and the United States have historically been highly integrated economies. Following 9-11, North America continued to be highly integrated despite border-related trade constraints. However, not all industries felt the aftermath in similar ways nor did business leaders necessarily focus on the same priorities. Given 1) terrorism’s impact on industries, 2) the variance in priority ascribed to the issue by executives, and 3) varying responses to address the problem, ensuring the ongoing gains from integration requires creative bilateral solutions.

INTRODUCTION

On September 12th, 2001, American and Canadian citizens woke up to find a different world than the one they found familiarly comforting just hours before. The common geographic space and close trade relations they share was forever changed as security concerns were going to be acutely felt – any air traveler may attest to the increased security. However, what does it mean for those North American firms that sit across the US-Canada border. Our goal is to provoke thought and reflection on a central issue touching all governments, firms, and individuals but that has received relatively limited scrutiny in International Business. For example, this Review published only six articles where “terrorism” appeared within the full text and those were not necessarily post-9/11: one treating it as a central issue (Lamamra, 1998); four as a secondary issue (Gray, 2000; Khan & Amine, 2004; Tan & Enderwick, 2006; van Wyk & Custy, 2004); and one was a book review (Gillingham, 2005). Our paper explores how security issues and terrorism affect highly integrated neighboring economies, namely Canada and the United States which may serve as a model for the European Union and the growing regional trading blocs such as MERCOSUR.

Economic integration is the elimination of restrictive practices and institutions and the increase in the freedom for carrying out commercial transactions, enabling an efficient spatial allocation of resources in the short term and a market solely regulated by prices in the long run (Tinbergen, 1954). Geographic proximity, the similarity of national economies, social, cultural, and political factors and the existence of a pro-integration lobby are other factors influencing a common economic space. While economic integration is often contingent on some level of political integration, increased economic integration generates a paradox where more wealth leads to greater levels of political separation (Bolton, Roland, & Spolaore, 1996). Nonetheless, the economic and institutional convergence brought about by higher levels of integration are thought to lead to reduced uncertainty for firms (Pasquero, 2000). The direct implication is that
terrorism, since it contributes to sustained and elevated levels of uncertainty, may well be a marker for the level of integration between countries and should the level of integration be low, it could prove disruptive for bi- or multilateral economic exchanges. Empirical studies have attempted to quantify the negative impact that terrorism has on trade. Nitsh and Schumacher (2004) found that terrorism reduces the volume of trade between countries, more specifically that doubling the number of terrorist incidents reduces trade by four percent. Similarly, Blomberg and Hess (2006) calculated that terrorism and internal/external conflict have an effect on trade comparable to a 30% tariff.

We begin by examining global terrorism and security matters from a managerial perspective; international terrorism remains a preoccupation for executives globally. We then focus on what this implies specifically for North America by drawing upon historical evolution of its economic integration. We explain the shift towards increased security following 9-11, a shift that did not hinder Canada-U.S integration. In fact, industry, firm and executive reactions reveal the true depth of North American integration. Finally, we conclude that despite the dramatic impact of terrorism and the increased security environment, Canada and the United States remain a deeply integrated economic space.

TERRORISM: GEOGRAPHY AND PERCEPTION

Terrorism has plagued the global arena since the zealots of biblical times. The contemporary era is not immune to terrorism and remains a concern for executives.

The Geography of Global Terrorism

While armed conflicts have been in decline since 1999 (Stockholm International Peace Research Institute, 2007), worldwide terrorism has increased; about half of all terrorist acts remains geographically concentrated in Iraq and Afghanistan (Office of the Coordinator for Counterterrorism, 2007). Since 1968, 1,255 terrorist groups perpetrated 34,079 incidents that resulted in over 50,000 fatalities (National Memorial Institute for the Prevention of Terrorism, 2007). The Middle East/Persian Gulf area has the largest number of fatalities, more than three times than that of South Asia, the second highest, over that same period. Table 1 provides a geographic breakdown.
TABLE 1: GLOBAL TERRORISM STATISTICS SINCE 1968  
(DOMESTIC AND INTERNATIONAL)

<table>
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<tr>
<th>Region</th>
<th>Groups</th>
<th>Incidents</th>
<th>Injuries</th>
<th>Fatalities</th>
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</thead>
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<td>1161</td>
<td>9741</td>
<td>3688</td>
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<tr>
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<td>242</td>
<td>5584</td>
<td>253</td>
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<td>1510</td>
<td>5151</td>
<td>2010</td>
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<td>Latin America &amp; the Caribbean</td>
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<td>4008</td>
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</tr>
<tr>
<td>Western Europe</td>
<td>312</td>
<td>5558</td>
<td>5678</td>
<td>1441</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1255</td>
<td>34079</td>
<td>118851</td>
<td>51446</td>
</tr>
</tbody>
</table>

Source: MITP Terrorism Knowledge Base

The Perceptions of Executives

Despite the important numbers mentioned above, studying, and preparing for, terrorism and its effects are not high ranking priorities for executives on the international stage as traditional firm security-related preoccupations have consisted of corporate physical security, a preoccupation traced back to the World War I era (Fayol, 1979 [1916]). This is, however, changing partly because of the increased parallel globalization of economic activity and the terrorist threat. Two recent surveys show terrorism to appear on the list of executives’ preoccupations. Their main findings are highlighted in Table 2. First, the PricewaterhouseCoopers Annual Global CEO Survey (2007) found that 50% of respondents mention terrorism as a concern for their company; and for 17% of them it represents an extreme concern. However, they did not proportionally spend resources to mitigate this risk. This survey also shows that CEOs from Asia-Pacific feel this threat more acutely than the their counterparts internationally. Second, the Economist
Intelligence Unit (2006) ran a similar survey focusing on how organizations prepared for managing catastrophic risk. In this survey, 53% of respondents considered terrorism to be at least a risk of medium significance, with 8% stating very high significance.

**TABLE 2: EXECUTIVES PERCEPTIONS OF TERRORISM**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern with terrorism</td>
<td>50% of respondents: at least somewhat concerned</td>
<td>53% of respondents: at least as a somewhat significant risk</td>
</tr>
</tbody>
</table>
| Top concerns                   | 1. Overregulation  
2. Availability of key skills  
3. Low cost competition       | 1. Human capital risk  
2. Regulatory risk  
3. Reputational risk          |
| Concern immediately above      | Intellectual property rights                                                | Political risk                                                              |
| terrorism                       |                                                                             |                                                                             |
| Concern immediately below      | Inadequacy of infrastructure                                                | Natural hazard risk                                                         |
| terrorism                       |                                                                             |                                                                             |
| Rank of terrorism over all     | 11th out of 17 items                                                       | 10th out of 13 items                                                        |
| other concerns mentioned in the survey |                                                                             |                                                                             |
| Number of respondents          | 1084                                                                        | 225                                                                         |
| Location of respondents        | Europe, Asia-Pacific, Americas, Middle East and Africa                     | Europe, Asia-Pacific, Americas                                              |


An interesting conclusion from these surveys is that terrorism, despite the potential risks and its relative importance ascribed by CEOs, is not a high-ranking concern. Both surveys found that the top two CEO preoccupations were related to finding and keeping talent as well as regulatory challenges to doing business. Thus, while acts of terrorism occur mostly outside the North America, its impact is felt in this global economy and thus remains a central preoccupation for managers.

**THE NORTH AMERICAN EXPERIENCE**

The process of North American integration is often compared with that of Europe. However, besides a common view that increasing trade is mutually beneficial, these two
economic spaces behave very differently and followed very different processes (Cimon & Rebolledo, 2004). The European experience consists of a top-down politically driven process supported by a heavy institutional apparatus that led to a customs and monetary union, North America integrated very differently. This process has been primarily driven by trade-related preoccupations of industry with a bottom-up perspective where NAFTA was the culmination of an ongoing historical trajectory and where common political institutions have not been on the agenda as Canada and the United States wish to remain as independent as possible in the political sphere.

A brief History of the Canada-United States Economic Integration

The close economic ties between the United States and Canada have existed since colonial times (Cimon, 2005; Hoberg, 2000). From the American Revolution on, merchants from both countries engaged in commercial relationships, despite some hiccups caused by events like the War of 1812 and the 1837-1838 rebellion in Canada. The first free trade agreement between the two countries took the form of the Reciprocity Treaty (1854-1866) that contained provisions allowing fishing in each other’s waters, with some restrictions, and eliminating tariffs on a range of primary products, primarily coal and grain. President Andrew Johnson ended the treaty because of pressure coming from farmers and political considerations linked to the Civil War. This treaty had the effect of providing a major boost to trade, and one year after the Canadian Confederation in 1868, the United States effectively became Canada’s main trading partner ahead of the United Kingdom. In the years that followed, trade was hampered by the United States pulling itself together following the end of the Civil War. After failed negotiations in 1874-1875 toward securing another reciprocity treaty with the United States, Canada reverted in 1879 to a heavily protectionist trade policy known as the National Policy. A further attempt at renegotiating a free trade agreement failed in 1891, as the Canadian public feared the consequences of ending the National Policy.

Twenty years later, in 1911, the issue of free trade between Canada and the United States resurfaced through the negotiation of the Reciprocity Agreement (e.g. Granatstein, 2002), facilitating trade in primary products and for some manufactured goods. The US President Taft successfully pushed it through Congress while Canadian Prime Minister Sir Wilfrid Laurier did his best to appease Canadian fears of losing their British heritage that would come from an increasing “continentalization” fueling fears that this deal would lead to political amalgamation. The unpopularity of the deal became an electoral issue; costing Laurier the election to Conservative Sir Robert Laird Borden and leading to the agreement’s failure. Canada and the U.S nevertheless continued to trade. The quick resurgence of national protectionist policies in the United States and Canada following the Great Depression were the main cause of much of the variation in trade flows during the interwar period. Trade was so disturbed that in 1935 another trade accord was signed, bringing tariffs back to their 1920 level (Hoberg, 2000).

After World War II, successive rounds of the General Agreement on Tariffs and Trade (GATT) from 1948 and onwards initiated a global trend to sustained decreases in tariffs
that would give way to the World Trade Organization (WTO) in 1995. Meanwhile, in 1965, Prime Minister Pearson and President Johnson signed the Auto Pact to eliminate industry tariffs by creating an integrated North American industry from what had been a highly segregated sector along national lines. While Canada did not develop a national auto industry, it established itself as an important market and consolidated a base for automobile manufacturing. The Auto Pact would end in 2001 following a successful challenge in front of the WTO (Hoberg, 2000).

With the continuing success of the Auto Pact, Canada wanted to ensure a reliable access to U.S. markets beyond the scope of automobiles. Reciprocally, the United States wanted to avoid having Canada revert to a more protectionist attitude. Following intense negotiations, Prime Minister Brian Mulroney and President Reagan signed the Canada-United States Free Trade Agreement (CUSFTA) that took effect in the beginning of 1989 (see Courchene, 2003; Department of Foreign Affairs and International Trade, 2003). It called for the removal of tariffs by 1998; the fair treatment of investors; and the establishment of a bi-national dispute settlement mechanism. It fueled an increase in bilateral trade and investment and paved Canada, the United States, and Mexico to sign NAFTA in 1994 with goals were similar to those of the CUSFTA but with a more comprehensive framing of intellectual property, competition, and environmental issues. It also established a “light” institutional body, compared with that of the European Union, which consists of a Secretariat, a tribunal, commissions on the environment and labor as well as various working groups. NAFTA increased trade among member nations by a factor of 198% between 1993 and 2006 (Office of the United States Trade Representative, 2007). This is in line with recent research on free trade agreements that shows that they promote trade between relatively similar partners in terms of comparative advantage (Kono, 2007), the United States and Canada being culturally similar and having skilled and educated workforces.

**Terrorism, 9-11 and the Shift in Security Concerns**

While North America is neither immune nor blind to terrorism, international terrorism would catch North America off guard. According to the Memorial Institute for the Prevention of Terrorism Knowledge Base (2007), North America has accounted for a fewer than 2% of all global terrorist incidents since 1968, but for almost 7% of fatalities. However, since October 2001, global terrorism claimed 35,490 lives through 21,275 incidents; North America (Canada and the United States) accounted for 9 fatalities and a total of 72 incidents in these global statistics (National Memorial Institute for the Prevention of Terrorism, 2007). Terrorists operating in North America have been more active in the United States than Canada (see table 3).
TABLE 3: NORTH AMERICAN TERRORISM STATISTICS SINCE 1968
(DOMESTIC AND INTERNATIONAL)

<table>
<thead>
<tr>
<th>Country</th>
<th>Groups</th>
<th>Incidents</th>
<th>Injuries</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>6</td>
<td>34</td>
<td>51</td>
<td>338</td>
</tr>
<tr>
<td>United States</td>
<td>73</td>
<td>554</td>
<td>4293</td>
<td>3230</td>
</tr>
<tr>
<td>TOTAL</td>
<td>79</td>
<td>588</td>
<td>4344</td>
<td>3568</td>
</tr>
<tr>
<td>Share of Global Total</td>
<td>6.3%</td>
<td>1.7%</td>
<td>3.7%</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Source: MITP Terrorism Knowledge Base

While these statistics show that North America is not a hotbed of terrorist activity, it is not immune from it. Furthermore, the relative disproportion between the lower percentage of incidents and the higher percentage of fatalities suggests that terrorists operating in North America tend to be more effective.

Immediately following the 9-11 attacks, the Canada-US border was closed; sparking a series of temporary plant shutdowns in both countries as just-in-time processes did not allow sufficient inventories to sustain operations. Air traffic came to a halt. Border crossing between the two countries reduced to a trickle while border wait times skyrocketed to unseen levels, sometimes to more than five times their pre-9-11 levels, for the year that followed (Department of Foreign Affairs and International Trade, 2003). This marked the end of what had until then been aptly called “the longest unprotected border in the world”. Security on both sides of the border increased sharply, leading to unprecedented measures that disrupted the supply chains of trans-border firms, representing about CAD $1.5 bn in daily trade.

It is interesting to note that public support for the removal of the border had been growing in the decade before 9-11. From 1990 to 2000 support for this option grew from 24% to 35% in Canada and from 46% to 50% in the United States (Nevitte, 2003). During the Cold War, the threat was perceived to originate from abroad and international institutional mechanisms were put in place to jointly manage this threat at a North American level, primarily through NORAD and Canadian and American commitments to NATO in Europe. Prior to 9-11, defense-related relations between Canada and the
United States were highly decentralized (Roussel, 2003). However, in the post-9-11 environment, the threat is perceived as coming both from abroad and from within, so threat management is carried out at the national level. Defense cooperation has become increasingly centralized (Roussel, 2003) between the Homeland Security Agency, the Department of Defense and their Canadian counterparts. To counter extra-border threats, the United States pushed for National Missile Defense under the first administration of President George W. Bush.

In a nutshell, a spat of disjointed incrementalism has characterized reactions on both sides of the 49th parallel, initially through the coordination of immigration-related policies (see Granatstein, 2002). This paved the way for an increased level of coordination through programs like NEXUS and EXPRESS that facilitate customs procedures for frequent travelers between Canada and the United States and the recent implementation of the Western Hemisphere Travel Initiative that renders passports mandatory for traveling between the two countries.

Doing away with the border is no longer an option. Border security has become a major issue as evidenced by the implementation of “smart borders” in Canada and the United States. Security measures such as FAST (Free and Secure Trade program) have now become the main thrust in securing the border. In fact, there are so many new measures that they are now referred to as the “The Alphabet Soup of Post-9/11 Border Security Policies” (Goldfarb, 2007b: 7) and they include tools such as security audits, self-assessment measure, advance notification of shipments, and electronic notification and registration tools.

Evidence of Deep Integration

As shown above, North American trade flows are evidence of a close relationship between Canada and the United States. However, while some evidence of integration comes from a historical perspective, there exist many contemporary markers of integration. For example, the 2003 blackout and the mad cow issues demonstrated that both countries continue to remain deeply integrated notwithstanding the effect of post 9-11 security measures.

The 2003 blackout. On August 14th, 2003, millions of Americans and Canadians ended up without power. A regional failure in Northern Ohio, through a series of cascading events, led to a general failure in the grid system affecting an estimated 50 million people in the Northeastern United States and Ontario and some estimate it cost around $10 billion to both economies (U.S.-Canada Power System Outage Task Force, 2004). This event highlighted the very high level of interconnectedness and interdependency between the United States and Canada and cost billions of dollars to both economies. Both governments announced the creation of a joint task force to look into this matter as early as August 15th (U.S.-Canada Power System Outage Task Force, 2004: 1).
The mad cow issue. The food production and distribution systems of Canada and the United States are also very integrated. A total of 14 cases of mad cow disease have been reported from 1993 to April 2007 (Center for Disease Control and Prevention, 2007). After a first Canadian case from a U.K. imported cow, a U.S. case from a cow imported from Canada surfaced in 2003. This had important repercussions on both sides of the border: Canadian cattle prices dropped dramatically and the U.S. industry experienced supply problems, serving as yet another demonstration of the high level of integration in food products.

Both the 2003 blackout and the mad cow scare demonstrate that while security increased at the border following 9-11, the integration between Canada and the United States had not come to a halt. Industries, firms, and executives are acutely aware of this while bearing the weight of increased security. According the United Nations Conference on Trade and Development the average cross-border M&A activity, both sales and purchases of firms, between the United States and Canada averaged just under USD $64 bn for the 1990-2000 period but for the 2004-2006 period it had climbed to USD $262.8 bn. Similarly, for FDI, on an inward and outward basis, the average over the 1990-2000 period stood at USD $202 bn but increased to USD $260 bn over the 2003-2006 period. The cross-border stock of FDI grew from USD $825 bn in 1990 to USD $2,600 bn in 2000, climbing to USD $4,173 bn in 2006, representing an increase in share of GDP from an average share of combined GDP of 7.1% to 15.8%, representing the increasing integration of the economies.

Industries, Firms and Executives in the “New” North American Environment

According the Conference Board of Canada, the trade volume between Canada and the United States has not been negatively affected since 9-11 (Goldfarb, 2007b). However, interprovincial trade growth did slow between 2000-2002 in Canada while exports slightly declined (Byrd & Généreux, 2004), in small part because of 9-11. Nonetheless, security was not on the radar for business prior to 9-11, for example in his comprehensive review of Canada in North American integration, Hoberg (2000), like most of the pre 9-11 literature on the subject, fails to address security and terrorism-related issues. Since 9-11, however, security has become an unavoidable issue in North America (Castenada, 2004) as evidenced by the Security and Prosperity Partnership of North America signed in 2005 by Canada, the United States and Mexico. However, there is a possible trade-off in Canada-US relations between economic security for Canada and homeland security for the United States (Courchene, 2003). Accordingly, there have been reactions at the industry, firm, and executive levels but they do not necessarily reflect this tradeoff.

Industry- and firm-level reactions. One of the main implications of the increase in the post 9-11 security environment is the increased pressure on the manufacturing sector where firms are moving away from just-in-time delivery and keeping larger inventories to prevent temporary shutdowns (Goldfarb, 2007a), particularly impacts in the transport industry and fresh food exports (Goldfarb, 2007b). most notably fresh food products although they need to manage more hurdles and yet benefit from less noticeable security
gains. More precisely, in terms of export intensity and truck transportation dependency, the following industries, as listed by Golbfarb (2007b: 21), are the most affected by the post 9-11 security environment:

- “Motor vehicle manufacturing;
- Basic chemical manufacturing;
- Computer and peripheral equipment manufacturing;
- Resin, rubber (artificial and synthetic);
- Fibre manufacturing;
- Rubber product manufacturing;
- Seafood product preparation and packaging; and
- Electrical equipment and component manufacturing.”

One important observation derived from this list is that these sectors all trade non-finished goods that are inputs in one or many industry supply chains. So, while trade in raw materials has decreased, parts trade between Canada and the United States is growing, as the United States sends in more finished goods into Canada (Goldfarb & Beckman, 2007). This is consistent with the “disaggregation” experienced in certain industries (Birch & Burnett-Kant, 2001). Thus, firm-level implications need to be further explored.

**Firm reactions.** Exporting firms are more capital and skill intensive than non-exporting firms (Bernard, Jensen, Redding, & Schott, 2007: 110). Moreover, firms that have greater technology intensity, advertising intensity and internationalization are more likely to seek global integration (Kobrin, 1991) by actively securing access to specific geographical markets. (see Majocchi & Zucchella, 2003; Shimokawa, 1999). In the North American context, firms demonstrate similar behavior. Prior to the 9-11 attacks, there is evidence that intra-country industry location in Canada and the United States remained weakly affected (Hanson, 1998) by further economic integration. Along the same lines, free trade between Canada and the United States did cause some short-term displacement in economic activity but the gains have been more important over a longer period (Trefler, 2004). Post 9-11, some empirical work shows that, at an individual level, terrorism may have some bearing on housing preferences (Roe, Irwin, & Morrow-Jones, 2005). While the impact on industry has not been thoroughly investigated, the Italian experience suggests that terrorism reduces the number of firms operating in the local area where attacks were perpetrated (Greenbaum, Dugan, & Lafree, 2007). Nonetheless, despite the high local impact of terrorism and its relatively low impact at an aggregate level, the effects of trade regulations are not eliminated by terrorism. In the NAFTA context, the rules of origin clauses may negatively affect firm competitiveness (Sawyer, 2001), while government ownership restrictions may deter entry in some countries (Gomes-Casseres, 1990). Part of the explanation resides in the fact that firms that operate internationally typically have a high degree of national responsiveness, as demonstrated through their reactions on environmental issues (Rugman, 1998) maybe even more than their responsiveness at the regional level. In fact, Buckley et al. (2003) found that the strategic responses of firms to regional economic integration were very differentiated whether they are inside of these regions or not and that this differentiation is strongly dependent on the
Firms and security. Firms typically assess the impact of changes in their “non-economic environment” (Kobrin, Basek, Blank, & La Palombara, 1980) in a reactive manner. Security issues are no different. In fact, firm strategy is believed to be altered by security issues in a three-pronged manner: 1) securing people; 2) securing the core business; and 3) securing networks (Shrader & McConnell, 2002) even though firms should shift from a reactive stance to a more proactive one. Until now, Canadian and American firms have absorbed the bulk of the increase in security costs (Goldfarb, 2007b). There have also been a number of changes in firms’ trading behaviors. Goldfarb (2007a) mentions that many trucking companies have abandoned cross-border routes, leaving their loads at the border for a recipient nation’s company to pick them up, while truckers individually have been shown to shift between border crossings or to cross in off-peak hours because of increased idling, leading to rail transport increasingly supplanting trucking as a transport choice. In fact, some firms revert to their pre-CUSFTA behavior (Goldfarb, 2007a).

Executives, business advocacy groups, consumers and security. Canadian executives estimate it takes more than a few days for their firms to recover from a major disaster (Environics Communications, 2006). It is also interesting to note that Canadian executives do not consider terrorism to be a top threat for their organization, while their employees do. CEOs rather feel that an IT disaster, fires and burglaries are the most important threats. However 50% of Canadian executives feel the federal government should do more to protect their business in the event of a disaster (Environics Communications, 2006), placing security on the shoulders of government. When operating outside the US and Canada, terrorism is still seen as a threat for business operations by 24% of U.S. executives. In general, they feel that competition and rising fuel costs are the biggest financial threat to their company (Chubb, 2007). For their part, business advocacy groups in Canada and the United States feel concerned enough to address the business aspects of security and terrorism related matters. The Canadian Council of Chief Executives (2003) calls for a simultaneous and increased opening of North American internal borders, while taking action to secure it from outside threats. In doing so, it calls for using the “Smart Borders Declaration from 2001 […] and transform the internal border into an effective but shared checkpoint within an integrated economic space (Canadian Council of Chief Executives, 2003: 5).” This, they contend, is important to simultaneously maintain access to and trade flows with each other’s market. For that purpose, they are actively lobbying the government. On the U.S. side, The Business Round Table (Susman, 2003) clearly states that while terrorism means added security costs for firms, the main thrust for dealing with this threat should come from governmental authorities. For them, terrorism is a risk that should be managed. However, threat management and assessment may be done with the assistance of the private sector. For example, they created a secure network to facilitate the communications of executives and top government officials available should a major national crisis occur (Susman, 2003: 13). This is consistent with the claim that Canada is
concerned with its economic security while the United States focuses on national homeland security (Courchene, 2003).

But what about consumers? After all, they drive the demand for products and services! Indeed, consumers, too, are no strangers to security concerns. As a matter of fact, “[f]or domestic [U.S.] marketers, it appears that messages aimed at enhancing perception of national superiority would be successful in connecting with American consumers these days (Lee, Hong, & Lee, 2003: 504)”. Lee et al. (2003) further report that national security has become an important concern for U.S. consumers.

CONCLUSION

While executives operating globally are cognizant of terrorist risks, it is not a main concern for them, as they seem to regard it as a risk or a contingency. In the North American context, while 9-11 did cause security concerns to be high-ranking priorities in the Canada-US relationship, it did not annul nor hinder the historic, deep integration of the two countries. In fact, the NAFTA glue may have prevented disintegration in trade and other cross-border activity because economic agents were so intertwined that disentangling them may have done more harm than good. The 2003 blackout and the mad cow scare serve as reminders of this highly integrated and interdependent economic space. While overall trade has not seemingly suffered from the fallout of 9-11, industries that depend on export and trucking have been the most affected. Firms have had to face a plethora of security measures and tended to absorb these increased costs, leading to a resurgence of pre-free trade behaviors, decreasing the benefits that come from economic integration. North American executives, however, do not worry much about terrorism or its consequences, but business advocacy groups are pushing for better border management (mostly in Canada) and a better linkage between business security and national security (mostly in the United States).

Implications for academics and policymakers

Academics and policymakers need to better explain and assist in managing the continuing integration and interdependencies between Canada and the United States. It is increasingly important to address this matter since increases in border security may offset gains brought by the CUSFTA and NAFTA (Goldfarb, 2007a) while governments are increasingly called upon to reduce non-security related constraints to a maximum in order to maintain these gains.

We are now at crossroads in the dynamics of North American economic integration. The geographic explosion of the value chain will remain a challenge on both sides of the border: “Goods often cross the border repeatedly as value is added at each production
The tragic events of 9-11 are reminders that while Canada and the United States do trade in the classic sense, it is more relevant to recognize that they really build “stuff” together, to follow Blank et al.’s (2004) argument. It is thus paramount to mitigate policy effects that slow cross-border flows and to address the challenges brought by the increasingly taxed and insufficient infrastructure that makes these flows possible (Stanley, 2007) and, in an ideal world, seamless.

Implications for firms

A direct result of free trade has been an increase in productivity, especially for Canada (Trefler, 2004), but differentiating between/within industry effects and between firms is hard to do (Buckley et al., 2003), probably even more when security is factored in and a range of state and non-state actors interact. Security issues negatively affect the gains from free trade, especially when states need to better coordinate their response to security issues. North America was always able to deal with its differences because it focused on the outside as a threat, thus the perception of the threat shifting inward from 9-11 and on, did much to highlight the fact that North America is far from having homogeneous interests. Careful considerations should be put into policy shifts; security related or otherwise, as they affect firms’ strategies and day-to-day operation.

However, the ensuing rise in security concerns did not hamper the economic integration that is taking place. It just may happen that a very good defense against terrorism, apart from increasing security mechanisms, may be the credible claim to rebuild fast and sustain uninterrupted trade flows (see Frey & Rohner, 2007)…

REFERENCES


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SCENARIOS AND STRATEGIC DECISION MAKING

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ABSTRACT

Scenarios provide the basis for effective business decisions in the global environment of the 21st century. The stories describing possible futures in which one must compete in the future, provide decision makers with signposts that identify information that must be tracked. Decisions are made by considering whether the probability is increasing or decreasing that a particular scenario will become reality. The authors present an overview of the global scenarios developed by Shell International, Limited and the U. S. National Intelligence Council that can be used by any company to identify global trends. Three scenarios for a fictional company are included.

INTRODUCTION

In a world where managing risk is taking center stage because of the speed of change and the uncertainty it brings, scenario planning is another strategy for making decisions that consider future possibilities. Scenarios are stories that describe the possible futures in which one must compete five, ten, or twenty years from now. They are based on the possible consequences of events as they occur in time. The scenarios force the decision makers to consider the way current realities might change or mutate in the future and thus affect the decisions made today. Scenarios uncover possible unintended consequences of those decisions and identify unconscious assumptions that underlie the decisions. Scenarios allow leaders to answer the questions: How will the decisions we make today play out in each of our scenarios? What must we be alert for going forward that might change the intended result of this decision? In the midst of a continual onslaught of information and data, scenarios identify what information and trends are crucial to the future success of an organization.

A 2008 McKinsey Global survey revealed that
Almost 70 percent of the executives agree that global trends have become more or much more important to corporate strategy over the past five years. . . . A wide difference exists between assigning importance to trends and taking active steps to address them (something we also found in previous surveys). For example, while around 75 percent of the responders say that a faster pace of technological innovation and the increasing availability of knowledge will have an impact—positive or negative—on their companies’ profits, just over 50% have done something about either of those two trends. (p. 4)

One of the reasons the survey found for inaction was confusion about how to act on the trends. When responders did act, the survey found that “few companies seem to be capturing all the opportunities or addressing all the risks presented by the trends on which they act” (How Companies Act on Global Trends: A McKinsey global survey, 2008, p. 5). If companies had
scenarios that identified trends and forces that they knew directly affected their business, they would know what to track and be able to be proactive in dealing with opportunities and risks. The scenario stories in this report have a very broad scope and are intended to increase our understanding of the various uncertainties regarding the future of the global financial architecture. Such high-level scenarios can provide a useful framework for posting more detail about an organization’s specific external environment at the country, industry, or even product-line level. Used purposefully, scenarios can:

- enhance a strategies robustness by identifying and challenging underlying assumptions
- allow better strategic decisions by discovering and framing uncertainties, leading to amore informed understanding of the risks involved with substantial and irreversible commitments and promoting strong and pre-emptive corporate positioning
- improve awareness of change by shedding light on the complex interplay of underlying drivers and critical uncertainties, and enhancing sensitivity to weak and/or early signals of significant changes ahead
- increase preparedness and agility in coping with the unexpected by making it possible to visualize possible futures and mentally rehearse responses
- facilitate collaborative action by providing different stakeholders with common languages and concepts in a non-threatening context. (World Economic Forum, 2009, p. 77)

**SHELL’S SCENARIOS**

Shell International, one of the early adopters of scenario planning, describes its undertaking in the introduction of its *Shell Global Scenarios to 2025 The Future Business Environments: Trends, Trade-offs and Choices* (2008):

To use the metaphor of air navigation, the work of the Shell Scenarios team is designed to help charter routes across three interrelated levels: the Jet Stream level of long-term predetermined trends, uncertainties, and forces; the Weather Systems that reflect specific features of key regions as influenced by the Jet Stream context; and market-level trends and turbulences. This report presents Jet Stream contexts that will impact the Royal Dutch/Shell Group as a whole, through predetermined trends and through long-term equilibria captured in Global Scenarios to 2025. The analytical framework development for this report can also shed light on Weather Systems and market-level risks and opportunities, something done separately in customized Navigation applications. (p. 1)

Royal Dutch/Shell used scenarios to change its business model so that the creation of OPEC, which was anticipated, catapulted the company from number seven to number three in the global energy market. Royal Dutch/Shell also tracked key indicators of the USSR’s population, economy, manufacturing, and political climate to determine if it should develop its gas field in the North Sea. One scenario indicated that when certain disparate events began to happen, the return on investment would be less than needed because the caps for European countries’ purchases of oil and gas from Russia would be lifted. Thus, Royal Dutch/Shell anticipated the fall of the Berlin Wall many months before it happened. “Shell’s success with the scenario planning approach also encouraged the majority of the Fortune 1000 companies to adopt scenarios in one way or another during the 1970s” (Lingren & Banhold, 2003, p. 37). The
recession in the 1980s, however, brought back traditional forecasting as companies lost the creative people needed to write scenarios in budget cuts. The tectonic shifts in the global business environment in the past fifteen years have renewed interest in using scenarios as a means of making better decisions. In the current recession, companies have the advantage of using the explanations of possible directions of global forces as well as the global scenarios that have been developed by Shell International Limited, the World Economic Forum, and the National Intelligence Council as the basis for their own scenarios.

Schwartz (1991), Wells (1998), De Geus (1997), Van Der Heijden (1996), and Nanus (1992), all members of Royal Dutch/Shell’s scenario teams at one time or another, are all careful to point out that scenarios are not predictions, but they do describe possible futures that challenge our assumptions about the present by asking “What if?” and “What then?” For example, a maker of buggy whips might have asked, “What if no one needed buggy whips? What would have to happen to make that a reality?” The answers might have been “Horses would disappear as a species, people would stop traveling, or a substitute for using animals to pull buggies would be created.” Then the buggy whip maker would ask under what conditions horses could disappear. One scenario might be that the country entered a depression, and no one could afford to travel far and/or could afford buggies. Horses disappeared because no one could afford feed for them and/or they were being used for food. In another scenario, some sort of conveyance was created that no longer needed either the horse or the buggy to transport people from one place to another. Thus, signs of a faltering economy might be important to the buggy whip maker because demand could decrease, but signs of horseless carriages and iron horses could mean finding another product to sell. (Wilburn & Wilburn, 2006, p. 13)

By using scenarios, the buggy whip maker could more accurately make strategic decisions about expansion, inventory, and profit by watching for these trends or signposts. The appearance of the first automobile or train engine would have prompted questions about location, availability, and price. Will the train ever reach my part of the world? Will it substitute for a buggy? Will the automobile be affordable for those people who buy my whips? How will they obtain fuel? Thus, the buggy whip maker in rural Texas might have made a decision that it would take years before his customers no longer drove buggies, while one outside New York City might find another product much sooner. Van Der Heijden (1996) said that:

Scenario planning affects and broadens perception, thereby providing the requisite variety in mental models necessary to see and perceive the outside world beyond the traditional business models. It provides a language through which the resulting issues can be discussed in the organisation, new theories of action can be jointly developed and shared, and alignment of mental models can be achieved, necessary for institutional action. (p. 114)

For an example in the more recent past, one of the scenarios for a communications company would have included the possibility of wireless technology; the privatization of the Internet would have signposts that called for reconsideration of a business strategy that was based on landlines and the communication industry. Thus, the company would have been alert for another industry that made computers as a future competitor. This industry was already thinking about developing an instrument that could receive and transmit text, voice, and pictures, play recorded music, and be carried in a pocket. There were definitely signposts that indicated that the old
industry boundaries were now fluid. Those signposts would have influenced strategic decision making about expanding landlines and developing products. Scenarios can allow one to play with possibilities and then track the probability that the possibilities become reality. (Wilburn, 2008)

If the music and film industries had developed scenarios, one surely would have answered the question, “What if people could download music or movies from the Internet?” One signpost would have been the inability to enforce copyrights in other countries when entrepreneurs in those countries started copying the videos and music CDs and selling them. The scenario would have allowed those in the industry to be proactive rather than reactive in designing a new business model.

In another example, budget decisions in colleges and universities would be helped by scenarios about how the access to online books and journals and the development of electronic readers would affect college libraries. Allocation of money for new books and journal subscriptions would be evaluated each year in the light of the number of publications that had online options and the number of students who had access to computers that could download books and articles. The budget would shift funds from buying books to buying computers, as well as to maintenance and replacement of computers. The technology of the campus itself would need to be upgraded. Student living quarters would need to have appropriate technology infrastructure. Publishers, who were losing revenue from new editions of textbooks, might simply drop all but electronic versions. Plans that called for increasing the size of the library would be rethought so that the new space was not for books but for computers and group spaces that allowed access to computers.

Scenarios are stories about possible futures, some positive and some negative. Status quo or business-as-usual scenarios are not useful since they rarely cause people to re-perceive their assumptions about the future. Most experts recommend three scenarios for an organization because they need to be part of the organizational culture and a filter for developing strategy, solving problems, and making decisions.

Scenarios offer an attractive alternative to the false precision promised by point-estimate forecasts. You can write a scenario rather than calculate it to four significant decimal places. Advocates believe that this softer, qualitative character of scenarios is more in keeping with the messy future encountered in real-world forecasting—especially long-term forecasting of radically new products and technologies, on which data are few and uncertainty is rife. . . . A key advantage of most scenario-writing procedures is the contrast created when users are presented with a discrete “set” of possible futures rather than that one future end-state that is most likely but still highly uncertain. (Schnaars & Pachalina, 2001, para. 1)

**CRITERIA FOR SCENARIOS**

Scenarios must be believable if they are to influence decisions and recognize possibilities. Schwartz (1991) says that an effective scenario asks people to suspend their disbelief in its stories long enough to appreciate their impact. You know that a scenario is effective when someone, pondering an issue that has been taboo or unthinkable before, says, “Yes, I can see how that might happen. And what I might do as a result.” (p. 39)
Believability also requires in a time horizon that allows scenarios them to be plausible. “The time horizon for scenarios must be short enough to create scenarios that are probable, but long enough for us to imagine that important changes with an impact on the future business can take place” (Lingren & Bandhold, 2003, p. 53). For example, the National Intelligence Council’s latest scenarios are for 2020; the World Economic Forum’s scenarios are for 2020; Royal Dutch/Shell’s scenarios are for 2025.

Scenarios must be compelling and vivid stories that allow the future to easily be seen in the listener’s minds’ eye. Each scenario must have enough detail about the steps that led up to the ending so that the listener can identify the trends that must be monitored in order to support a positive scenario or derail a negative one. The scenarios must be remembered when people are considering strategic decisions. One way to do this is to give memorable names to the scenarios so that the names bring the entire story to mind. Schwartz (1991) says that one should pay a great deal of attention to naming scenarios.

Names should succeed in telegraphing the scenario logics. If the names are vivid and memorable, the scenarios will have a much better chance of making their way into the decision-making and decision-implementing process across the company. Because the name evoked such a powerful and evocative concept, Shell’s “World of Internal Contradictions” (WIC) scenario survived for more than a decade as a useful tool even as the world changed. (p. 233)

Royal/Dutch Shell developed scenarios in 1992, 1995, and 1998 that “all featured a market-centric world (New Frontiers, People Power, and Just Do It!) as well as an alternative world giving more room to social and community aspirations” (Shell, 2005, p. 9). The 2001 Global Scenarios were named Business Class and Prism.

*Business Class* offered a vision of a connected freedom and greater economic integration. This was a world of efficiency, opportunities, and high rewards for those who could compete and innovate successfully. Established authorities would be continually challenged and the power of nation states greatly reduced. *Prism* highlighted the “connections that matter” and “multiple modernities” reflecting the influence of “heartlands” as opposed to “connected elites.” The power of cultural values and belonging was stressed. (p. 9)

In another example, in December 2004, the National Intelligence Council of the United States government released its 2020 project called *Mapping the Global Future*, which included four scenarios. *Davos World* focused on expansion and integration of the global economy driven by technology that did nothing to alleviate social equalities. *Pax Americana* focused on a lone superpower, the United States, in a world in which countries in Asia and Africa grew in economic and political power. *A New Caliphate* spoke to democratization in a world focused on religious and tribal identity. *Cycle of Fear* considered the rising power of developing countries in light of continued terrorism and conflict. Hammond (1998) uses more generic names: *Market World, Fortress World*, and *Transformed World*. Yet these can also call forth a story in which decisions can be made. Such names allow the scenarios to easily become part of the strategic thinking of an organization. A discussion of strategic decisions about outsourcing manufacturing to Country X could consider how Country X would fare in *Davos World, Fortress World*, or *Cycle of Fear.*

Each scenario must also be internally consistent, but different enough from the others to present an alternative path and an alternative future that is significant to the organization. Thus a goal or
project could receive a green light, even if it would not work in one of the scenarios. However, the strategy team would need to carefully monitor the forces and path identified in that one scenario to identify any increase in the probability of it becoming reality. This would allow enough time to modify the plan. Each scenario must have indicators and signposts to track the probability of each particular scenario becoming reality. Decisions can be made to support the direction if it is a positive scenario or to alter the direction if it is a negative scenario.

We call this ‘tracking’, as it is a matter of tracking changes in the environment that may have an impact on the focal question. Tracking is about finding trends, drivers and uncertainties that need to be considered in the work, since they influence the future of the ‘question.’ (Lingren & Bandhold, 2003, p. 56)

Much as indicators from weather satellites and radar are used to measure the increasing or decreasing probability of a tropical storm becoming a hurricane and make decisions about evacuations and emergency preparations, these indicators become the key focus of information that are important to the organization’s future.

For example, the government of a country in which Company A operates might have a history of taking over private enterprises. Even if the current government supported outside investment, the company would pay particular attention to the negative scenario that described the changes that would lead to a change in government and a takeover. If signs that support for the current government was waning or criticism of foreign companies was strengthening, Company A might begin to restrict its investments. Instead of building a new factory, it might contract with a local factory. It might decrease the number of workers and managers from its own country and increase the number of local people in those positions.

**THE INFORMATION**

Scenarios are based on information generated from an analysis of the effects of specific forces on an organizational system, in order to paint a picture of the future of that system. For organizations operating in a global environment, the first level of information is global. Shell’s *Global Scenarios to 2025: The Future Business Environment: Trends, Trade-offs and Choices* (2005) are far reaching and can be used by other organizations as the basis for writing their own scenarios. The three scenarios are named “Low Trust Globalization: a legalistic, ‘prove it to me’ world,” “Open Doors: a pragmatic ‘know me’ world,” and “Flags: a dogmatic, ‘follow me’ world” (Shell International Limited, 2005, p. 12). They focus on “the three forces of market incentives, communities, and coercion or regulation by the state” (Shell International Limited, 2005, p. 11) by looking at trade-offs rather than utopias.

The three forces drive towards different objectives: efficiency, social cohesion and justice, and security. While all societies often aspire to all three objectives, the forces display elements of mutual exclusiveness—one cannot be at the same time freer, more conformant to one’s group or faith, and more coerced. (Shell International Limited, 2005, p. 11)

These scenarios drew from research previously reported in *Global Trends 2010* released in 1997, and *Global Trends 2015* released in 2000. All three are testaments to the fact that scenarios cannot predict the future, but because they are based on research, they can tell leaders what to watch for on the horizon.
Low Trust Globalization: Carrots and Sticks is based on Efficiency and Security. The state is responsible for providing security to its citizens and promulgates rules and regulations. Competition is regulated across country borders, and barriers to entry are high. The absence of market solutions to the crisis of security and trust, rapid regulatory change, overlapping jurisdictions and conflicting laws lead to intrusive checks and controls, encouraging short-term portfolio optimization and vertical integration. Institutional discontinuities limit cross-border economic integration. Complying with fast-evolving rules and managing complex risks are key challenges. (Shell International Limited, 2005, p. 13)

Open Doors: Incentives and Bridges is based on Efficiency, Social Cohesion and Justice. Good governance provides security for a civil society that values accountability for private and public sectors. Global business thrives in an era heightened globalization and cohesive societies. This world has “Built-in” security and compliance certification, mutual recognition, independent media, voluntary best-practice codes, and close links between investors and civil society encourage cross-border integration and virtual value chains. Networking skills and superior reputation management are essential. (Shell, 2005, p. 13)

Flags: Nations & Causes is based on Social Cohesion, Justice and Security. In it, national security and sovereignty rule, as people wall themselves off from other cultures and countries. Zero-sum games, dogmatic approaches, regulatory fragmentation, and national preferences, conflicts over values and religion give insiders an advantage and put a brake on globalisation. Gated communities, patronage, and national standards exacerbate fragmentation, and call for careful country-risk management. (Shell, 2005, p. 13)

RESEARCH FOR SCENARIOS

Whether one uses global scenarios from Hammond (1998), Shell International Limited (2005), the World Economic Forum (2009), the National Intelligence Council (200) or others, a company must still analyze the key forces to determine how they will affect the future of the company. The forces usually researched are environment, economy, government, population, infrastructure, resources, culture, society, and technology. An analysis of environmental might identify water and timber as natural resources required by the company; the company might also need to monitor global and local regulations about the pollutants that the company’s processes emit. In terms of economic trends, whether a company’s products or services are need to have or nice to have is important, especially if future growth will be in emerging or developing countries. Government stability and its legal structure and attitude toward business are important issues to consider in scenarios that involve expansion into other countries. Population is important not only for purposes of analyzing markets but also for analyzing workforces and tax structures that provide government with money to support an aging population or provide universal health care. Infrastructure requirements for transportation to move product or to move people to places that provide a product or service means that availability and price of fuel and electricity must be tracked. Technology is required by most companies today; a stable infrastructure of technology is essential, but a company may also need access to emerging technology or be near sources of research and development in technology. Other companies may need infrastructure like banks for loans, or educational institutions for training future employees. If a company is expanding where
there is a strong tribal structure or strong religious taboos on certain products, an increase in tribal conflict or a merging of religion and government raises red flags.

DEVELOPMENT OF SCENARIOS

Scenarios are developed backwards. With knowledge of the current environment and the organization’s business, goals, and future plans, one starts with a year in the future and describes what the organization and its system are like in a future year. Then one maps how one would get from the present to that future, answering the question “How did we get here.” In this respect developing scenarios is like the drama that Schwartz (1999) describes. One accepts the end as reality and does not consider that this or that could not happen. The analysis of the forces shows that it could. The scenario describes how. Working backward from the future of the scenario to the present creates a narrative that allows us to see possible consequences.

SCENARIOS FOR ON-THE-GO SPORTSWEAR

On-the-Go Sportswear is a clothing company that focuses on apparel for the weekend athlete and sports spectator. Its clothing line focuses on runners, golfers, and those who play team sports. The clothing is made from cotton and synthetic fabrics, some of which have wicking properties to pull moisture away from the skin. It is a private company that distributes clothing to specialty sports apparel stores as well as big box stores like Sears and Target. It has been in business since 1980, and has never had a year without meeting its revenue targets. By considering the possible global trends discussed by the World Economic Forum and by Shell International Limited, On-the-Go Sportswear can develop scenarios that will identify what indicators it should be tracking to make strategic decisions.

Scenario 1

It is 2025, and On-the-Go Sportswear is still struggling to recover fully from the global economic downturn that began with the U.S. housing meltdown in 2007. It has decreased the stores to which it distributes so that it can insure that these stores are financially solvent and can market and sell its clothing and pay the invoices. It still manufactures its clothing line in Asia, but it now has limited its contracts to a handful of factories who have solid contracts with suppliers of materials needed to produce the clothing that On-the-Go Sportswear knows will produce quality product. It’s a far cry from where it hoped to be by now, but it has avoided bankruptcy.

Back in 2008, the U.S. government injected money into the U.S. financial systems to avoid an economic meltdown, but the global effects continued to spread as banks in other countries dealt with decreasing assets and increasing bad debt. Although a depression never materialized in any country, the United States did endure years of recession where jobs were scarce and people had less and less money to spend on new clothes and attendance at sports events. Unfortunately, during the same years, China, the source of cheap labor and materials, was battling citizen outrage about lack of regulation about problems ranging from buildings that collapsed in earthquakes to tainted milk. The resulting regulations on safety and work hours implemented in 2009 and 2010 saw many manufacturers move to other Asian countries like Vietnam and
Cambodia as the price of the regulation increased the price of their products, which the recovering developed countries could not afford. On-the-Go Sportswear’s main contractors moved to Laos and were able to find local suppliers for the components needed, from buttons to laces. The price was higher, but not significantly. Because On-the-Go Sportswear was aimed at reasonably priced but sturdy products, it was able to continue its sales even though revenues were low until 2012. Unfortunately, the influx of Chinese manufacturers to the other Asian counties created a backlash as local workers felt they were being treated poorly, especially when compared to their counterparts in China. The Laotian government had not been stable for years and its answer to the unrest was to implement its own regulations and impose a tax on foreign manufacturers. In 2014, On-the-Go Sportswear was forced to find new manufacturers in Vietnam, but there were problems with quality, and consumers, who were just beginning to enjoy a growing economy, complained. Clothing was returned for missing fasteners or seams that unraveled, and market share was lost. In 2021, On-the-Go Sportswear returned to China to find manufacturers, and, although the price of the finished goods was higher, the quality was good. The company began marketing to customers who wanted to dress like amateur athletes even if they did not participate in sports, and the niche was still growing in 2025. The higher prices have been accepted by the market and On-the-Go Sportswear appears to be turning the corner to sound profitability again.

Scenario 2

It is 2025, and On-the-Go Sportswear is seeing light at the end of the tunnel. Its manufacturing facilities in Mexico are finally able produce the quantity of goods at the level of quality required. Drugs are still a problem in northern Mexico and shipments are frequently stolen in a no man’s land that the Mexican government cannot police; the U.S. government would like to police it lest the cartels move into the United States, but it does not have the excess military forces for such a venture, so it maintains the border fences as best it can. The company’s manufacturers are in western Mexico, which has seen its economy develop as manufacturers have moved away from the Mexico/U.S. border and the drug cartels. In order to avoid the border, ships are being used to transport goods, but that means long waits at ports. Since the ships still use fuel, the increasing price of oil adds cost to the price of gods. Luckily, the recession forced the United States to support innovation in alternative energy; this reduced the global demand for oil, and has kept the price stable. Additionally, once the effects of the Wall Street meltdown were gone in 2012, the economy in the United States began improving, money was available for loans, and Americans went back to work. By 2012, the costs incurred by Chinese manufacturers from the government product safety regulations as a result of dangerous products like tainted milk had driven up manufacturing costs. Costs of transportation increased as demand for oil continue to rise with the populations of China and India becoming automobile drivers. An increasingly narrow profit margin finally forced On-the-Go Sportswear to transfer production to Mexico in 2013. Many companies were moving from Asia, and Mexico’s factories could not meet the demand. The inability to find a quality manufacturer almost drove On-the-Go Sportswear bankrupt. In 2014, it built its own factory in Mexico, but had difficulty finding sources for the components for its clothing. It had to transport some items from China until it finally found sources in
Guatemala. Shipping was also a problem because there was not a reliable shipping firm; orders were late or they were the wrong items and the manufacturer and the shipper blamed each other. The other problem was transportation from Mexico to the United States stores. In 2016 Americans who lived near the interstates were successful in forcing Congress to rescind the NAFTA agreement allowing trucks from Mexico to use U.S. highways. Each year the number of fatal crashes on U.S. interstates traced to Mexican trucks had been increasing. The media discovered that the trucks involved in the crashes did not meet standards and were never inspected at the border. With additional trucks on the road, there were more Mexican drivers who did not understand signage, and this was also causing accidents. The new rule required all goods to be transferred from Mexican to American trucks at the border. This increased cost and time to market.

The increase in demand for factory workers was good for Mexico, but it was difficult to keep good workers when they were offered better pay by a competitor. On-the-Go Sportswear decided in 2020 to take a partner who was a citizen of Mexico. This helped stabilize the employee churn. On-the-Go Sportswear also turned to a business degree program at a nearby university to find local managers who wished to stay in the area. It still buys many of its fasteners, buttons, and zippers from suppliers in Guatemala, although shipping costs have increased the price of the products.

As 2025 closes, stability has helped the company increase its productivity, which has given it the resources to expand and add new equipment. Demand for the products in the United States is picking up, and On-the-Go Sportswear is hopeful that it will continue to thrive.

SCENARIO 3

It is 2025, and On-the-Go Sportswear is a robust and healthy company with revenues it did not dream of even ten years ago. There was a concern in 2010 that it would have to leave China and find another source for its manufactured goods. In 2009, the good feelings from a successful summer Olympics had given rise to dissatisfaction with the Chinese government. The Chinese people demanded an explanation for why the new buildings, including schools, that were the harbinger of prosperity, had been so poorly made that they collapsed in the earthquake of 2008. They were also angry about tainted milk that sickened their children. The government responded with new regulations on product safety, worker safety, and security. Many Chinese manufacturers moved to other Asian countries in 2008 and 2009 to escape the costs of bringing factories into compliance and paying their workers more. Luckily the manufacturers with whom On-the-Go Sportswear had contracts decided to stay because they saw a future supplying a Chinese population that had more and more discretionary money. They convinced their suppliers to stay too. When the global economy collapsed in 2009, these companies were able to survive since so many competitors had moved. Although the export market had decreased significantly, they began to sell to their own people. They could then still supply On-the-Go Sportswear with what it required for its United States market. With increasing manufacturing costs and increasing transportation costs, the years were lean for the On-the-Go Sportswear. The economic meltdown of 2008 had left the United States in a recession so the American consumers were not buying much or going to many sports events. The company decreased production and focused its distribution to the stores in areas where there was an affluent population. A protectionist “Buy American” strategy almost forced On-the-Go Sportswear into bankruptcy.
Without a manufacturing base for its clothing or suppliers, prices were high for clothing manufacturers, and those companies with economies of scale could tie up what manufacturers there were.

By 2014, the economy in China was booming again. The country’s focus on solar energy had decreased its demand for oil and coal, and China was building its own electric cars. Industry had grown and China’s government supported a strong research and development initiatives. An increasing percentage of the Chinese population had discretionary spending. The successful Olympic medal count in 2008 and again in 2010 spurred an interest in sports in the general population.

On-the-Go Sportswear bought part ownership in the factories it was buying from, and, with a Chinese partner, began selling clothing to China. It hired Chinese designers to design a line of clothing specifically for Chinese customers, and the company took off. It built two more factories in 2018 and 2020. Although it is still an American company and still sells to U.S. stores, the bulk of its profits come from its adopted home.

By tracking the regulations China is initiating in 2008, the global economic trends, the political changes in countries of interest, and the growing consumer populations in developing countries, On-the-Go Sportswear can make decisions that will help it weather economic storms and be proactive as opportunities present themselves.

CONCLUSION

Scenarios are stories that describe the possible futures in which one must compete. They help the decision makers consider today’s decisions in the light of what may happen in the future. They help decision makers consider the possible unintended consequences of their decisions as well as the intended consequences. Scenarios help decision makers to answer the “What if?” question. They provide indicators that tell decision makers what information and data to track. They identify the signposts to look for that will indicate whether the probability is increasing or decreasing that a particular scenario will become reality. Scenarios provide a tool that helps decision makers successfully confront the global business environment of the 21st century.
REFERENCES


A VISION FOR THE FUTURE: BRIDGING THE ACADEMIA-PRACTITIONER DIVIDE

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ABSTRACT

In this essay, we argue that practitioners have consistently been critics of business schools; and historically, business schools have responded to their denunciation. However, more recently, business schools have avoided unconditional surrender and have focused on relative media rankings and rigorous scientific research. In response, the major goal of this essay is to review the historical evolution of the American business school and to highlight the changing nature of the academia-practitioner relationship. The secondary goal is to provide tangible solutions based on empirical and practitioner literature for overcoming the great divide between academia and practitioners.

INTRODUCTION

Talking with our former colleagues from several Fortune 500 companies consistently reveals knowledge as to the capacious disconnect among business curriculum, business faculty, and real world business problems. While academics spend countless hours creating abstruse models that supposedly explain organizational happenings in the real world, our corporate colleagues very rarely come into contact with these models, most likely out of rational choice, and most would argue that academia has little understanding of how the real business world operates. In the same light and on the topic of management research, Richard West, dean of the business school at NYU, has been quoted as saying, “It’s often crap. They say nothing in these articles, and they say it in a pretentious way” (Byrne, 1990, p. 62, quoted in Walsh, Tushman, Kimberly, Starbuck, & Ashford, 2007, p. 145). To compound these problems is the reality that most business schools reward their faculty for scientifically rigorous publications in specialized academic journals with greater financial incentives linked to article placement in A-list journals (Bennis & O’Toole, 2005). Further, business faculty are not significantly compensated or fairly rewarded for efforts directed at working with the business community or even with students. In fact, very few faculty would be denied tenure for negative student evaluations or failing to develop relationships with the business community, but the supposed death of a faculty member would be the lack of publications in scientifically rigorous, discipline-based journals. Even more perplexing is the fact that once faculty obtain tenure very few extrinsic incentives exist for developing partnerships and collaborative arrangements with local businesses and industries and forging mentoring relationships with students. In an article written in Business Week about the failures of the Business School, Professor and Dean Emeritus Richard Schmalensee (2006, November 27) echoed similar sentiments about his school, Massachusetts Institute of Technology Sloan School of Management, and suggested that the current academic tenure and promotion system requires a dramatic evolution from one of rewarding based on rigorous scientific publications to one that
also recognizes practitioner-oriented faculty who understand dynamic managerial challenges in the twenty-first century and publish in practitioner publications. These aforementioned sentiments have also been explicated by some of the foremost management thinkers of our time (cf. Bennis & O’Toole, 2005; Pfeffer & Fong, 2002).

In recent years, the great disconnect between academia and practitioners in business schools, and ultimately the uncoupling of business faculty from corporate colleagues, has stimulated much debate by Academy of Management presidents (Hambrick, 1994; Huff, 2000; Mowday, 1997; Pearce, 2004) and organizational researchers (Bennis & O’Toole, 2005; Pfeffer & Fong, 2002, 2004). Some organizational researchers argue that the growing rift between academia and practitioners is directly attributable to the crisis in deprofessionalization and management education (Trank & Rynes, 2003). However, in congruence with Bennis and O’Toole, we hold the belief that the culture of business schools is mostly to blame. For example, in a concerted effort to gain mutual respect and legitimacy from their colleagues in the hard sciences, organizational researchers have attempted to construct a methodologically rigorous field of equations and models to explain minute business processes that usually mean nothing to their customers, the practitioners. In addition, when legitimate questions surface about how to respond to different effects and consequences of organizations that involve multiple stakeholders and a diverse compilation of organizational members, organizational researchers withdraw from investigating potential answers outside the realm of positivism and argue that no quantitative answer exists (cf. Bennis & O’Toole; Hinings & Greenwood, 2002). Even more perplexing is the fact the vast majority of faculty in business schools have very little to no work experience outside the walls of the university (AACSB, 1996; Porter & McKibbin, 1988). So, it becomes quite evident to practitioners and students that a professor who lacks relevant work experience has very little understanding of the major issues that face employees and managers in organizations. Coupling this virtual inexperience in the business world with the intricate components of the business school tenure system and an innate focus on the creation of a rigorous scientific discipline for purposes of university legitimacy, it becomes very clear as to why the span between business faculty and practitioners has become such a great divide.

In response to these dire weaknesses in our current academia-practitioner model, we argue for a return to relevance and rigor in the business school by emphasizing the importance of historical processes and how they contribute to integration of current and future changes in knowledge and practice. Further, we focus on explaining strategies to bridge the great divide by accentuating a clear vision for academia and practitioners. In particular, this vision will focus on 1) creating broad, multidisciplinary integrative curricula to prepare students for a complex, changing, and multidimensional business world and 2) emphasizing the importance of diverse approaches to business school research in order to reach both academia and practitioners. The structure of this essay is such that we intimately discuss the historical evolution of the business school with particular focus on historical processes that explain the current academia-practitioner divide. Then, we briefly introduce the reader to several strategies to help bridge this divide. Finally, we conclude the essay with parting thoughts and implore our readers to finally take action in order to build a theoretically rigorous and relevant business school for the twenty-first century.
THE HISTORICAL EVOLUTION OF THE AMERICAN BUSINESS SCHOOL

It is our intent to provide a brief, yet captivating, review on the evolution of the American business school from its early vocational days to the foundation of the distinguished business schools at the turn of the twentieth century. A more comprehensive history of the evolution of the American business school can be found elsewhere (cf. Benson, 2004; Bossard & Dewhurst, 1931; Haynes & Jackson, 1935; Knepper, 1941; Lee, 1957; Lyon, 1931; Marshall, 1928; Ruml, 1928). The main purpose of this historical synopsis is to present astute readers with veridical knowledge on the source of current day problems in business schools. In particular, it is our thesis that the academia-practitioner divide originated not in recent years, as some business scholars have suggested, but more likely was the result of formative historical processes in American business schools. This section of the paper will trace the historical path of the American business school from early apprenticeship training to vocational days, to the establishment of business schools in universities and colleges, through the tremendous growth during the World Wars, and until the year of 1988 when Porter and McKibbin reanalyzed the current state of business schools. A discerning reader will understand the importance of this year, as it marks the beginning of a series of staunch academic debates in regards to the current academia-practitioner divide. This section then concludes with a brief epilogue and recapitulation of the major points in the evolutionary process of the American business school.

FROM APPRENTICESHIPS TO DISTRINGUISHED SCHOOLS OF BUSINESS: THE YEARS OF 1700 TO 1915

The early history of American business schools weaves an interesting tale that includes repudiation of Mercantilism and acceptance of Cameralism. American business schools evolved from eighteenth century German Cameralist schools at the University of Halle and the University of Frankfurt-am-Oder (cf. Dorwart, 1971; Forrester, 1990; Jarausch, 1982; Spender 2005), and an excellent review of Cameralist methods and schools can be found elsewhere (cf. Herbst, 1965; Redlich, 1957). The former emphasizes advanced training of young merchants in medieval requirements of arithmetic, language, and writing skills and mercantilist emphasis on bookkeeping, commerce, geography, and law; while the latter also promotes mercantilism yet adds administration, economic history, and finance (Forrester, 1990; Redlich, 1957; Richardson, 1941). From the seventeenth to middle part of the eighteenth century, mercantilism dominated practical business education. Practical business education has also been referred to as commercial education (cf. Bossard & Dewhurst, 1931). Commercial education can be defined as “…education and training which prepares specifically for an understanding of the relationship and the performance of activities in business” (Malott, 1928: p. 251 in Bossard & Dewhurst, 1931: p. 249). Thus, business training in the eighteenth century relied upon apprenticeships that accentuated knowledge of domestic and foreign trade and skills in bookkeeping, handwriting, and simple arithmetic (Wanous, 1969). Eventually, apprenticeships began to wane in effectiveness and were gradually replaced with private business schools in the 1820s (Knepper, 1941; Lee, 1957). It is important to note that some businessmen did not readily accept the validity of more formal education in private business schools. In essence, these businessmen had received their training through apprenticeships and practical experiences, so they were heavy
backers of great criticism towards private business schools (Haynes & Jackson, 1935). However, the rise of the American Industrial Revolution created savvy entrepreneurs who capitalized on the value of new technologies yet desperately needed advanced business training (Cochran, 1974). In response to unprecedented demand from entrepreneurs and rapid changes in industrial technologies, private business schools grew from one school in 1834 to more than 70 by 1863 (Wanous, 1969). The primary purpose of these private business schools was to prepare men and women for future jobs as bookkeepers or clerks, and curriculum typically focused on arithmetic, bookkeeping, and penmanship (Knepper, 1941).

Hereafter, the nation’s collegiate system slowly responded to unprecedented demand for business training due to the continued growth of the industrial organization (Ruml, 1928). At the federal level, the Morrill Land-Grant College Act of 1862 allocated 30,000 acres of land for each representative in Congress with the aim of creating educational institutions for agriculture and mechanical arts. In essence, the goal of land-grant universities was to provide access to higher education for all individuals and in turn focus on the architecture of connecting research, teaching, and practical applications. As a direct result of the new land-grant universities, nearly two dozen colleges offered business courses by 1871 (Benson, 2004). Businessmen also contributed to the pronounced growth in business education by providing generous endowments to universities and colleges “…to prepare people for a nation of expanding commerce and technology” (Wren, 1983, p. 342-343). Collegiate schools of business were distinctly different from their early private school predecessors, as the main purpose was to emphasize principles of commerce and economy in addition to practical training (Ruml, 1928). Eventually, these efforts helped to construct the foundation for the first successful business school in America, the University of Pennsylvania’s Wharton School of Finance and Economy, which was established in 1881. The Wharton School of Finance and Commerce was America’s first successful business school, but it was not America’s first. James Dunwoody Brownson De Bow organized a school of commerce at the University of Louisiana in 1851 that provided instruction in political economics and commercial education (Haynes & Jackson, 1935). In addition, several ill-fated attempts were made at establishing schools at the University of Wisconsin in 1866 and Washington and Lee University in 1869 (Ruml, 1923; Wanous, 1969). The founding of the first successful American business school was not without great controversy, as most liberal arts faculty feared this school would create irreparable damages to their credibility (Ruml, 1928; Wren, 1983). Traditionally, liberal arts faculty focused on the attainment of theoretical knowledge whereas business faculty emphasized both theory and the application of knowledge. In response, Joseph Wharton hired Edmund Janes James, who held a doctorate of political economics from the University of Halle and greatly admired German education, as a professor in the Wharton school (Sass, 1982; Solberg, 2004). Edmund James’ major goal was to develop a business school that emphasized a moral, scholarly approach to business education (Johnson, 1931; Redlich, 1957). The Wharton school initially offered courses in liberal education supplemented with electives in economics, finance, and law (Knepper, 1941; Lee, 1957; Lyon, 1931). However, in response to demands from industry, the school began to offer courses around occupational titles such as accounting, banking and real estate, finance, insurance, and production (Johnson, 1931; Lyon, 1931). Hereafter, a lengthy seventeen years passed until the next schools of business were established at the University of California-Berkeley and the University of Chicago. The College of Commerce at the University of
California-Berkeley was established in January 1898 through a land donation by the regents of the University of California and included an eclectic mixture of general education courses and courses in the fields of economics, geography, law, mathematics, philosophy, politics, and technology (Lyon, 1931). Meanwhile, the College of Commerce and Politics at the University of Chicago emerged from an established program in political economics and eventually offered programs in banking, transportation, trade and industry, and journalism (Pierson, 1959). Finally, in 1908, Harvard’s business school was initiated into the College of Arts and Sciences yet maintained a close relationship with the Graduate School of Applied Sciences. Shortly thereafter, the school’s first dean, Edwin Gray, introduced the case method and developed instruction in a variety of courses including accounting, insurance, lumbering, printing and publishing, and transportation (Pierson, 1959). Each of these aforementioned approaches to business education were inevitably rooted in German Cameralist traditions which included promotion of self-contained business institutions, expansion of existing educational institutions to include business programs, and implementation of better general education and training to overcome the weaknesses of the apprenticeship system (Redlich, 1957). However, these approaches to business education remained at odds with the American system of higher education in that the emphasis was placed on vocational and professional education rather than developing knowledge within the individual (Pierson, 1959).

THE FORMATIVE YEARS OF THE AMERICAN BUSINESS SCHOOL: 1916 TO 1958

Given the vast array of courses and programs in early American business schools, it became apparent that there was a lack of consensus in business curricula and many schools developed programs catered to particular industries and courses based on specific business problems (Lyon, 1931). This approach resulted in dramatic growth for vocational and collegiate business schools to include over 200,000 students, 192,388 in vocational schools and 11,653 in collegiate business schools, by 1916 (Bossard & Dewhurst, 1931). Despite this steady growth, collegiate business schools also had difficulty in gaining legitimacy from their liberal arts colleagues. Specifically, the liberal arts faculty believed that the introduction of new curriculum based on practical knowledge rather than theoretical knowledge was a potential detriment to their universities (Haynes & Jackson, 1935). To combat these difficulties, two important events occurred in the early history of business schools. First, bureaus of business research were established in many business schools. The purpose of these bureaus was to give a practical education to faculty and students, to provide studies that yield valuable information to businessmen, to yield valuable theoretical and practical information for instructional purposes, and to supply realistic data to enrich business theory (Lyon, 1931). Second, based on influences from Edmund James and in an attempt “…to bring Cameralist rigor and method to the study of business…”, the Association of Collegiate Schools of Business was formed in 1916 (Spender, 2005, p. 1286). The early goals of this organization were to develop standards and methods of evaluation for business education, to regulate the profession, and to protect the associated body of knowledge (Metcalf, 1927; Wanous, 1969). Eventually in 1919, the Association implemented guidelines that addressed issues dealing with admission standards, credit hours required for undergraduate education, faculty qualifications, and faculty teaching loads. Not surprisingly during this time period, the number of accredited universities grew from 20 in 1920 to 43 by 1930 (Lyon, 1931). Meanwhile, Lyon also found that undergraduate enrollment at accredited universities increased from 750
students in 1906 to 23,787 students in 1930. The phenomenal growth of business schools was far from being an educational fad, so the AACSB helped to implement standards of practice to assist in the administration of the business school. Hence, many accredited business schools began to see their role as disciples of curriculum and programs that prepared students for roles in executive positions and professional careers in accounting, finance, management, personnel, and sales (Ruml, 1928).

Curriculum and Faculty Problems Abound

Business schools undoubtedly faced a multitude of problems in the formative years. First, curriculum problems abounded as noted in earlier discussion on the diversity of total course offerings and programs in the majority of business schools. In particular, some courses reflected the influence of economics faculty while others mimicked the wishes of endowments and funding from businessmen (Lyon, 1931). In response, some business scholars suggested curriculum based on zones or functions and argued for the preparation of students based on the interdependency of these functions (Marshall, 1928). Second, even with the rapid growth of American business schools and the professional accreditation body, the qualifications of business faculty and adjunct businessmen were quite varied and definitely anemic. Most business faculty possessed “… scientific maturity that could be reasonably expected of holders of Master’s degrees in this country, and frequently their training was not much greater than that given by the better grade of undergraduate schools of business” (Marshall, 1928, p. 27). Thus, it is not surprising that most business schools supplemented their faculty with practitioners or businessmen for occasional lectures. In response, Marshall (1928) conjectured “…American business life had not ripened sufficiently and has not sufficiently developed professional ideals to enable it to produce large numbers of business men competent to serve as instructors in schools of business” (p. 28). So, business schools in the 1920s were composed of an eclectic mixture of both academia and practitioners who for the most part dispensed snake oil rather than theoretical knowledge. Third, to complicate the difficulties with curriculum and faculty, the actual course materials resembled Crackerjack box wisdom and was a collection of “diluted economics, gossip about business practices, pseudo-psychology, and solemn twaddle about management” (Marshall, 1928, p. 31). In particular, student enrollment had increased into perpetuity and curricula had expanded into a mosaic of different disciplines without grievous consideration for instructional materials. In sum, business schools had rapidly grown in response to demands from businesses and businessmen, yet numerous fundamental problems still plagued the schools.

Balancing Professional and Non-Professional Curriculum

As business schools and student enrollment began to rapidly expand at the turn of the twentieth century, many business scholars felt implored to argue for the legitimacy and importance of the business school in an effort to overcome the contrariness of the liberal arts and economics faculty (cf. Lyon, 1931; Marshall, 1928; Wanous, 1969). Specifically, liberal arts and economic faculties found great value in non-professional curriculum yet felt deep scorn towards professional curriculum. Based on these sentiments, it is our contention that early business scholars understood the potential repercussion of these tumultuous relationships and succinctly foreshadowed the impact of this relationship on the future academia-practitioner divide (cf.
Bossard & Dewhurst, 1931; Marshall, 1928; Ruml, 1928). From the outset, business schools tried to balance professional (business) and non-professional (general education and liberal arts) courses (Glos, 1957). Specifically, the early AACSBS standards, as modified in May 1925, for undergraduate business degrees required at least 40 percent of the total hours for a bachelor’s degree to be taken in business with basic instruction in accounting, business law, economics, finance, management, marketing, and statistics; another 40 percent in subjects other than business; and the remaining 20 percent was dependent on the differences in curriculums across schools (Bossard & Dewhurst, 1931; Marshall, 1928). Although most business schools understood the importance of balance between professional and non-professional courses, the latter portion of these standards is what ultimately initiated the academia-practitioner divide. Specifically, tempestuous disagreements in regards to the amount of theoretical and applied training in undergraduate business education were a frequent mainstay amongst businessmen and between businessmen and business faculty (Glos, 1957). In response, business schools initially sided with those businessmen who felt training should be tipped in favor of more professional courses. So, by the late 1920s, business schools offered numerous courses and a vast array of business programs that were taught by practitioners who had significant experience in the specialized area yet had few educational credentials beyond that of an undergraduate degree (Bossard & Dewhurst, 1931; Marshall, 1928). At the same time, administrators of business schools developed divisive educational objectives that further isolated them from the academic community and frequently emphasized the importance of preparing students for careers in business through professional courses and specialization.


The Carnegie Council and Ford Foundation Reports

By the late 1950s, most business schools resembled vocational schools and offered a great proliferation of courses that ranged from baking science to cotton marketing (Gordon & Howell, 1959; Pierson, 1959). Even though the specialized approach to business education was congruent with business practices in the early part of the twentieth century, these practices quickly became outdated due to: 1) changes in leadership and operational complexities as firms moved from entrepreneurial businesses to large firms, 2) rapid rates of scientific and technological discoveries that resulted in automation and increased flexibility, 3) distribution of economic and government powers and the resulting influence on public opinion, and 4) the development of advanced analytical tools as a basis of management decision-making (Gordon & Howell, 1959). Furthermore, the majority of practitioners were not completely satisfied with the products of the business school and harked on the value of broadly educated specialists, but they still continued to recruit and select students of business education (Gordon & Howell, 1959; Pierson, 1959). In response to these dire weaknesses in the business school, the Ford Foundation study of Gordon and Howell (1959) and the Carnegie Council study of Pierson (1959) helped to dramatically migrate business school curriculum from that of antiquated and discommodated curriculum to one of congruency through standards and emphasis on transferring theoretical business
knowledge to practical application. As a result, undergraduate curriculum changed to include more general education and broad-based business courses and less focus on specialization while graduate curriculum was modified to encompass specialization.

The AACSB Project: Porter and McKibbin

By the late 1980s, the Carnegie Council and Ford Foundation reports, in combination with increased Ford Foundation funding for curriculum changes and revised AACSB curriculum standards, helped to elevate business school curriculum to a new level that contained general and common body of knowledge standards (Porter & McKibbin, 1988). Even with these sweeping changes in business school curricula, Porter and McKibbin found that practitioners leveled heavy criticism against all elements of the business school including curricula, faculty, research, and students. Specifically, practitioners admonished business school curricula by forming general complaints about the lack of vision and insufficient emphasis on integrated curriculum and specific complaints such as the lack of attention to communication skills, entrepreneurship, ethics, the external environment, the international dimensions of business, and managing people. Meanwhile, they also chastised faculty for their narrow emphasis in highly specific functional areas and insisted that many faculty had little real world experience. Further, they insisted that most faculty cared very little about teaching and attributed this phenomenon to the tenure and promotion system. Next, the complaints continued to amass by a scathing review that outlined the supposed trivial and irrelevant nature of faculty research. Finally, the criticisms concluded with critiques of business students with respect to their lack of communication and leadership skills, poor organizational loyalty, and overly high expectations. In sum, the Foundation reports of 1959 brought about sagacious changes in the American business school. Bailey and Ford (1996, p. 8) contend that “…business schools enthusiastically seized on and applied a scientific paradigm that applies criteria of precision, control, and testable models”. However, some of these changes are what led to the intensification of the academia-practitioner divide and to the current state of affairs in the business school.

Recapitulation of the Historical Academia-Practitioner Divide

Throughout the historical evolution of the business school, the academia-practitioner divide has existed since nascency in various forms ranging from slight murmurs to vociferous uprisings. The murmurs were only heard when the curriculum reflected the relevant preferences of practitioners, but the uprisings materialized when the business school leaned towards rigor and borrowed ideas from their liberal arts colleagues. We recall the faint cries of businessmen who fondly missed the apprenticeship system, yet these same businessmen were quick to establish endowments and foundations to support business schools into perpetuity. Some years passed, and as business schools grew in popularity, the curriculum became slightly structured to reflect the desires of the AACSB and to enhance the legitimacy of the business school. It was at this point in 1925 that businessmen became veraciously inflamed about the balance of curriculum in favor of the liberal arts. Thus, business schools appeased these disgruntled practitioners and began to offer the proliferation of courses that led to the Carnegie Council and Ford Foundation reports. However, these changes and focus on specialization led to great abomination from top executives in large firms in 1959, as undergraduates were being trained as specialists for industries rather
than knowledge workers with broad-based competencies. Once again, the tide rolled and business schools changed their curriculum structure to reflect recommendations from the Foundation reports. By 1988, the business school was again the target of great criticism from practitioners.

The Enlightenment: 1989-Present

During the 20 years since the Porter and McKibbin study, business schools have slowly responded to the wealth of practitioners’ criticisms. A large number of business schools appear to be more preoccupied with enhancing business school rankings and image management rather than continuously improving business curricula, educating students, developing relationships with the business community, and focusing on research (cf. Gioia & Corley, 2002; Morgeson & Nahrgang. 2008). Many schools still continue to offer highly specialized courses of study that most recently included over 1,700 different undergraduate programs and 740 specialized master’s programs (Romero, 2008). Further, some business scholars insist on the elevation of rigor over relevance in scholarly publications (McKelvey, 2006; Vermeulen, 2005) while others understand the importance of balancing both rigor and relevance (Bartunek, 2007; Rynes, Bartunek, & Daft, 2001; Van de Ven & Johnson, 2006). To this end, the AACSB (2007) implemented revised standards for accreditation that emphasized strategic management, participants, and assurance of learning standards. In sum, these standards help to address practitioners’ criticisms leveled at curricula, faculty, research, and students by underscoring innovation and continuous improvement and enabling flexibility and creativity. To address these weaknesses, we implore our readers to understand that business schools are unduly influenced by their internal and external constituencies, including accrediting organizations, administrators, faculty, media, practitioners, and students. Further, we agree with Trank and Rynes (2003) that business schools must move towards recommitment to professionalization by embracing academic knowledge that informs practical education and understanding the historical importance of practitioner values as they transcend business education. In using the professional model, faculty in business schools would focus their research on “phenomena and problems of enduring importance,” and business schools would have curricula that prepare students to be effective in “practicing the profession” (Pfeffer & Fong, p. 93). The outcomes of this supposition will in turn lead to a more relevant and rigorous business discipline that is committed to the good of all constituencies. In response, we provide a clear vision for the future that includes two broad courses of action to bridge the academia-practitioner divide.

RECOMMENDATIONS FOR THE FUTURE: BRIDGING THE ACADEMIA-PRACTITIONER DIVIDE

Creating Integrative Business Curriculum

Since the late 1950s, business researchers and practitioners have noted that business curriculum should be revised to reflect business problems and decision-making processes in the modern world (Gordon & Howell, 1959; Hamilton, McFarland, & Mirchandani, 2000; Pierson, 1959; Porter & McKibben, 1988). This view was also reinforced in a 2002 AACSB report entitled Management Education at Risk that suggested that boundary spanning activities should occur
across departments; and business curriculum should emphasize “…core management skills that span traditional functional areas of expertise and prepare managers for global adaptability” (p. 27). In response to these weaknesses in current approaches to business pedagogy, we implore business schools to move toward the development of integrative curriculum. This type of curriculum represents a unique pedagogy that emphasizes moving beyond compartmentalized, functional approaches to broad-based, multidisciplinary relationships that advance diverse perspectives across a wide range of organizational contexts (Athavale, Davis, & Myring, 2008). For all business schools, integrative curriculum is imperative given that most business decisions are made through cross-disciplinary approaches to problem solving, career paths are more likely to cross discipline boundaries, and integrative learning should improve student’s problem solving abilities (Alden, Laxton, Patzer, & Howard, 1991).

Inevitably, integrative business curriculum represents one vital step towards bridging the divide between business faculty and practitioners. In addition, business faculty must inevitably construct cross-disciplinary theories to respond to some of the most important business questions of our time, and the most intriguing research questions involve internal and external consequences with boundaries that span across functions in organizations and across organizations into systems (Hinings & Greenwood, 2002). Further, business faculty can focus on increasing the breadth of their teaching (Porter & McKibbin, 1988). This strategy could be accomplished by understanding what faculty in other business disciplines are teaching, explaining how course content fits into the entire body of business knowledge, and integrating examples and insights from other non-business disciplines (cf. Alden et al., 1991). From the practitioner’s perspective, many of the aforementioned pedagogical processes will inevitably involve strong, long-term commitments from both business and industry. However, the end result for business schools, business faculty, and practitioners is continuous improvement in the quality of business school graduates with an additional, viable emphasis on both academic rigor and relevance.

Emphasizing the Importance of Diverse Approaches to Research

Since the presentation of the Carnegie Council (Pierson, 1959) and Ford Foundation (Gordon & Howell, 1959) studies almost a half-century ago, the focus on research in business schools dramatically shifted from one centered on relevant practitioner issues to rigorous scientific research. However, this fundamental shift has alienated business faculty from the practitioners; and from the viewpoint of the practitioner, the majority of business research is deemed as either inconsequential or only decipherable to scholars (Pfeffer & Fong, 2002; Pfeffer & Fong, 2004; Porter & McKibbin, 1988). Typically, business scholars are awarded tenure based on the quality and quantity of publications in discipline-based journals while contributions to practitioner-based journals are snubbed for their prescriptive advice. Bennis and O’Toole (2005) attacked the inherent concentration on normal science (Kuhn, 1970) in the business school, as they argued that it was not “…grounded in actual business practices” (p. 98). In an effort to overcome these weaknesses, we argue that the business school provide more than lip-service to diverse approaches to research and recognize that business is a professional field much like law and medicine. As such, there is transcendent value in the full spectrum of academic contributions ranging from peer-reviewed theoretical and empirical based scholarship that adds incremental
knowledge (rigor) to applied prescriptive pontifications that provide immediate solutions to the business community (relevance). This reasoning falls in line with other business scholars who vehemently insist that the business school must not only focus on the accumulation of knowledge but also must apply this knowledge to real-world phenomenon with the major goal of informing practitioners and overcoming what Donald Hambrick (1994, p.13) calls “the incestuous closed loop” (cf. Bartunek, 2007; Tushman & O’Reilly, 2007).

**CONCLUSIONS**

Numerous business scholars believe that the American business school has done a poor job of preparing students and connecting scholarly research to practical applications (Bennis & O’Toole, 2005; Hambrick, 1994; Huff, 2000; Mowday, 1997; Pearce, 2004; Pfeffer & Fong, 2002, 2004). We argue that the historical record is ripe with explanations for the current state of affairs and provide detailed evidence on the origin of the academia-practitioner divide. From this historical analysis and based on empirical evidence, we provided two clear goals that span across curriculum, faculty, and students to bridge the academia-practitioner divide. We implore business schools to learn from their historical failures and successes discussed in this essay by recommitting to professionalization in order to overcome academia-practitioner divide. Finally, we would like to conclude this essay with a parting thought from Peter Drucker (2006) “A degenerative disease will not be cured by procrastination. It requires decisive action” (p. 147).

**REFERENCES**


Beyond the Charismatic Leader: Examples in the US Government

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ABSTRACT

In their paper “Beyond the Charismatic Leader: Leadership and Organizational Change”, Tushman and Nadler show that just being a charismatic leader is not enough for changing organizations – their influence may wear off. They state that instrumental leadership is needed to make lasting changes. This is important for all organizations where leaders change over time, but it especially important for the US government where top leaders usually change every four years even if the president is re-elected. This framework will be applied to the leaders at both the US State and Defense Departments during the George W. Bush administration to see how the Tushman and Nadler framework applies to lasting organization change in the US Government.

INTRODUCTION

The US has entered an era that requires transformational institutional and policy change to meet our greatest national security challenges, e.g., asymmetric threats to nation states, failed or failing states, and transnational natural resource, health and environmental problems. Tushman and Nadler (1990) proposed a holistic paradigm, “instrumental leadership,” that is useful in comparing different leadership styles. They observe that in a time of great change, charismatic leadership is a necessary, but not sufficient, component of leadership when effective institutional reorganization is required. Instead, instrumental leadership is required.

Instrumental leadership embodies the strengths of charismatic leadership (envisioning, energizing, and enabling), but overlays these assets with elements of behavior reinforcement through structuring, controlling, and rewarding to ensure support for the ultimate objectives of a reorganization as shown in Figure 1. Structuring refers to building teams with the required competence to act and do. Controlling refers to creating systems and processes to measure and monitor. Rewarding includes both rewards and punishment. These three tasks are not as glamorous as those included in charismatic leadership, but they get down to the hard work required for lasting change.

These two types of leadership can be redrawn as the traditional 2X2 matrix used in many management studies as show in Figure 2. Charismatic leadership is needed to generate the initial energy and to create commitment. Instrumental leadership is needed to ensure that people continue to act in a manner consistent with these new goals. Leaders can be examined to see where they fit on this 2X2 matrix.

EXAMPLES IN THE US GOVERNMENT

This paper contrasts the leadership styles of the current and former Secretaries of State and
Secretaries of Defense based on several principal references. For Colin Powell, *The Leadership Secrets of Colin Powell* by Oren Harari is used. Harari states that his book is not a biography, but a book about leadership. For Condoleezza Rice, *Condoleezza Rice: An American Life* by Elisabeth Bumiller is used. Bumiller states that this is a book about power and how Rice’s mastery of it evolved. For Donald Rumsfeld, *The Rumsfeld Way* by Jeffery Krames is used. Krames examines Rumsfeld over a five-decade career to provide a portrait of a leader in a great variety of situations. For Robert Gates, his US government biography and recent press articles are used since so far there have been no Gates biographies written.

These references provide very readable and interesting accounts about very important leaders, but were partially written to praise their accomplishments. For this paper, their leadership experiences are discussed and then summarized and compared per the template suggested by Keirsey (1998). These experiences are drawn from the public careers of these four leaders as discussed in books and articles and are then used to compare and contrast the core traits of their leadership -- integrity, competence, courage, vision, and inspiration.

Anecdotes from these books and other sources provide additional insights about their leadership styles -- i.e., charismatic, transactional, or transformational -- and skills -- “hard” professional competencies versus “soft” interpersonal skills. From this information, a Meyers-Briggs classification is proposed for the four leaders. While the distribution of rules and principles is somewhat arbitrary and the assignment of Meyers-Briggs profiles subjective, the assessment in this paper can provide insights about these individuals and their leadership qualities -- including their weaknesses -- that are relevant to anyone who is interested in their professional development as future leaders.

**COLIN POWELL**

Powell’s traits derived from the Harari book are summarized in Table 1 and are distributed predominately under competence, courage, and inspiration traits and read like those of a charismatic, transitional leader committed to his organization and people. Powell espouses a few simple but clear precepts about integrity, but is not as long on vision traits, which is consistent with observers and pundits’ views (Powell, 1988; Kralev, 2004).

Not surprisingly, much of his experiences reflect a soldier’s vocabulary, e.g., “close with the enemy,” “promote a clash of ideas,” “vigilance in detail,” “trust those in the trenches,” and “perpetual optimism is a force multiplier.” His experiences promoted creative ideas, hard work, and a progressive, even, a “fun” organizational environment. They are the traits of a consensus-builder with humble roots who was raised as the son of Jamaican immigrants, a child of Harlem and the South Bronx with an undistinguished academic career at City College of New York. Most importantly, they are the core attributes developed during Powell’s military career, beginning from his first experience in his ROTC commission as a Pershing Rifle at NYCC, the “brotherhood” in which he thrived (Powell, 1995).

It is clear from his life experience that Powell has focused his entire career to become a leader, first and foremost, of people. He has always emphasized “people over plans,” viewing “people as partners,” and spending at least half of his time on people and hiring individuals “who are better than you...and can compensate for your weaknesses” (Harari, 2002).

These are the characteristics of the classic ENFP “Champion Idealist”. An ENFP individual, for “Extraverted Intuition with Feeling,” is enthusiastic, insightful, innovative, versatile, and tireless in pursuit of new possibilities (Hirsh, 1998). He/she is rare in any organization, and enjoys working on teams to bring about change related to making things better for people. An ENFP has a charismatic leadership style, is an energetic person who is “other centered,” can easily motivate
those around him, and is indispensable in building staff morale and recruiting talented personnel (Hirsh, 1998). Perhaps most salient, a key principle Powell advocates is to “become a servant leader,” and “work for your people” (Harari, 2002). Consistent with his pastime passion for repairing Volvos and classic cars, Powell has always gravitated toward problems that need to be fixed (Roth, 1993).

**CONDOLEEZZA RICE**

Rice’s traits derived from the Bumiller book are summarized in Table 2 and are distributed predominately under competence, courage, and inspiration traits and read like those of a charismatic, transitional leader committed to her organization and people.

Condoleezza Rice is one of most powerful and controversial women in the world. Until recently she remained a mystery behind an elegant, cool veneer. In this biography, *New York Times* reporter Elisabeth Bumiller presents a revealing portrait of the first black female secretary of state and covers Rice’s key influence in the administration’s decisions after September 11, 2001. The book also shows Rice’s voyage out of the segregated American South and on to become the Provost at Stanford University with stops in between as Russian expert for the first President Bush.

Examining the current administration, Bumiller explores Rice’s close relationship with George W. Bush, her battles with Vice President Dick Cheney, her disagreement with Bush on Hurricane Katrina, and her indirect but crucial role in the ousting of Defense Secretary Donald Rumsfeld. Bumiller discusses Rice waging war against Saddam Hussein, pushing for negotiations with North Korea, and pushing to isolate Iran. In addition, Rice’s recent attempts to salvage the ruins of the Iraq policy she helped create and to finally address the Palestine/Israel issues - all under the title of “Transformational Diplomacy” – are covered.

It is clear from her life experience that Rice has focused her entire career to become a more powerful and influential leader and to lead change. These are the characteristics of the classic INFP “Change Agent”. An INFP individual, for “Introverted Intuition with Feeling,” is thoughtful, insightful, innovative, versatile, and tireless in pursuit of new possibilities (Hirsh, 1998).

**DONALD RUMSFELD**

Rumsfeld is a product of Chicago, “a great, energetic, hard-driving, middle western American city,” and son of a real estate agent who settled in Winnetka, one of the most highly educated areas per capita in the country (Dector, 2003). Rumsfeld was an excellent student, an Eagle Scout and athlete, and won a scholarship to Princeton where he studied government and politics, won an Navy ROTC scholarship, and captained the wrestling team. His 50-year public and private career -- as a navy aviator, in Congress, the executive branch, and as COE of G. D. Searle & Co., and General Instrument Corporation -- is nothing short of brilliant (Krames, 2002).

Rumsfeld’s traits drawn from the Krames book and summarized in Table 3 predominantly map across integrity, competence, and vision traits. They reveal a leadership style that is much more self-reliant and calculating than that of Powell and Rice. “Straight talk,” “all the right moves - position yourself for success,” “making results count,” and “crafting coalitions - dealing with friends and foes” are examples. The underlying principles emphasize core values that can be shared, avoiding the appearance of impropriety, and embracing the difficult decisions. People management is addressed to some extent, but the dominant theme in Rumsfeld’s career is personal advancement, a formula to “manage your career like a chess game,” “execution and results that count,” and a leadership style to “get the troops to execute the mission,” and to “build alliances, but control the agenda” (Krames, 2002).

This could be the profile of an ESTJ “Supervisor Guardian”. An ESTJ individual, for
“Extraverted Thinker who Judges,” is logical, analytical, decisive, and tough-minded, and uses concrete facts in systematic ways (Hirsh, 1998). Consistent with Rumsfeld’s track record, the world of business is the natural habitat of ESTJ leaders. They insist that each member of their organization has a position in a chain of command and sticks to it (Keirsey, 1998). Krames (2002) characterizes Rumsfeld as a man with charisma, but also with a “take-no-prisoners” style of leadership.

At each point in his career, Rumsfeld seemed to have the next success formula in his head. In addition, his take-no-prisoners style of leadership, combined with his absolute control over staffing, meant that he didn’t put up with troublemakers. Throughout his assignment as chief of staff in the Ford White House, he demonstrated an impatience for people who did not subscribe to his view of the world. He took this attitude with him into the private sector, and this is one reason why he emerged as such a forceful and effective CEO a few years later. Rumsfeld himself has asserted that “the task overrides everything” (Krames, 2002).

ROBERT GATES

Gates’s traits are drawn from his government biography and other articles and are summarized in Table 4. They predominantly map across competence and vision traits. They reveal a leadership style that is much more self-reliant than that of Rumsfeld.

Gates received a PhD in Russian and Soviet history from Georgetown University in 1974. Gates served for 26 years in the Central Intelligence Agency and the National Security Council, and under the first President Bush as Director of Central Intelligence. Gates has been criticized for supposedly concocting evidence to show that the Soviet Union was stronger than it actually was, and for repeatedly skewing intelligence to promote his particular worldview. Gates is the author of the memoir, From the Shadows: The Ultimate Insiders Story of Five Presidents and How They Won the Cold War, published in 1996.

After leaving the CIA, Gates became president of Texas A&M University. Gates also served as a member of the Iraq Study Group that critiqued the conduct of the Iraqi War. He was President George W. Bush’s first choice to serve as head of the newly formed Department of Homeland Security, but declined the appointment to remain as President of Texas A&M University. However, Gates did accept the nomination as Secretary of Defense in November 2006, replacing Donald Rumsfeld. He was confirmed with bipartisan support. In 2007, Time Magazine named Gates one of the year’s most influential people.

It is clear from his life experience that Gates has focused his entire career to become a more educated and influential leader and to lead influential organizations. These are the characteristics of the classic INTP “Architect”. An INTP individual, for “Introverted Thinker with Feeling,” is thoughtful, insightful, innovative, versatile, and tireless in pursuit of new possibilities (Hirsh, 1998).

COMPARING LEADERSHIP SKILLS

These four leaders share strong core traits and leadership styles required to meet our great national security challenges, e.g., asymmetric threats to nation states, failed or failing states, and transnational natural resource, health and environmental problems. However, the four books and the comparison of rules and principles in this paper illustrate strongly differing leadership skills that underlie their core traits and styles. Therefore, they will appear in different quadrants of the 2X2 matrix of Figure 2. All four have been successful leaders, but have different talents with respect to permanent change.

Powell is well-equipped with solid IQ and technical “hard” skills, but his greatest asset is a large endowment of EQ interpersonal “soft” skills that he has used successfully to identify and empower people to follow his example, to excel, and to lead. In late 2003, more than 260 foreign service officers interviewed in Washington and at 30 embassies and consulates said morale was
higher in the State Department than it had been in nearly two decades because Powell was committed to managing and had built loyalty and trust with the employees. Then ambassador to NATO, Nick Burns, noted that “people see Powell a lot (because) he walks around the building and into offices.” Ambassador to Mexico Tony Garza added, “He is never more than an e-mail away. Mr. Powell turns his e-mail around very quickly. It’s amazing when it comes back seven minutes later” (Kralev, 2004: A-15).

These skills were learned and particularly well developed during his Army career when Powell was trained to emphasize unit cohesion on the battlefield and in the peacetime workplace. He also had to deal with transitional organizational change in the U.S. Army after Vietnam and in the pre- and post-Cold war periods. Through all his experiences, however, he retained a human touch with his colleagues and a personal private life (Powell, 1995).

Yet Powell could be seen to hold weaknesses mapped in the potential pitfalls of an ENFP profile, including too much idealism, overlooking relevant details and facts, overextension, and procrastination while searching for the best possible answer (Hirsh, 1998). His detractors implied as much when referring to the “Powell Doctrine,” his refusal to complete the 1991 Gulf War by not going to Baghdad to decapitate Saddam Hussein, and more recently, in his performance in supporting the Bush II foreign policy (Roth, 1993). Many add that Powell should have offered his resignation after making it clear on many occasions that he does not agree with certain policies (Kralev, 2004).

Rice’s IQ skills are her dominant asset and she has moved to even more influential positions based on her academic accomplishments. Her desire for knowledge made a lasting impression on her thesis advisor, Josef Korbel, the charismatic Czech intellectual who influenced her education in foreign policy (Bumiller, 2007). With a solid background on the Soviet Union gained from her tutelage from Korbel, Rice became a favorite advisor of the first President Bush which open the door to her later close association with George W. Bush.

Yet Rice could be seen to hold weaknesses mapped in the potential pitfalls of an INFP profile, including too much idealism, overlooking relevant details and facts, overextension, and procrastination while searching for the best possible answer (Bumiller, 2007). Her detractors implied as much when referring to her new “Transformational Diplomacy” policy at the State Department which has failed to gain the needed traction for a radical change in US policy (Rice, 2005).

Rumsfeld’s IQ and technical skills are his dominant assets, while his interpersonal skills to inspire and lead people have often been trumped by personal ambition, his impatience for results, and his tenacity to reach the bottom line. Indeed, George W. Bush had his doubts about the ambitious Rumsfeld, particularly from the knowledge his father had about his conduct during the Reagan Administration and, of course, by the fact that he supported Bob Dole during the 1988 primary campaign. In fact, Senator Dan Coats of Indiana was George W. Bush’s first choice as Secretary of Defense. However, Dick Cheney had built a strong relationship with Rumsfeld beginning in the Ford Administration and convinced the President-elect that his old friend was the man for the job (Krames, 2002).

This is the logical evolution for an over-achiever and self-reliant person (typical characteristics of a wrestler) who has thrived in public and private life with his raw intelligence, personal ambition, courage to battle with his rivals and detractors, and tenacity to achieve results no matter what the cost (Scarborough, 2004).

As with ESTJ guardians, Rumsfeld has the potential pitfalls of being too bureaucratic, too quick to make decisions and pressure others to do the same, blind to the need for change when the
organizational status quo is not satisfactory, and overlooking interpersonal needs in seeking the best solution (Hirsh, 1998). His confrontational approach concerning force transformation with the Pentagon brass in the early months of the administration demonstrated his impatience for change. His attempts at “hostile takeover” and a “silent purge” won him nothing but enemies (Scarborough, 2004).

Kaiser (2004) contends that while he laid our many pragmatic rules and guidelines, Rumsfeld chose to ignore them in Iraq. Kaiser (2004: B-4) quotes retired Marine General Anthony Zinni saying that the invasion strategy was flawed, a false rationale was created to intervene -- “the books were cooked...,” “the intelligence was not there,” and “the rationale that we faced an imminent threat, a serious threat, was ridiculous.”

Moreover, in the Abu Gharid prison scandal, Rumsfeld also ignored his own core principles, e.g., “get bad news quickly” and “know when to cut your losses”. Will (2004) states that Rumsfeld was clearly shattered by the corruption he tardily comprehended -- Rumsfeld knows that he failed the president.

Gates’s IQ and planning skills are his dominant asset and he has moved to even more influential positions in more influential organizations based on his successes at each step of his career. He has been successful in positions in government, academia, and industry by using a thoughtful approach to each job and giving credit to key supporters. However, as with INTP architects, Gates has the potential pitfalls of being too bureaucratic and of overlooking interpersonal needs in seeking the best solution (Hirsh, 1998). He is the most recently appointed of these four leaders, so much of his leadership contributions are yet to be determined.

Based on the comparison of their core traits and leadership styles, these four leaders have been placed in the instrumental leadership 2X2 matrix as shown in Figure 3. Both Collin Powell and Condoleezza Rice have been placed in the quadrant with both high charismatic but low instrumental leadership, whereas Donald Rumsfeld and Robert Gates were placed in the quadrant with high instrumental leadership but low charismatic leadership.

Collin Powell and Condoleezza Rice have been able to motivate their colleagues at the State Department but did not fully establish processes to ensure these changes remain over time. Therefore, Powell’s previous desire for permanent organization change at the State Department was not realized and Rice’s current desire for permanent organization change may not be realized.

Donald Rumsfeld and Robert Gates set up the required systems in the Defense Department but failed to completely motivate all the necessary people to follow these changes. Therefore, Rumsfeld’s desire for permanent organization change at the Defense Department was not realized and Gates’s current desire for permanent organization change may not be realized.

CONCLUSION

All four people are gifted leaders with records of accomplishments that speak for themselves. The nation was fortunate to have had them appointed as cabinet secretaries in the administration at a time when the global security environment was changing so significantly and transformation of our national security organizations -- State, Defense, and the intelligence community -- was clearly required to meet new and emerging threats of the 21st century. Their biographies and the broader assessment in this paper help to illustrate the leadership traits, styles, and skills that these leaders brought to their assignments to begin this transformation process.

On the other hand, the weaknesses suggested in their leadership profiles might also be seen to have stifled progress in this transformation after 9/11. This was a very uncertain period with entirely new challenges and realities to contemplate and confront. The strong ideological worldview held by the administration’s inner circle and the complex and deteriorating phase of international relations
slowed progress in the transformation needed after 9/11.

The Nadler and Tushman (1990) paradigm, “instrumental leadership,” was useful in making comparisons about their leadership styles. In a time of great change, charismatic leadership is a necessary, but not sufficient, component of leadership when effective institutional reorganization is required. Instrumental leadership embodies the strengths of charismatic leadership, but overlays these assets with elements of behavior reinforcement through structuring, controlling, and rewarding of performance to ensure support for the ultimate objectives of a reorganization or transformation process. Effective permanent reorganization requires both charismatic and instrumental leadership.

Obviously, a fusion of the greatest leadership strengths in one individual would be optimum to meet the demands of this transformational period of history. Unfortunately, a person with such attributes usually comes along in public life once in a generation. For Americans, George C. Marshall might be the best example during and after World War II. Dwight Eisenhower is another whose attributes are more greatly appreciated over time. After the national adoration subsides and historians have time to complete objective research, Ronald Reagan might even be considered as a leader who brought these qualities to the final phase of the Cold War, albeit in a less hands-on manner than Marshall or Eisenhower.

A new generation of post-Cold War leaders is evolving and may produce people with very high qualities in both charismatic and instrumental leadership that is necessary to lead a transformation process of our national security community. In the meantime, aspiring leaders will be well served to read these biographies in order to gain excellent insights about the core principles and leadership qualities that have made these four leaders so successful in their respective careers.
Figure 1 – Instrumental and Charismatic Leadership

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Figure 2 – Traditional two by two matrix

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Figure 3 – Two by two matrix for recent government leaders

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Table 1 - Powell's Experiences Organized as Core Traits  
(derived from Harari - page numbers in parentheses)

**Integrity**
- When to Challenge the Pros (103)  
- The Powell Way (213)

**Competence**
- Promote A Clash of Ideas (51)  
- Close with the Enemy (123)  
- Vigilance in Detail (153)  
- Trust Those in the Trenches (195)

**Courage**
- Know When to Piss People Off (30)  
- Don’t Go Looking for “No” (76)  
- The Chief “Dis-Organizer” (92)  
- Situation Dictates Strategy (164)  
- Prepare for Loneliness (254)

**Vision**
- The Ego Trap (64)

**Inspiration**
- People Over Plans (140)  
- Powell’s Rules for Picking People (179)  
- Perpetual Optimism is a “Force Multiplier” (228)  
- Take Leave When You’ve Earned It (240)

Table 2 - Rice’s Experiences Organized as Core Traits  
(derived from Bumiller - page numbers in parentheses)

**Integrity**
- Disagreements with Cheney (296)  
- Disagreements with Bush on Katrina (265)

**Competence**
- First black woman as Secretary of State (251)  
- Provost at Stanford University (107)  
- Russian advisor for first President Bush (79)

**Courage**
- Decisions in the 9/11 Situation Room (131)  
- Grew up successfully in the “old” South (26)  
- Pushed for Negotiations with North Korea (268)  
- Pushed for dismissal of Donald Rumsfeld (298)

**Vision**
- Attempt to isolate Iran (288)  
- Pushed for solutions in Middle East (278)

**Inspiration**
- Salvage stability from the ruins in Iraq (270)  
- Had both failures and successes (215)  
- Transformational Diplomacy at State Department (254)  
- Her life story equals the life story of America (313)
### Table 3 - Rumsfeld’s Experiences Organized by Core Traits
(derived from Krames - page numbers in parentheses)

**Integrity**
- Straight Talk - Communicating Like a Leader (76-77)
- The Consequences of Values - Moral Leadership and Responsibility of Office (120)

**Competence**
- All the Right Moves - Position Yourself for Success (91)
- Acquiring and Using Intelligence - Gain Knowledge and Make It Work (150)
- The Pragmatic Leader - Making Results Count (178-179)

**Courage**
- The Determined Warrior - The War’s Not Over Until the Last Battle (196)

**Vision**
- Crafting Coalitions - Dealing with Friends and Foes (106-107)
- The War CEO - A New Brand of Leadership (134-135)
- Mastering the Agenda - Set a Strategic Direction (162)

**Inspiration**
- Mission First - The Urgency Imperative (62-63)

### Table 4 - Gates’s Experiences Organized by Core Traits

**Integrity**
- Criticized for Soviet Union reports while at CIA

**Competence**
- PhD on Soviet Union from Georgetown University
- Leader of the CIA
- President at Texas A&M University

**Courage**
- Lead position on the Iraqi Study Group

**Vision**
- New vision for the Department of Defense
- Book – How five presidents won the Cold War

**Inspiration**
- Time Magazine’s most influential people for 2007
REFERENCES


MANAGER-RATED AFFECTIVE COMMITMENT TO THE ORGANIZATION: EXPLORING NEW ANTECEDENTS AND OUTCOMES

Bryan Fuller, Louisiana Tech University
Yan Liu, Louisiana Tech University
Alison Wall, Louisiana Tech University
Kim Hester, Arkansas State University

ABSTRACT

Previous empirical studies have shown manager-rated affective commitment is a different construct from self-reported commitment, and has different antecedents and outcomes. Using data from three sources (i.e., subordinates, supervisors and company records), results of a study from healthcare employees provide new evidence of antecedents and outcomes for manager-rated affective commitment. Organizational citizenship behavior (i.e., helping), proactive behavior (i.e., voice), and absenteeism were all associated with manager-rated affective commitment to the organization. Results suggest that turnover, participation in decision-making, and promotability were significant outcomes of manager-rated affective commitment. However, enacted managerial aspiration and job performance were not shown to be related.

MANAGER-RATED AFFECTIVE COMMITMENT

Employee commitment to the organization has been studied by a multitude of researchers as a desirable characteristic for many years (e.g. Porter, Steers, Mowday, & Boulian, 1974; Becker, 1960; and Winener, 1982). While most of the studies focused on self-reported information about the relationships between employee’s commitment and a variety of work behaviors, Shore, Barksdale, and Shore (1995) were the first to create a framework to assess the criteria for managerial evaluations of employee organizational commitment and the managerial and promotion-related behaviors associated with those evaluations. Shore and colleagues suggest that understanding managerial perceptions of subordinate commitment to the organization is very important because these perceptions affect a variety of outcomes important to the subordinate and the supervisor (e.g., performance appraisal, promotion, salary increase). Research indicates that organizational citizenship behavior (Shore et al., 1995), performance (Shore et al., 1995; Witt, Kacmar, & Andrews, 2001), and procedural justice (Witt et al., 2001) are antecedents of manager-rated affective commitment to the organization (MAC). Research also indicates that a manager’s perception of his/her subordinate’s affective commitment is related to outcomes such as leader reward behavior, perceptions of managerial potential, perceptions of promotability, and fulfillment of subordinate requests (Shore et al., 1995).

Unfortunately, there has been very little research examining managerial perceptions of subordinate commitment to the organization. Therefore, little is known about other factors that might influence managers’ perceptions about the commitment levels of their subordinates, or the outcomes that flow from those attributions. Given the important role managerial perceptions are thought to play in the treatment of employees and Shore et al.’s (1995) appeal for additional research examining managerial perceptions of subordinate commitment, this study seeks to replicate certain findings of Shore et al.’s original research as well as extend the nomological
network of antecedents and outcomes related to manager-rated affective commitment. Figure 1 depicts the hypothesized relationships used in the present study. In addition to two antecedents (i.e., organizational citizenship behavior and job performance) and one outcome (promotability) that were examined in Shore et al.’s original research, we examine three new behavioral antecedents (i.e., voice behavior, absenteeism, and enacted managerial aspirations) and two new outcome variables (i.e., participation in decision making and turnover).

**FIGURE 1**
Hypothesized Model

**MODEL DEVELOPMENT AND HYPOTHESES**

**Manager-rated affective commitment**
Organizational commitment was defined by Porter and his colleagues (1974) in terms of the strength of an individual’s identification with and involvement in an organization. This definition was classified as affective commitment by Reichers (1985). Porter et al. (1974) suggested that this kind of commitment consists of a belief in and acceptance of organizational goals and values, the willingness to put effort towards organizational tasks, and a strong desire to maintain organizational membership. The distinction between affective and continuance commitment is that affective commitment refers to an employee’s willingness to continue employment because he/she want to do so, while continuance commitment refers to continuation of employment because he/she need to do so (Meyer & Allen, 1991).

Manager-rated affective commitment (MAC) differs from self-reported affective commitment on the basis of role theory in that individuals often have conflicting views concerning the same behaviors since they have different expectations and different or selective perception (Van Dyne & LePine, 1998; Lawler, 1967). It is possible that one behavior which is valued as a proactive activity by the employee is not valued as such by the employee’s manager. Also, performance appraisal theory suggests that a manager’s evaluation of a subordinate’s job behavior is influenced by an uncertain environment, and direct information about those job behaviors are fragmentary (Feldman, 1981). Therefore, manager-rated affective commitment should differ from self-reported affective commitment because of an inadequacy of information about employee behavior. Finally, managers do not use an individual’s behavior alone to rate his/her level of organizational commitment. Other information, which comes from peers and other supervisors is integrated with direct data and used in the process of assessing organizational commitment. Organ (1990) mentioned that in one previous study, the correlation between an employee’s self-rating and the supervisor’s rating of Altruism, was only .16 which indicated that the use of supervisory rating may have different results than self-rating.

**Antecedents of manager-rated affective commitment**

Previous research conducted by Shore et al. (1995) tested two types of organizational citizenship behavior (OCB), altruism and compliance, as antecedents of manager-rated affective commitment. The present study builds upon Shore et al.’s study by examining a similar form of organizational citizenship behavior -- helping.

Recent research has indicated that OCB does influence performance evaluations and can serve as a behavioral cue on which “managerial presumptions of employee commitment to the organization are based” (Allen & Rush, 1998, p. 249). OCB includes behaviors that are neither mandatory in-role behavior nor directly or contractually compensated by formal organizational reward systems, such as constructive or cooperative gestures (Organ & Konovsky, 1989). In short, OCB is considered extra-role behavior which is not required by an organization. OCB must be salient for managers to notice and use in the performance rating process. Helping is an interpersonal and cooperative behavior and an example of salient OCB.

Van Dyne and LePine (1998) defined helping as cooperative and promotive behavior that emphasizes small acts of consideration. It is the behavior that is not included in traditional definitions of job performance, but is voluntary and discretionary behavior that contributes to an organization’s effectiveness (Organ & Konovsky, 1989). The findings of previous research
indicate that helping and other supportive interactions can provide some ‘therapeutic’ value or benefit among individuals in an organizational setting (Burke, Weir, & Duncan, 1976). Helping behavior aids in mitigating work stress, increasing interpersonal harmony, improving job satisfaction, and making work progress more efficiently. Since helping behavior is indicative of an employee’s extra-effort to make an organization more effective, managers may view this behavior as a cue of the employee’s commitment and believe that an employee who offers more help has a higher level of affective commitment.

Hypothesis 1: Helping behavior will be positively related to manager-rated affective commitment.

According to Van Dyne and LePine (1998), helping is an affiliative promotive behavior but voice is a challenging promotive behavior. They defined voice as the behavior that emphasizes expression of constructive challenge intended to improve rather than criticize. Their definition emphasizes that voice behavior in an organization is not merely speaking up, but also making innovative suggestions for change and recommendations for modification in the organization.

Voice behavior is very important to the organization because it may serve several functions for the employee, such as making a positive impression on others at work, enhancing the reputation for the individual within the organization, and enhancing image through fostering attributions of leadership capability (Fuller et al. 2007). However, voice behavior also brings some risk to the individual who speaks out because it may challenge and upset the status quo of the organization and its power holder (Detert & Burris, 2007). In other words, managers may or may not like the ideas or suggestions that their subordinates provide. So, if it is not safe to speak up, why do employees still give their suggestions? Some previous research which addressed this question indicated that even highly proactive and satisfied employees monitor situations to determine whether or not speaking up is appropriate and/or safe in a particular work context (Detert & Burris, 2007; Dutton, Ashford, O’Neill, Hayes, & Wierba, 1997). Therefore, subordinates are likely to speak out only if they believe the benefit of speaking out is not outweighed by the possible loss. It has been suggested that voice behavior can bring benefits for employees such as the appearance of competence (Stamper & Van Dyne, 2001) or higher performance evaluations (Thompson, 2003). It is logical to propose that managers will assess employees who perform voice behaviors as having higher commitment because they will view voice behavior as the outcome of an employee’s belongingness and conscientiousness in relation to the organization.

Hypothesis 2: Voice behavior will be positively related to manager-rated affective commitment.

It seems likely that behavioral expressions of managerial aspirations will be positively related to a manager’s perception that a subordinate is committed to the organization. A managerial aspiration, or what Seibert, Kraimer, and Crant (2001) call “career initiative,” is defined as “the extent to which an employee desires to advance into or further in management” (Tharenou, 2001; p. 1005). Tharenou and Terry (1998) argue that managerial aspirations appear to influence career attitudes and behaviors especially when progression appears to be difficult. Research also indicates that managerial aspirations predicts perceived likeliness of promotion (Tharenou & Terry, 1998), salary progression (Seibert et al., 2001), actual promotions (Seibert et al., 2001; Tharenou, 2001), and career satisfaction (Seibert et al., 2001).
In order for an employee’s managerial aspirations to result in extrinsic career success, it seems likely that these behaviors would need to make a positive impression upon the employee’s supervisor. Enacted managerial aspirations include behaviors such as discussing career prospects with someone within the organization and updating skills in order to be more competitive for promotion. Typically, those kinds of behaviors are perceived by managers as positive and improvement-oriented. Further, these types of visible behaviors should signal to the supervisor that the employee wants to play a more important role within the organization. Given that these activities reflect a strategy consistent with remaining in the company, it seems likely that supervisors should attribute enacted managerial aspirations to a desire to remain with the organization.

Hypothesis 3: Enacted managerial aspirations will be positively related to manager-rated affective commitment.

Blau and Boal (1987) separate employee absence into four categories: medical absence which is due to infrequent and uncontrollable events, such as illness, injury, fatigue, etc; career-enhancing absence which is due to an employee’s attempts to further task- and career-related goals; normative absence which is due to an employee’s habitual response to the norms of the organization; and calculative absence which involves the social contract between the employee and employer and a time allocation strategy of employees. Theoretically, these four categories of absences relate differently to job performance and have different relationships with managerial appraisal. Blau and Boal (1987) also suggest that a true distinction and prediction of four categories of absence is not possible, due to a lack of sophisticated absence records that show either type or time of absences, and the belief that an extremely apathetic employee would use all kinds of absences as long as he/she could get the sanctions from managers. Thus, the absolute frequency and total number of days absent can be used to predict the most apathetic workers in the organization.

A number of studies (e.g. Steers & Rhodes, 1978; Mowday, Porter, & Steers, 1982) have argued that absenteeism typically impacts the supervisor’s performance appraisal and negatively relates to job payment and promotability. A meta-analysis conducted by Bycio (1992) based on 46 studies found that the average correlation between absenteeism and supervisory ratings is both negative and significant, and that absenteeism is a predictor of poor job performance evaluation. It is obvious that the relationship between absenteeism and managerial-rated affective commitment should be consistent with the relationship between absenteeism and supervisory ratings of job performance. That is, a manager should rate an employee who has a high level of absence in the organization as one who has low level of affective commitment.

Hypothesis 4: Absenteeism will be negatively related to manager-rated affective commitment.

In Shore et al.’s (1995) research, they did not find a significant relationship between job performance and manager-rated affective commitment. They felt the potential explanation was
that they assessed job performance with a single-item measure, and this measure underestimated the degree of job performance-MAC relationship. So, the present study will re-examine this relationship with new data.

Hypothesis 5: *Job performance will be negatively related to manager-rated affective commitment.*

**Outcomes of manager-rated affective commitment**

Shore et al. (1995) suggest that a manager’s perception of their subordinate’s affective commitment to the organization will influence that manager’s behavior toward that subordinate. Given that the authors could only find one study that has examined outcomes of manager-rated affective commitment, it is important not only to replicate the previous findings but also to explore additional outcomes. Accordingly, we examine the extent to which a manager’s perception of his/her subordinate’s affective commitment to the organization is related to subordinate involvement in decision making, the perceived promotability of the subordinate, and turnover.

Although not tested in their study, Shore et al. (1995) discussed the possibility that managerial assessments of employee commitment might result in permitting the employee to participate in the decision making process at work. Participation in decision making occurs when management shares the decision making process and/or responsibility with others to achieve organizational goals (Knoop, 1995). Shore et al. (1995) suggest that managerial assessments of subordinate commitment should be related to a variety of outcomes based upon Feldman’s (1981) belief that managers tend to “categorize” subordinates (e.g., “go-getter,” lazy, loyal to the company) and that this categorization influences the exchange relationship with that subordinate. One of Shore et al.’s (1995) basic research questions was whether or not managerial perceptions of subordinate commitment to the organization would affect managers’ behavior toward employees. If a manager’s perception of subordinate commitment to the organization positively influences the quality of the exchange relationship with the employee, then the manager is likely to engage in behavior that is rewarding to the employee. Shore et al.’s (1995) original research does indicate that MAC is positively related to leader reward behavior. Further research indicates that participation in decision making is positively related to perceptions of organizational support (Allen, Shore, & Griffeth, 2003). This suggests that participation in decision making can be considered as a means of recognizing the employee’s contributions to the organization and should signal to the employee that they are valued. Therefore, it seems likely that the more committed a manager believes a subordinate to be, the more likely the manager will be to reward the employee with an opportunity to become more involved in decision making. Accordingly, we expect that manager-rated affective commitment will be positively related to the extent a manager involves the subordinate in decision-making.

Hypothesis 6: *Manager-rated affective commitment will be positively related to participation in decision making.*
Organizational commitment is frequently used to predict withdrawal behaviors (Mathieu & Zajac, 1990). Manager-rated affective commitment should be related to employee turnover behavior. Allen, Russell, and Rush (1994) found that employers may offer more rewards to their committed employees because they see highly committed employees as vital to an organization. According to Leader-member exchange (LMX) theory, leaders differentiate their subordinates and treat them differently. Reciprocal relationships between leaders and members will influence an employee’s turnover intentions and performance evaluations (Gerstner & Day 1997). Employees who are rated as highly committed by managers will be evaluated and rewarded more than employees who are rated as having low commitment. Employees will judge their situations in the organization through these evaluations and rewards, and make decisions concerning their career prospects accordingly. Therefore, based on the results of previous research (e.g. Allen & Meyer, 1996; Mathieu & Zajac, 1990, Tett & Meyer, 1993), a negative relationship between manager-rated organizational commitment and turnover is expected despite using manager-rated data in place of self-reports.

Hypothesis 7: Manager-rated affective commitment will be negatively related to job turnover.

Given that an evaluation of a subordinate’s potential/promotability provides an important linkage between manager-rated affective commitment and the career success literature, we expect the relationship between manager-rated affective commitment and promotability found in Shore et al.’s (1995) original research will be replicated in this study.

Hypothesis 8: Manager-rated affective commitment will be positively related to promotability.

METHOD

Data were collected at a health services organization with 310 employees. The sample included primarily support staff (i.e., nurses and technicians). Data were collected from employees, their immediate supervisors, and company records. All participants were given time during their regular working hours to complete the survey, and were informed that their participation was voluntary and confidential. At time one, employees responded to items assessing managerial aspirations and supervisors evaluated their subordinate’s helping behavior, voice behavior, perceived affective commitment to the organization, and promotability. Also, performance and absenteeism data was drawn from company records at time one. Approximately 1 year after the initial data collection, supervisors were asked to evaluate the extent to which they involved each subordinate in decisions pertaining to their immediate work group (i.e., perceived subordinate participation in decision making). At this time (i.e., time 2), turnover data was drawn from company records.

At time one, we obtained a total of 155 sets of matching supervisor/subordinate surveys. Most of the respondents were female, and had been with the organization less than 5 years. Because individuals did not receive formal performance appraisals until they had been with the organization for one year, performance data was available for only 119 of the 155 employees. The entire set of 144 matched pairs was used for other analyses. Turnover data was available for all 155 employees, although we were only able to collect data assessing supervisor-rated
participation in decision-making for 78 of the original 155 employees due to separation (i.e., 41 of the original 155 had left the organization) and non-responses to the survey.

**Measurement**

*Manager-rated Affective Commitment.* Shore et al.’s (1995) four-item measure was used to assess the perceived affective commitment of the subordinate ($\alpha = .96$). This scale used a 5-point response format ranging from 1 (strongly disagree) to 5 (strongly agree).

*Organizational Citizenship Behavior.* At time one, supervisors were asked to complete the helping and voice instruments for each one of their subordinates. Helping behavior was measured with a 6-item scale developed by Van Dyne and LePine (1998). Supervisors completed this instrument for each subordinate ($\alpha = .95$). A sample item from this scale is “This particular subordinate assists others with their work for the benefit of the group.” Voice behavior was assessed with Van Dyne and LePine’s (1998) 6-item scale. ($\alpha = .96$). A sample item is “This particular subordinate speaks up in this group with ideas for new projects or changes in procedures.” Responses for both helping behavior and voice behavior were assessed using a Likert-type scale (item anchors were 1 = strongly disagree to 7 = strongly agree) and each subordinates’ level of helping and voice was assessed by averaging the responses.

*Managerial Aspirations.* Enacted managerial aspirations was assessed using Tharenou and Terry’s (1998) 6-item scale ($\alpha = .86$). Subordinates responded to these items using a five point behavioral frequency scale ranging from 5 (Frequently) to 1 (Never). Example items include “I have updated my skills in order to be more competitive for promotion” and “I have discussed my aspirations with a senior person in the department/organization.”

*Absenteeism.* Absenteeism data was collected from company records and encompassed absences that occurred in the last year. Absences ranged from 0 (no absences) to 3 (three missed days of work).

*Job Performance.* Job Performance data was drawn from company records and based upon a single overall score on a 5 point scale. Job performance scores for the year prior to our data collection ranged from 2.8 to 5.0. Employees that had been with the company for less than a full year were evaluated using a different performance metric than employees that had been with the company for more than 1 year. Consequently, these “probationary” employees were not included in our analysis.

*Participation in Decision Making.* At time 2, subordinate participation in decision making was assessed utilizing Steele and Mento’s (1987) 5-item measure revised to be a manager report of subordinate participation in decision making (e.g., “this person is frequently allowed to be involved in resolving problems that affect my work group”). This scale used a 5-point scale ranging from strongly disagree (1) to strongly agree (5). Coefficient Alpha for this scale is .90.
Turnover. At time 2, company records were used to determine the continued employment of each employee that had provided data in the initial data collection. Employees that had separated from the company were coded 2 and employees that were still with the company were coded 1.

Promotability. At time one, each supervisor was asked to assess the extent to which each subordinate was deserving of being promoted within the company (i.e., “This employee should be promoted to a higher level position”). The response format for this question ranged from strongly disagree (1) to strongly agree (5).

Results

Because the nature of the data (i.e., large differences in sample sizes among the relationships, the need to preserve data for the turnover analysis while accounting for the attrition in the participation in decision making data), using structural equations modeling to test the study hypotheses is inappropriate. Consequently, multiple regression analysis was used to analyze the data.

Table 1 shows the results of the analysis of antecedents of manager-rated affective commitment. The results indicate that both helping ($\beta=.40, p<.01$) and voice behavior ($\beta=.45, p<.01$) are positively related with the manager’s perception of the employee’s commitment to the organization. This provides support for hypothesis 1 and hypothesis 2. The results also support hypothesis 4, in that there is a statistically significant negative relationship ($\beta=-.13, p<.05$) between absenteeism and manager-rated affective commitment. However, the results presented in Table 1 do not support hypothesis 3 or hypothesis 5 because there is no significant relationship between enacted managerial aspirations ($\beta=-.05, p>.05$) and MAC, and no significant relationship between performance ($\beta=.05, p>.05$) and MAC.
### TABLE 1

*Results of Regression Analysis for Antecedents of Manager-rated Affective Commitment*

<table>
<thead>
<tr>
<th>Manager-Rated Affective Commitment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong></td>
<td></td>
</tr>
<tr>
<td>Organizational Citizenship Behavior – Helping</td>
<td>.40**</td>
</tr>
<tr>
<td>Organizational Citizenship Behavior – Voice</td>
<td>.45**</td>
</tr>
<tr>
<td>Enacted Managerial Aspirations</td>
<td>-.05</td>
</tr>
<tr>
<td>Absenteeism</td>
<td>-.13*</td>
</tr>
<tr>
<td>Job Performance</td>
<td>.05</td>
</tr>
<tr>
<td>Overall Adjusted $R^2$</td>
<td>.62</td>
</tr>
<tr>
<td>Overall $F$ Value ($df$ regression, residual)</td>
<td>36.81** (5, 107)</td>
</tr>
</tbody>
</table>

$n = 112$. Standardized beta coefficients are shown.

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

With regard to outcomes of manager-rated affective commitment, the results presented in Table 2 indicate that there is a statistically significant negative relationship between MAC and turnover ($\beta = -.25$, $p < .01$). This provides support for hypothesis 7. Next, the results show a statistically significant positive relationship between MAC and the extent to which the manager involves the subordinate in decision making ($\beta = .27$, $p < .05$). This provides support for hypothesis 6. Finally, the results presented in Table 2 indicate that there is a positive relationship between manager-rated affective commitment and the manager’s perception that the subordinate deserved to be promoted to a higher level position ($\beta = .31$, $p < .001$). This provides support for hypothesis 8.
TABLE 2

Results of Regression Analysis for Outcomes of Manager-rated Affective Commitment

<table>
<thead>
<tr>
<th>Participation</th>
<th>In Decision</th>
<th>Making</th>
<th>Turnover</th>
<th>Promotability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager-rated Affective Commitment</td>
<td>.27*</td>
<td>-.25**</td>
<td>.31***</td>
<td></td>
</tr>
<tr>
<td>Overall Adjusted $R^2$</td>
<td>.06</td>
<td>.06</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>Overall $F$ Value ($df$ regression, residual)</td>
<td>5.78*</td>
<td>10.01**</td>
<td>15.62**</td>
<td></td>
</tr>
<tr>
<td>(1, 76)</td>
<td>(1, 152)</td>
<td>(1, 148)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standardized beta coefficients are shown.

* $p < .05$, ** $p < .01$, *** $p < .001$.

DISCUSSION

The present study examined the effects of OCB behavior (i.e., helping and voice), enacted managerial aspirations, absenteeism, and job performance on manager-rated affective commitment, and tested three hypothesized outcomes of manager-rated affective commitment. The major findings of this research support the theory that organizational citizenship behavior has significant impact on manager-rated affective commitment. Both organizational citizenship behaviors, helping and voice, are significantly related to manager-rated affective commitment. Consistent with Shore et al.’s (1995) research, the results indicate that citizenship is the most important predictor of manager-rated affective commitment. Also, this study found a significant
negative relationship between absenteeism and manager-rated affective commitment. That is, as the frequency of employee absence increased, managers were more likely to rate the employee as having low organizational commitment. This result suggests that employee absence has been seen by managers as an important indicator of organizational commitment, and managers evaluate absenteeism as negative behavior inferring that employees who have high absence rates put less effort into the organization and have low attachment to the organization.

The results indicate enacted managerial aspirations are not related with manager-rated affective commitment. One potential explanation is that normally, high managerial aspirations of subordinates are perceived by managers in two different ways: positively, when managers perceive that the behavior of subordinates who have strong managerial aspiration is useful for organizational improvement and negatively, when managers perceive that the behavior of a subordinate who has strong managerial aspiration is a threat to their current positions. These two ways of perception may exist in our sample simultaneously, and balance out the effect of managerial aspirations on manager-rated affective commitment. Also, in Tharenou and Terry’s (1998) research, they found the strength of the relationships between aspirations and both willingness to relocate for advancement and plateauing were relatively low. They explained that this may due to the limited nature of the content in the measure of enacted managerial aspiration. It also might be a reason of our nonsignificant finding. Future research needs to be done to develop more reliable measures of managerial aspiration which should capture all facets of this variable. Also, manager perceived employee’s managerial aspiration is a potential research topic.

No positive relationship was found between performance and manager-rated affective commitment as reported by Shore et al (1995) and Witt et al. (2001). Recall that these authors utilized self-reports to assess this relationship, while the measure of performance employed in this study was drawn from company records. It may be that the percept-percept design employed by these researchers inflated the relationship between the two variables, although in the case of Shore et al. (1995), the data was collected at different times. One possible explanation may be that supervisor ratings incorporate behavior and activities that are not accounted for in the organization’s performance appraisal system (e.g., supervisors’ role breadth for the employee is larger than that accounted for in the formal performance appraisal, Morrison, 1994).

The relationship between manager-rated affective commitment and turnover represents a new contribution to the literature. The magnitude of the relationship ($r = -.25$, $p < .01$) is similar in magnitude to that which meta-analytic reviews report for self-reported commitment to the organization and turnover (i.e., $r_{corrected} = -.27$; Griffeth, Hom, & Gartner, 2000). However, the current study found tremendous differences from previous self-reported commitment studies. In self-reported commitment literature, turnover is a significant indicator of employee’s commitment to the organization. The predictability of turnover arises from the mechanism that “individuals highly committed to an organization’s goals and willing to devote a great deal of energy toward those ends would be inclined to remain with the organization in an effort to assist in the realization of such highly valued objectives” (Porter et al., 1974). But, in the current study, turnover is the outcome of manager-rated affective commitment. In other words, the relationship
between turnover and MAC was built on a different mechanism from self-reported commitment. Social exchange theory is the basis of this relationship, indicating a reciprocal relationship between leaders and members. Previous studies have found that managerial perception of commitment are positively related to other managerial judgments, including managerial potential and promotability ratings (Shore et al., 1995) and reward recommendations (Allen et al., 1994). Current research further suggests that the effect of manager-rated affective commitment on those managerial judgments influences the employee’s perception of their situation in the organization and then influences turnover in the organization.

Shore et al. (1995) mentioned that positive managerial expectations may translate into managerial behaviors, including permitting participation in decision making. But they did not examine the quantitative relationship between manager-rated commitment and participation in decision making in their empirical study. The present study provides support for the idea that MAC may be positively related to involving subordinates in decision making. This is an important contribution to the literature because it highlights a specific type of practice that managers apparently use as a reward to committed employees. Just as important, participation in decision making is viewed by employees as a valuable social exchange commodity and a signal that the organization values their contributions.

Finally, the test of the relationship between manager-rated affective commitment and promotibility duplicates Shore et al.’s (1995) results, finding a statistically significant relationship between these two variables. With a different sample and research model, the present research still makes some contribution to the development of the theory by increasing the generalizability of this relationship.

The current study also has advantages in research design. First, the data were collected during different time periods and from multiple sources which include company records and supervisor ratings. These two methods are considered to have advantages on reducing common method variance problems which are mainly attributed to self-reported research methods. Second, job performance was assessed with company regular records which are more stable and formal compared to manager ratings of performance. Both absenteeism data and job performance data were extracted from company records one year prior to data collection. The data are appropriate for the present research because managers should use an employee’s prior performance to evaluate his/her level of commitment.

However, the present research also has its limitations. One potential limitation of the present study relates to the time frame of our data collection. Collecting data during several different time periods increased the problem of data matching. Our entire model could not be assessed by structural equation modeling because of large differences in sample sizes among the relationships. Therefore, using structural equations modeling to test the study hypotheses was inappropriate.

The second limitation of this study was the inability to distinguish between different types of absenteeism because of the ambiguity of company records. Even though Blau and Boal (1987) suggested that the absolute frequency and total number of days absent can be used to predict the
most apathetic workers in the organization, a distinction among the four types of absenteeism could still provide better insight into the absenteeism-commitment relationship.

Similarly, we could not distinguish between voluntary and involuntary turnover. Voluntary turnover is that in which the employee makes a self-motivated decision to leave the organization, whereas, involuntary turnover is that in which the employee is fired or laid off. Because turnover data was collected from existing data, it was impossible to separate voluntary and involuntary turnover. While it is logical to assume that voluntary turnover has a different relationship with organizational commitment that involuntary turnover, few, if any studies, have been able to address this issue (Tett & Meyer, 1993).

This study further explored antecedents and outcomes of managerial perceptions of employee’s affective commitment. These results should help researchers and practitioners to better understand the mechanisms that underlie managerial perceptions of subordinate commitment and those outcomes associated with these perceptions. Future research should address the limitations in this study as well as expanding the types of antecedents and outcomes that are related to managerial perceptions of subordinate commitment to the organization.

REFERENCES


TESTING THE PREDICTIVE VALIDITY OF THE
BASADUR CREATIVE PROBLEM SOLVING PROFILE (CPSP)

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Tim Basadur, University of Illinois at Chicago
Tetyana Skorokhod, University of Illinois at Chicago

ABSTRACT

The current paper is a study of the predictive validity of the Basadur Creative Problem Solving Profile (CPSP). The results show that the profile is highly predictive of activity preferences of Generators, Conceptualizers, and Implementers. The support for Optimizers’ predicted preferences was also substantial. Of fifty considered response categories, twenty-three were highly associated with the quadrant typology.

INTRODUCTION

The concept that a unique, preferred style of creative problem solving can be identified for any individual was introduced by Basadur, Graen and Wakabayashi (1990). They also reported encouraging preliminary reliability and validity test results for a new instrument designed to measure such a unique preferred style called the Basadur Creative Problem Solving Profile (CPSP) Inventory. The main purposes of the CPSP were described as:

1. Increase understanding of creative problem solving modeled as a process comprised of multiple stages.
2. Increase understanding of how the various stages of a complete multi-stage process of creative problem solving differ from each other.
3. Differentiate between a process of creative problem solving and a technique used within a process of creative problem solving.
4. Help people understand their personal preferences for different stages of a multi-stage process of creative problem solving.
5. Increase sensitivity and appreciation of individual differences in the creative problem solving process to help groups improve the quantity and quality of interaction.

Basadur et al (1990) recommended continuing research to improve the validity of the CPSP Inventory. Since then, an ongoing program of item replacement to improve its psychometric properties has been under way. The procedures used to identify the more and less robust items in the inventory are fully described in Basadur (1991; 1998a; 1998b; 2000). In addition to the original version (termed CPSP1), four progressively improved versions have been completed. The purpose of the present paper is to report the results of further testing of the validity of the CPSP.
The CPSP is a self report instrument which identifies four different styles of creative problem solving. In particular, this paper reports a study of the predictive validity of the CPSP, testing if participant styles identified by the instrument matched the styles identified by the participants themselves.

REVIEW: A FOUR-STAGE CREATIVE PROBLEM SOLVING PROCESS

In much of the early psychology and management literature (from the 1950s to the 1980s, see review by Basadur, 1994), experiments researching creativity were confined to tests of simple techniques, using brainstorming; designed to generate ideas to solve presented problems. Basadur, Graen and Green (1982) differentiated real world creativity from such simple concepts and reported a field experiment in which training in a multi-stage process of creative problem solving produced substantial positive effects on attitudes, behaviors and performance. Since then, more research has focused on understanding applied creativity as a more complete multi-stage process (see reviews by Kabanoff & Rossiter, 1994 and Rickards, 1994). Kabanoff and Rossiter define applied creativity as: occurring in a real-world, industrial, organizational, or social context; pertaining to the finding or solving of complex problems; and having an actual behavioral creative product (or plan) as the final result. Basadur et al. (1990) presented the four stage model of applied creativity shown in Figure 1.

The CPSP measures individual preferences for each of the four distinct stages depicted in Figure 1. Each stage represents a different kind or aspect of applied creativity. Cognitive constructs that differentiate the mental activity in each stage from the other stages include Guilford’s (1967) Structure of Intellect (SOI) model; Sternberg’s (1988) triarchic intelligence; Osborn’s pioneering (1953) four brain functions concept; and Parnes, Noller and Biondi’s disciplined freedom paradigm (1977). For a complete review see Basadur and Gelade (2003; 2005).
Figure 1

The Four Stages of the Creative Process

**Quadrant IV**
**IMPLEMENTING**
Creating options in the form of actions that get results and gaining acceptance for implementing a change or a new idea.

**Quadrant I**
**GENERATING**
Creating options in the form of new possibilities – new problems that might be solved and new opportunities that might be capitalized upon.

**Quadrant III**
**OPTIMIZING**
Creating options in the form of ways to get an idea to work in practice and uncovering all the factors that go into a successful plan for implementation.

**Quadrant II**
**CONCEPTUALIZING**
Creating options in the form of alternative ways to understand and define a problem or opportunity and good ideas that help solve it.
Briefly, the CPSP measures two cognitive dimensions underlying the creativity process shown in Figure 1. The first dimension, *apprehension*, involves acquiring knowledge or understanding in two different ways. One is relatively more open, non-rational, experiential, non-analytical, and divergent (*cognition*); the other is more closed, rational, theoretical, analytical, and convergent (*convergent production*). The second dimension, *utilization*, involves applying knowledge or understanding (however acquired) in two different ways: non-judgmentally creating new information to increase the variety of options (divergent production), and judgmentally reaching decisions about new information to reduce the variety of options (*evaluation*). Gordon (1956, 1971) also recognized that Apprehension ("learning") and Utilization (for "inventing") represent two different modes of thinking. Learning was characterized as a mental process of *making new* connections (thus making the strange familiar), while invention was characterized as a mental process of *breaking old* connections (thus making the familiar strange). These separate processes of knowledge acquisition (learning) and knowledge application (for inventing) flow continuously into one another in sequence.

In Figure 2, the four stages depicted in Figure 1 are explained as combinations of these two bipolar dimensions. Combining the preference for learning experientially (KX) with the preference for creating options (I = ideation) yields a preference for the first stage of the process, or generation (KX UI). Combining the preference for learning theoretically (KT) with the preference for creating options (I) yields a preference for the second stage, or conceptualization (KT UI). Combining the preference for learning theoretically (KT) with the preference for evaluating options (E) yields a preference for the third stage, or optimization (KT UE). Combining the preference for learning experientially (KX) with the preference for evaluating options (E) yields a preference for the fourth stage, or implementation (KX UE).

Individuals in organizations have varying preferences for each of the quadrants or stages in the creative process because they have varying preferences for the bipolar modes of apprehension and utilization. These are not seen as permanent unchangeable personality traits: rather these preferences are seen as flexible, changeable cognitive “states” which depend on environmental factors. The first quadrant style, Generator, is described as follows: Generators prefer getting the innovation process rolling, imagining possibilities, questioning, sensing new problems and opportunities, viewing situations from different perspectives and gathering information through direct experience. People strong in the Generating style prefer to come up with options, or diverge, than to evaluate and select, or converge. They see relevance in almost everything and think of good and bad sides to almost any fact, idea, or issue. They enjoy ambiguity and are hard to pin down. Every solution they explore suggests several new problems to be solved (Basadur et al., 1990, Basadur and Gelade, 2005).
Figure 2
Four Combinations of Different Methods of Gaining and Using Understanding

Apprehension of Knowledge by Experiencing
(by physically experiencing information)

Utilizing Knowledge for Evaluating Options

Utilizing Knowledge for Creating Options

Apprehension of Knowledge by Thinking
(by mentally processing information)

Quadrant IV
Implementation

Quadrant III
Optimization

Quadrant I
Generation

Quadrant II
Conceptualization
Individual Styles and Preferences

Hypothesis 1: Quadrant 1 groups, Generators, use words and terms that reflect their problem solving style like “challenge the status quo”, “seek out options”, “alternatives”, with significantly greater frequency than the Conceptualizer and Optimizer and Implementer groups.

The problem solving preferences specific to Conceptualizers, the second quadrant style, are stated as: putting new ideas together, discovering insights that help define problems, and creating theoretical models to explain things. People strong in conceptualizing skills enjoy taking diverse, often disconnected, information emerging from the generator stage and making sense of it. Conceptualizers need to “understand”: to them, a theory or explanation must be logically sound and precise. They prefer to proceed only when they have a clear grasp of a situation or when the problem or idea is well-defined. They dislike having to choose a single option, if it means discarding others, preferring to incorporate as many ideas as possible into a single conceptual scheme, which for them provides closure. They like to play with ideas and are not overly concerned with moving to action.

Hypothesis 2: Conceptualizers (quadrant 2), mention terms that reflect their problem solving style like “think”, “big picture” and “visualize” significantly more frequently than the other three quadrant styles.

People who prefer the third quadrant style, Optimizers, prefer to gain knowledge through abstract thinking and to use their knowledge to converge (choose among options rather than diverge (create options). Therefore, Optimizers are most comfortable developing practical solutions and plans from abstract ideas and alternatives. People who favor the optimizing style rely on mentally testing ideas rather than on trying things, and like to create optimal solutions. Given a well-defined problem, they are able to sort through large amounts of information to pinpoint the critical factors. They are usually confident in their ability to make a sound, logical evaluation and to select the best option or solution to a problem. They often lack patience with ambiguity, and are unwilling to consider more then one problem at a time. They see little value in “dreaming” about overly radical ideas. Once they have decided they know what a problem is, they are eager to drive towards the solution as quickly as possible. Thinking in this stage focuses on idea evaluation and selection, and planning for implementation (Basadur et al, 1990, Basadur and Gelade, in press).

Hypothesis 3: Quadrant 3 groups, Optimizers, mention terms that reflect their problem solving style like “judgmental”, “synthesizing” and “analysis” significantly more frequently than the other three quadrant styles.

Finally, the problem solving preferences of Implementers, the fourth quadrant style, are based on favoring gaining knowledge through direct experience and using
knowledge to converge. Thus, people with the Implementer style rely on trying things out rather than mentally testing them; they like to get things done and they excel in situations in which they must somehow make things work. They do not need complete understanding in order to proceed, and adapt quickly to changing circumstances. When a theory does not appear to fit the facts, they will readily discard it. Some perceive them as enthusiastic about getting the job done, but others as impatient or even pushy. As they try to turn plans and ideas into action, implementers will try as many different approaches as necessary; they will try to bring others on board and follow up or “bird dog” as needed to ensure that the new procedure will stick.

**Hypothesis 4**: Implementers (quadrant 4) have a significantly higher frequency of terms like “action”, lead” and “implement” in their stated problem solving preferences than Generators, Conceptualizers and Optimizers groups.

**Measuring Individual Preferences: The Creative Problem Solving Profile (CPSP) Inventory**

The Creative Problem Solving Profile (CPSP) inventory measures an individual’s unique blend of preferences for the four stages of the process in Figures 1 and 2. Plotting inventory column scores on a two-dimensional graph and joining the points plotted with a more or less circular line displays an individual’s preferred blend of the four different stages. This produces a visual picture in which areas in the four quadrants of Figure 1 are of different unequal sizes. The largest on the graph represents the preferred or dominant style, with relative sizes of the other quadrants representing supporting orientations. The unique blend of styles is the individual’s creative problem solving profile. Figure 2 shows how individual differences in orientation can yield different creative problem solving process styles and profiles. If the area of quadrant 1 is largest, the primary process style is generating; if quadrant 2, then conceptualizing; if quadrant 3, then optimizing; and if quadrant 4, then implementing. Each of these styles reflects individual preferences — and preferences of teams and entire organizations — for ways of gaining and using knowledge.

The CPSP consists of two lists of 12 word pairs. In one list, the 12 pairs of words are descriptive of Apprehension, one member of each pair representing Apprehension by Experiencing (denoted KX or X), and the other representing Apprehension by Thinking (KT or T). In the second list of word pairs, the 12 word pairs are descriptive of Utilization, one word in each pair representing Utilization for Ideation (I) (creating options), and the other representing Utilization for Evaluation (E). Each word pair from the Apprehension list is combined with a word pair from the Utilization list. This produces 12 four-item sets of words, each set containing one word representing X, I, T and E. In addition, six four-word distracter sets are embedded within the 12 four-item sets of words. These distracters contain unrelated words and are intended to prevent respondents from identifying patterns and responding stereotypically. Respondents are instructed to rank the words within each four-item set from 1 to 4, where 1 represents the word "least characteristic of me as a problem-solver" and 4 represents the word "most characteristic of me as a problem-solver".

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METHOD

The data used in this study were collected over a five year period from 444 groups of participants who shared similar profiles (the same dominant quadrant) from 111 training events. The events were mostly professional training workshops and also included some university students. The age range is about 20-60 years of age. Students were enrolled in either undergraduate or graduate level business programs and the professionals who participated came from a wide variety of organizations in a number of different industries, including financial, engineering, IT, health, home furnishings, footwear and telecommunications industries as well as from public sector organizations. Henceforth in the article, we will refer to both the students and professionals as participants.

Participation was 100% due to the integral nature of the CPSP exercise in the curriculum, and the exercises and training the participants completed were the same, whether in classes or workshops, and delivered by the same experienced trainer in all of the 111 events. At each event, the focus is on understanding and developing the individual skills of all participants in the Simplex creative problem solving process and the CPSP serves as one method of introducing participants to the Simplex process. It must be made clear that the CPSP exercises were not presented as being part of a research study. However, the trainer announced that the completed CPSP inventories would be collected for ongoing CPSP research purposes which made participants aware that research activity was taking place during the training sessions.

The participants completed the CPSP inventory, plotted their scores and learned their individual problem solving style only in the sense that their dominant quadrants were identified. At this point, they had no awareness of the titles of the four quadrants or the predicted quadrant preferences, only that they were either a quadrant “1”, “2”, “3” or “4”. They were then assigned to homogeneous quadrant groups based on their results by the instructor. It is important to note that, typically, most participants have one particular quadrant that is dominant, but on occasion a participant will have two equally dominant quadrants, and more rarely - but possible - is for a participant to have equal preference for all four quadrant styles. In these instances the participants were instructed to join a specific homogeneous quadrant with fewer participants that matched their preferences. For example, if a person was equally dominant in quadrants one and four, and the number of participants favoring quadrant four far outnumbered those favoring quadrant one, the person would be assigned to the quadrant one group in order to bolster their numbers and increase interaction between participants.

Once they were in their quadrant groups, the instructor assigned the groups an open-ended, creative task which was to be worked on as a group. Each group was instructed to use the skills they had learned as part of the training and, writing on flipchart paper, diverge two lists: one that listed all of the things they liked to do or did well when solving problems and the second being a list of all of the things they did not like to do or felt that they did not do well when solving problems. Then each group was given a second instruction which was to select the three items on each of their two lists that they could agree on as best representing them as a group. No further instruction was
provided as it would have interfered with the experiential learning nature of the exercise and might have influenced the thinking of the group members.

The CPSP exercise was designed to give the participants roughly twenty minutes to both diverge and converge on their lists and the timeframe is applied relatively uniformly across all training sessions, not just the sessions that make up the sample for this study. The exercise then had the groups share their lists, discuss the processes the groups used to work their way through the exercise and any learning that resulted. This was followed by the participants receiving handouts explaining the titles and the descriptions of the different quadrants. The final step of the exercise then allows for any remaining questions and comments before moving on to the next part of the training session. It was at this point that the group flipchart pages containing the lists were collected and identified by quadrant number, session group (organization or class code) and date.

The information on all of the flipchart pages for all the groups in the sample was collected and a content analysis was performed of the groups’ quadrant-by-quadrant responses to the "Like to Do/Do Well" and "Don’t Like to Do/Don’t Do So Well" questions. All the responses were itemized as "most like us" and "least like us", and the frequency of each response was calculated. The responses were then categorized into 50 distinct groups of tasks/activities. Each response given by each individual quadrant group was assigned to one of the 50 categories, and the frequencies were recorded. For example, responses such as “action” and “take action” would be assigned to the same category. The final result was a spreadsheet with calculated frequencies of “Like” and “Don’t Like” responses for each of the 50 activities, by quadrants (see table 1).

**ANALYSES**

To analyze the collected non-parametric data, chi-square was chosen as the method of analysis. To determine whether or not problem solving preferences and quadrant profiles are associated with each other, the chi-square test of independence, also called the chi-square test of association, was employed. Due to the fact that we are looking for the frequency of cases found in one variable (e.g., like/dislike/didn’t mention) within more than two categories of another variable (quadrants), we ran chi-square tests for two or more unrelated samples.

The chi-square test for two or more unrelated samples “is only available as part of the SPSS procedure for generating tables which show the distribution of two or more variables” (Bryman and Cramer, 2001, p.122). Therefore, we had to use the chi-square option in the ‘Crosstabs’ procedure to generate necessary results.

The data were set up so that the quadrants were entered in the first column, responses in the second, and all the listed activity types were entered in the following columns. Each activity/preference is a variable, frequencies for which must be entered “in a single column of the Data Editor, with grouping variables in separate columns” (Corston and Colman, 2000, p.41), to show which quadrant each frequency refers to, and whether the response was “Like”, “Don’t Like”, or a variable was not mentioned at all. Each quadrant group (Generator, Conceptualizer, Optimizer, and Generator) was entered repeatedly in three rows, so that in Response column three types of responses were entered against each quadrant group: Like, Don’t Like, and Didn’t Mention. The “Didn’t
Mention” category was entered into the matrix to account for the groups that did not include a particular activity in either the “Like” or “Don’t Like” categories. This way, the total responses for each activity type added up to 444 in the end, or 111 for each quadrant.

A total of 50 different types of problem solving activities were generated during the categorization process, and a chi square test was performed separately for each of these variables. Before running each chi square analysis in SPSS, the cases were weighted by the variable under consideration (activity type, e.g., Organizing, Analyzing, Planning, etc.) This was a way of telling SPSS which column contained the frequency scores. Once the cases were weighted, a chi square test was performed for a matrix consisting of quadrants in rows and response types in columns.

The Exact chi square test enabled us to analyze the data even for cases where the expected values were less than five. We ran the Exact chi square test for all variables but one. For “details”, the computer was unable to run the Exact chi square test, returning a message of “insufficient memory to perform task”. Since for this particular variable, there were no cells with expected values less than five, we ran the usual chi square, and obtained the significance level that way.

The results of chi square analysis enable us to conclude whether or not there are significant differences among quadrant types as to what they like and don’t like to do when solving problems. The null hypothesis for each of the tests is that there are no differences among quadrants as to whether they like or do not like a particular task – i.e., the actual data would be close to expected counts – and so responses would be equally distributed among Generators, Conceptualizers, Optimizers, and Implementers. Every time that a significant and high Pearson chi square is found for an activity/task, we conclude that there are differences among quadrants, and they do not all like/dislike a particular activity to the same extent. Because the sample size is large, the Pearson chi-square value and Likelihood Ratio in the output section are close to equal, and as they get larger “the likelihood that the two variables are not independent also increases” (George and Mallery, 2005, p. 113).

However, a chi square statistic does not enable us to conclude which quadrants have a stronger or weaker preference for each particular activity. We need to go back to the data to make conclusions about the likes and dislikes of the quadrant groups compared to others.

RESULTS

We generated output for all 50 chi-square tests, one for each problem solving activity identified by our participants, and found that nearly half (twenty-three) of the chi-square values were statistically significant at .05 alpha level, with the majority significant at .01 level. This means that twenty-three activities/task categories are significantly associated with the quadrant predictions.

The statistically significant chi-square values and their significance levels are presented in Table 1. Overall, chi-square statistics are high, ranging from 9.736 for Accepting Criticism to 43.326 for Taking Action, and indicate a strong association between quadrant types and problem solving activity preferences.
Table 1: Categorized Profile Group data

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<th>GENERATORS DO NOT LIKE</th>
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<th>CONCEPTUALIZERS DO NOT LIKE</th>
<th>OPTIMIZERS LIKE</th>
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The pattern of responses in the four quadrants is significantly different for the listed activity types (see Table 2).
Table 2; Significant chi-square values

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<th>Chi-square</th>
<th>Variable/Task</th>
<th>Chi-square</th>
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<td>Organize/Organization</td>
<td>21.282**</td>
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<td>40.788**</td>
<td>Details</td>
<td>21.163**</td>
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<td>27.322**</td>
<td>Visualize</td>
<td>13.432*</td>
</tr>
<tr>
<td>See the big picture</td>
<td>26.777**</td>
<td>Evaluating</td>
<td>12.577*</td>
</tr>
<tr>
<td>Brainstorm</td>
<td>26.573**</td>
<td>Efficiency</td>
<td>10.720*</td>
</tr>
<tr>
<td>Diverging</td>
<td>23.852**</td>
<td>Accepting criticism</td>
<td>9.736*</td>
</tr>
<tr>
<td>Lead</td>
<td>21.768**</td>
<td>*p&lt;.05  **p&lt;.01</td>
<td></td>
</tr>
</tbody>
</table>

Twenty-seven types of responses were not statistically significant. The activities/tasks not found to be significantly associated with the quadrant typology are listed in table 3 below:

Table 3: Non-significant variables

<table>
<thead>
<tr>
<th>Research</th>
<th>Consolidating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have fun</td>
<td>Compromising</td>
</tr>
<tr>
<td>Trial and error</td>
<td>Planning</td>
</tr>
<tr>
<td>Start/Initiate</td>
<td>Being logical</td>
</tr>
<tr>
<td>Being realistic</td>
<td>Confrontion</td>
</tr>
<tr>
<td>Talking</td>
<td>Getting background information</td>
</tr>
<tr>
<td>Reading</td>
<td>Different perspectives</td>
</tr>
<tr>
<td>Writing</td>
<td>Listening</td>
</tr>
<tr>
<td>Procrastinating</td>
<td>Red tape/bureaucracy</td>
</tr>
<tr>
<td>Working in groups</td>
<td>Deadlines</td>
</tr>
<tr>
<td>Providing alternatives</td>
<td>Consensus</td>
</tr>
<tr>
<td>Finding facts</td>
<td>Crazy ideas</td>
</tr>
<tr>
<td>Identifying problems</td>
<td>Finding root cause</td>
</tr>
<tr>
<td>Criticizing</td>
<td></td>
</tr>
</tbody>
</table>

The pattern of responses for each of the above categories was identical in various quadrants. Some of these results were surprising, and will be discussed below, in the section to follow. The output did not include Yate’s Continuity Correction of chi-square because its usefulness and accuracy is controversial, and it is only calculated for 2 x 2
tables, which is not what we have. The Likelihood Ratio for our sample was very close to Pearson chi-square, which is explained by the large sample size.

In terms of support for the hypotheses, first, the data provide the most support for Hypothesis 4. This hypothesis proposed that groups of Implementers would list terms like action, lead and implement, terms that fit with a style focused on learning through direct experience and focused on evaluation, and the analysis bears this out. The words and phrases most strongly associated with the Implementers are: “Take Action” ($\chi^2 = 43.3$), “Hands-on” (40.8), “Implement” (38.4), “Quick decisions” (27.3), “lead” (21.8), “organize” (21.3), and “efficiency” (10.7). Each of these terms is action-oriented and could be argued that each is best associated with ‘getting the job done’, rather than reflecting upon possible courses of action.

Second, the data support Hypothesis 2, that Conceptualizers would favor terms that reflect preferences for gaining knowledge through abstract thinking processes and for using knowledge to generate (diverge) options as opposed to evaluation. The analysis revealed that the terms with the highest associations with conceptualizing style were “abstract things” (29.3), “conceptualize” (29.1), “see the big picture” (26.8), “brainstorm” (26.6), and “creative thinking” (15.5). All of these terms reflect using thinking skills rather than action-oriented words that would suggest direct experience.

Third, there is substantial evidence in support of Hypothesis 1, which proposed that Generators would state terms that reflect their predicted preferences with greater frequency than the other three quadrant styles. The Generators prefer to gain knowledge through direct experience and use their knowledge to generate options, and the terms associated most strongly are “Positive approach” (30.9), “diverging” (23.8), and “challenges” (20.1). According to the theory, Generators are problem finders who constantly scan the environment for new potential threats and opportunities, who are comfortable with ambiguity and who can see the good and the bad in any situation (Basadur et al, 1990), and this description is reflected in the results. However, the results are not as strong as we expected due to some potential weaknesses in the conduct of the study that we will touch upon later.

Lastly, the data also support Hypothesis 3, suggesting significant associations between the predictions and the output of the Optimizer groups in the sample. The most significant terms are “analyze/analysis” (38.5), “making lists” (15.9), “converging” (13.7), and “evaluate” (12.6). Analyze, evaluate and converge are certainly terms one would associate with people whose preferences are for gaining knowledge through abstract thinking and using their knowledge for evaluation.

**DISCUSSION**

The main purpose of this study was to test the predictive validity of the CPSP instrument in terms of whether it accurately predicts the problem solving preferences of people identified as having either a Generator, Conceptualizer, Optimizer or Implementer style. Specifically, we posed the question, “are the CPSP predictions accurate?” and the evidence suggests that answer is yes. In terms of the four hypotheses, the strongest evidence is in support of Hypothesis 4 and Hypothesis 2, concerning Implementer preferences and Conceptualizer preferences, respectively. There also is significant
evidence supporting Hypotheses 1 and 3 although the results are somewhat weaker. Overall, the study adds to the validity, and therefore the trustworthiness, of the CPSP as a valuable instrument for describing creativity and how individuals and groups relate to the creative problem solving process.

The variable “making lists” was a surprise to us and cannot be easily explained. This term surfaces often during the CPSP exercise and is typically nothing more than a collective “jab” at the trainer(s) for making them write a list together, which is viewed as a trivial task by some. If this were true, however, it would likely not be a meaningful variable, and certainly not correlated strongly to one particular group (every group has to perform the same task so it would figure that there would be similar levels of unhappiness in all of the groups). Perhaps “making lists” fits with the Optimizers due to their predicted desire for making order out of chaos, which often is aided by simply making a list and keeping track of concepts and options.

In addition to “making lists” there were several other results that surprised us which we will now discuss. The first surprise we noticed concerned the variable “details”. Normally in training sessions this term is often mentioned by both Generator and Optimizer groups as something they do well, although in conversation the term has different meanings. Generators are interested in all of the potentially related details at the front-end of problem solving but not the details that are focused on solution evaluation and implementation, whereas the Optimizers are typically the exact opposite. Having said this, it was quite surprising to see in the data that all of the quadrant groups mentioned not liking details more than liking details. The term is likely significant due to the negative correlation between the variable and Conceptualizers, who mentioned the term negatively much more frequently than did the other groups.

Next in our list of surprises was the term “organize/organization”, which was expected to be associated most strongly with Optimizers but instead was found significant with Implementers. Based on the steps in the process associated with Optimization stage – evaluation and selection and action planning – it would seem to be an obvious fit for organization in stage three. It should be made clear that there was a significant association between organize and the Optimizer style, but also the Implementer style. Upon reflection, the association with Implementers may fit very well. Implementers are the final stage of the process and are focused on getting plans implemented and problems solved through action, and any lack of organization might impede their progress. Perhaps Implementers recognize and value organization for the benefits to their efforts.

The term “accepting criticism” was also a surprise to find as a significant variable after the chi-square analysis. It was expected that it would not be significant because normally all of the groups state to some degree that they do not like being criticized and so do not accept criticism very well, so it was a surprise to find that one group, the Implementers, mentioned it much more often than did the other groups. This may be due to the fact that Implementers are, by their very nature, tangibly showing their thought processes and decision making skills as they execute plans and get things done. Of the four Profile styles, Implementers can often be said to be the only ones you can actually see doing anything and so perhaps they are more reactive and defensive than the other styles.
So far we have discussed only the variables shown to be significant; there were in fact several surprises due to variables that were expected to be significant but in fact were not. We will only discuss those variables that did not reach 0.05 significance level, but were close enough that we had to make a judgment call as to whether include them or not. (We believe we could make a good case for even using the 0.10 significance level given our desire at this early stage in developing the CPSP to be especially concerned about Type II errors.) There are three such variables: “start/initiate”, “trial and error”, and “getting background information”.

Start/Initiate seemed like an obvious fit for the Generator quadrant before the chi-square analysis, and had a p-value of .051, but was not deemed significant for two reasons; one, because the frequency in which it was mentioned by any of the quadrant groups was relatively low (mentioned only seven times at most by any one group), and second because the difference in frequency between Generators (7 of 111) and Implementers (4 of 111) was not great enough to assign it to either group. What does seem clear, however, is that the variable has greater significance for these two groups perhaps because of their preferred way of acquiring new knowledge, through direct experience, whereas initiating or getting things started is not as important for Conceptualizers and Optimizers who prefer to learn through more abstract means.

Trial and error (p-value 0.60) appeared initially to likely fall into either the Generator or Implementer quadrants due to the fact that it sounded like the way people who prefer to gain new knowledge by direct experience would likely proceed. However, the raw data made clear that the groups in these quadrants were noticeably split in their opinions. What became apparent after viewing the chi-square results and the raw data is that the significance level may be attributed to the aversion Optimizers (7 dislike, 0 like) expressed for the item. This seems to make sense in terms of the CPSP’s predictions since people with the style of Optimizers, who prefer to learn through abstract thinking and use their logic for evaluation, would likely abhor the concept of simply trying out different approaches without thinking it through to determine the right course of action first.

Finally, the phrase “getting background information” (p-value = 0.060) appears at face value to fit well with the Generator description above all of the others, as it is the stage of the process where facts about problem situations are surfaced and shared. Therefore it would seem likely that Generator groups would mention favoring this activity far more frequently than the other quadrant groups. Interestingly, however, is that no Generator groups mentions this term at all, not as something they do well or as something they do not do well. Only five groups out of the entire sample mentioned getting background information out of the entire sample, and four of these groups were Optimizers stating that they liked this activity or felt they did well at it. The other group was an Implementer group who also rated the activity positively. The data are certainly puzzling, but perhaps can best be explained as being the result of some of the vague use of terminology or use of ambiguous terms. One weakness of the study is the fact that the participants were never asked to be more specific about what they meant when completing the exercise. The result is that some of the terms do not appear to make clear sense and so anything close to conclusive analysis is impossible.
LIMITATIONS OF THE CURRENT STUDY AND FUTURE RESEARCH SUGGESTIONS

Both a strength and limitation of the current study was that the questions asked of the participants were in an open-ended format, and participants therefore had an open option to include any variable they could think of. This was a strength of the study because it allowed us to compile a comprehensive list of possible activities, ways of solving problems, but it was also a weakness because it created a broad range of variables, making it sometimes difficult to analyze, and stretching the range of possible answers.

A second weakness in the study was touched upon in the methods section of the paper. It is possible for a person to have two equally dominant quadrant preferences, and even to be equally dominant in all four quadrants. In the training sessions that make up the sample of this study these participants were asked to join one homogeneous group or another depending on the number of people and their quadrant preferences. While this sort of inclusion is perfectly suited to the designs of the training session, it negatively impacts the research effort, because the homogenous groupings have been contaminated. The more active the person with multi-quadrant preferences is in the exercise, the less the data purely represents that homogeneous group’s point of view. In the future, the simplest way of handling this problem might be to eliminate these groups from the sample. Alternatively, these “contaminated” groups might be a source of further research into the styles and preferences of the different quadrant groups by comparing the output of these groups with those of “pure” homogeneous groups.

A third weakness, for which there may not be a solution, is the fact that each person is a blend of the four quadrant styles and so participants in each group, while sharing one dominant style, may have different secondary preferences that are quite pronounced. One potential outcome of this is that different quadrant groups may include the same items in their lists due to the complex blends that make up each participant’s unique creative profile.

Another limitation is that when respondents come up with their own list of activities, they might not specify in detail what they mean by a particular verb, or, alternatively, different groups might use the same word/descriptor to mean different activities. Then, when all of the responses are combined into categories, the data, and subsequently the results, are contaminated at worst, and at best unclear. In this regard future researcher might consider using the variables used in this study to develop a survey instrument that forces participants to be more specific and accurate when recording their thinking.

Some people are not as good in identifying exactly what it is that they like and don’t like to do, and what they are good at and not so good at, if asked an open-ended question. This would be especially true at lower education levels, where people are only used to taking multiple choice and true/false tests, and not so much to responding with their own words. Therefore, providing a list of activities for them to choose from might result in different answers. Providing a list might also take care of the problem of using
same words but meaning different things. When a list is compiled, a brief explanation of each activity can make definitions more specific, and responses more accurate.

It would be interesting to investigate in future research, how compiling a list of options will affect groups’ responses, and the results of studies. Particularly, would a lot of the variables that ended up in the non-significant group in the current study, reach the significance level of .05 if they were presented as a list of possible answers? It would be interesting to study how the chi-square test results would change depending on whether the answer options consisted of all fifty categories, or only of the twenty-seven categories that were found non-significant.

Another avenue for future research would be to analyze the data used in this study using different statistical methods, preferably more sophisticated than used here. It has already been suggested to the authors – too late for our purposes, unfortunately – that an analysis using correspondence analysis, a tool typically used in marketing, might be of value in establishing the relationships between the variables and perhaps add a different dimension to our understanding of the significant and non-significant variables.

It is almost certain that a forced choice among the twenty-seven presently non-significant categories would produce a great change in significance levels of the given categories. However, a more interesting study would be, how many, and which, of the currently not significant variables would be mentioned more often if presented as an answer option. This might be a difficult study to implement. A list of fifty activity categories is a long list, and a researcher would have to find a way to ensure the respondents stay motivated to select their “true” top picks, rather than just randomly marking their answers trying to finish the assignment as soon as possible.

Yet another avenue for potential future research is to look into whether there is evidence of discriminant validity in the frequency and type of responses to the terms (Like or Do not like) by groups from the diametrically opposite CPSP quadrants. According to the theory of the CPSP, the quadrants diametrically opposite from one another are most likely to conflict with each other. For example, Implementers prefer leaping into action regardless of why, whereas Conceptualizers prefer not to do anything until they understand exactly why and what action is necessary. It may be a very interesting area of research to study whether the “Dislikes-Does not Do Well” of one quadrant correlate to the “Likes-Does Well” of the opposite. For example, Basadur predicts that Generators will not like analysis and that Optimizers will; is this in fact true?

**Practical Implications**

The study reported here offers further strong evidence of the validity of the CPSP as an instrument that accurately describes individual problem solving preferences as they relate to a complete creative problem solving process. Innovation and creativity are now important topics in industry and business schools. There are very few instruments with the accuracy and pedigree of the CPSP, and therefore it may prove to be a valuable instrument for professors and instructors in the field of organizational behavior and particularly for professionals in organizations responsible for fostering and increasing the innovative performance of their organizations. The CPSP has long been used to help individuals and teams understand their unique approaches to creatively solving problems,
and more recently it has been used to diagnose organizational-level preferences and improvement opportunities (Basadur & Gelade, 2003). The results of this study should only serve to make more clear the value of the CPSP to the field of innovation and creativity as well as the potential of the CPSP instrument to developing understanding of the creative process, whether in students or professionals, at the individual, team or organizational levels.

REFERENCES


PERCEPTIONS OF ORGANIZATIONAL POLITICS: A META-ANALYSIS OF ANTECEDENTS AND CONSEQUENCES

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Bryan Fuller, Louisiana Tech University

Abstract

The effects of perceptions of organizational politics (POPS) on employee outcomes have been covered extensively in the organizational behavior literature. The focus of this study is to provide a comprehensive quantitative review of these findings and propose an all inclusive theoretical/meta-analytical model of organizational politics. Our study finds support for most but not all of the relationships proposed in the theoretical model that has guided empirical research to date. Job/work environment influences were the most influential group of antecedents to organizational politics perceptions (e.g., trust, feedback, leader-member exchange, cooperation), followed by organizational influences (e.g., centralization, procedural justice, involvement in decision making). However, results suggest that personal influences, in particular demographic variables, have minimal impact on political behavior perceptions. As expected, perceived organizational support was found to be a significant correlate of perceptions of organizational politics. With regards to outcomes, burnout, organizational commitment, job satisfaction, turnover, and stress were all found to be related to perceptions of organizational politics. Further, the results indicate POPS is negatively related to job performance and organizational citizenship behavior. Results indicate that study design (i.e., using all self-reports or multisource data) moderates the relationship with organizational citizenship behavior but not with performance.

Perceptions of Organizational Politics: A Meta-analysis of Antecedents and Consequences

Introduction

The political dimension of organizations, sometimes termed the “dark side” of organizational behavior, has become a fascinating arena for the investigation of the effects of employee perceptions on organizational behavior. Employees’ perceptions of organizational behaviors, politics in particular, has been deemed to have a significant impact on job stress, aggressive behaviors at work, and increased turnover intentions (Harris, James and Boonthanom, 2005; Vigoda, 2002). If perceptions of politics can lead to such dramatic and detrimental effects, this area deserves the attention of organizational behavior researchers.

Authors have expressed the “double-edged sword” effect when referring to organizational politics in that it can be potentially harmful or helpful depending on the tactics used. Some research has suggested that organizational politics can be desirable when used for coalition building, tradeoffs, mutually fulfilling negotiations, and in some cases decision making (Kacmar, Bozeman, Carlson and Anthony, 1999; Drory, 1993). Others have emphasized that negative outcomes of organizational politics far outweigh positive outcomes when dealing with critical factors such as job satisfaction, commitment, turnover, and job anxiety (Witt, Andrews and Kacmar, 2000; Randall, Cropanzano, Boremann and Birjulin, 1999; Huang, Chuang and Lin, 2003; Valle and Perrewe, 2000). However, there is consensus in the notion that organizational
politics is a matter of fact in organizational behavior; in fact, some authors suggest that the presence of politics in organizations is so deeply rooted in human nature that its negative consequences cannot be avoided (Drory, 1993).

There has been an inherent disagreement with regards to the definition of perceived organizational politics. A groundbreaking study by Ferris, Frink, Bhawuk, Zhou and Gilmore (1996) posits that perceived organizational politics (POPS) refers to the evaluation of behavior not formally authorized by an organization that pits individuals against each other and/or against the organization itself. Harrell-Cook, Ferris and Dulebohn (1999) define perceived organizational politics as an individual’s subjective interpretations of the extent to which the work environment is characterized by co-workers and supervisors who engage in political behaviors or by organizational policies that encourage such behaviors. As can be seen from these definitions, there is an inherent disagreement relative to whether the organization itself is responsible for political behavior or the individuals within the organization influence political behavior. The traditional view, however, is that organizational politics is not sanctioned by the organization, and is more related to informal than formal behaviors (Drory and Romm, 1990).

The effects of organizational politics have been studied across cultures as well as across sectors. Vigoda-Gadot and Kapun (2005) found that politics perceptions are substantially higher in public sector organizations than private sector organizations. The authors attribute this finding to the notion that public sector occupations are less flexible and less reciprocal by nature. Therefore, it is logical that employees perceive this lack in flexibility as unfair or unjust treatment. A cross cultural analysis (Israel/Great Britain) found that perceptions of organizational politics were higher among British subjects than their Israeli counterparts (Vigoda, 2001). The study attributed this finding to the notion that Israelis rank lower on power distance (acceptance of differences in rank), and were less likely to perceive hierarchical differences between members of the organization; whereas British subjects are accustomed to a hierarchical work structure and perceive more politics as the level of hierarchy increases. Our study aims to be the most extensive organizational politics meta-analysis published thus far with a distinctive classification of popular antecedents, outcomes and suspected correlates.

An interesting meta-analytic contribution by Miller, Rutherford and Kolodinsky (2008) provides an insightful contribution to generally accepted relationships related to the outcomes of politics perceptions, but in this study we adopt a more comprehensive and analytically conservative approach to comprehensively analyze antecedents, outcomes and a suspected correlate of perceptions of organizational politics. Our main purpose is to revisit the pioneer models offered by researchers on the topic (Ferris, Russ and Fandt, 1989; Ferris and Kacmar, 1992) with hopes of providing insightful contributions to the literature stream. In the next section, we begin with a literature review of existing research in the area including a reassessment of the model proposed by Ferris and Kacmar (1992). We then proceed with a detailed explanation of our meta-analysis including the procedures and guidelines followed in conducting analysis of relationships and detection of moderating effects. Lastly, we provide a comprehensive overview of results and findings and the practical implications of the proposed model.

**Literature Review**
We adapted the model of Ferris et al. (1989) which was revisited by Ferris and Kacmar (1992). This model is depicted in Figure 1.
According to Ferris and Kacmar (1992), there are three categories of predictors for perceptions of organizational politics: organizational influences, job context/environmental influences and personal influences. The model posits that organizational influences consist of centralization, formalization, and hierarchical level. Centralization refers to power in an organization being concentrated in higher levels of management. The authors contend that employees of organizations with high centralization structures feel a lack of power which leads to a sense of lowered control and higher perceptions of politics. Formalization refers to the extent to which instructions, rules, and standards are written and clearly expressed to employees. The authors posit that organizations with a high degree of formalization tend to have employees who have high role clarity and increased knowledge and control over their environment which leads to higher job satisfaction and lower perceptions of politics (Ferris and Kacmar 1992).

Hierarchical level refers to the notion that organizational politics are normally perceived to be in the upper echelons of management; therefore, the higher the administrative position, the higher the perception of organization politics by subordinates. In support of this assumption, Sussman, Adams, Kuzmits and Raho (2002) found that self-serving messages (political in nature) are most likely to come from higher organizational roles than lower ones.

Another potential predictor of perceptions of organizational politics is employee involvement in the decision-making process. Studies have shown that the detrimental effects of politics perceptions are weakened substantially among individuals who engage in consensus decision-making activities with their supervisors (Witt, Andrews and Kacmar, 2000). When upper management encourages the participation and feedback of employees in making crucial decisions, this may lead to a heightened sense of empowerment on the part of employees which could ultimately lead to greater understanding of the organization and increased sense of control over their work environment.

The effects of perceptions of justice, namely procedural justice, on employee organizational politics perceptions have also drawn the attention of researchers (Andrews and Kacmar, 2001; Aryee, Chen and Budhwar, 2004; Muhammad, 2007). The authors define procedural justice as the perceived fairness of the procedures used in the allocation of resources. Therefore, if employees perceive a sense of fairness in the measures used by upper management to determine the distribution of resources, these employees will likely have reduced perceptions of organizational politics. When employees believe that the procedures used in rewarding or penalizing employees constitute equal and fair treatment based strictly on reasonable performance standards, the perceptions of political behavior should be minimized through an internal belief of the legitimacy of the decision making process.

Similarly, span of control (number of employees reporting to a supervisor) is predicted to have a positive relationship with perceptions of organizational politics (Ferris and Kacmar, 1992). The underlying assumption is that as the number of employees reporting to a supervisor increases, the supervisor will have less time devoted to each individual. This will increase employees’ sense of uncertainty and job anxiety, and eventually increase perceptions of organizational politics. The effects of job autonomy on POPS have also been assessed in the literature (Conner, 2006). The authors found that employees that have more latitude in deciding how they conduct their day to day operations on the job are more likely to feel less political perceptions than those who do not experience independence at work.
According to a seminal article provided by Ferris et al. (1989), job autonomy is suggested to be an effective way to reduce uncertainty in the workplace. Autonomy refers to the amount of independence and discretion an individual has in determining how work is to be accomplished (O’Conner and Morrison, 2001). Vigoda (2001) affirmed this view by suggesting that autonomy represented the extent to which employees had considerable input in scheduling their work, selecting the equipment they use, and deciding on procedures to be followed. This freedom to act suggests that an increased sense of importance is placed on the individual which translates to higher perceptions of power and environmental control. Conversely, the lack of autonomy would imply that an employee would be subject to the control of others leading to feelings of powerlessness (Ferris and Kacmar, 1992) and an increase in the perceptions of organizational politics (Valle and Perrewe, 2000).

Advancement opportunities (tendencies of organizations to promote employees to higher job positions) are suggested to have a negative relationship with perceptions of organizational politics since employees who feel that management is concerned with their career advancement will have a lower perception of politics (Ferris and Kacmar 1992). In a study of HR professionals, general work experience was found to have an inverse relationship with POPS regarding issues in their area of expertise such as pay and promotions (Conner, 2006). However, in the majority of POPS studies that included tenure with the current company, the construct was considered a control variable (Valle and Witt 2001; Harris et al 2005). Recent research also found that higher quality feedback environments were related to lower perceptions of organizational politics (Rosen, Levy and Hall, 2006). This finding was based on the notion that employees who are able to receive high quality comments and constructive criticism regarding performance are more likely to have a higher role clarity and greater control over their work environment which leads to lowered politics evaluations.

Although not included in the original model proposed by Ferris and Kacmar (1992), the effects of trust have been assessed in several studies. Parker, Dipboye and Jackson (1995) found a negative relationship between trust and perceptions of organizational politics, -0.35, which
suggests when higher levels of trust are prevalent, individuals believe that the organization is concerned with their best interests and would be unlikely to perceive organizational politics as a significant threat. Poon (2006) evaluated trust in supervisor and found that the relationship was moderated by perceptions of organizational politics.

Leader-member exchange (LMX) theory is concerned with the relational exchange between supervisors and their subordinates, where subordinates are considered either in-group or out-group (Graen, 1976). Ferris and Kacmar (1992) did not specifically address leader-member exchange as an individual construct, but broadly defined the construct as an ‘interaction with others’ embodying the relationship with a supervisor in evaluating job and work related environmental influences. The expectation for the relationship between this construct and perceptions of organizational politics was anticipated to be positive, but results indicated a negative relationship. Andrews and Kacmar (2001) affirmed this inverse relationship, -0.40, indicating that in-group members involved in decision making feel a higher sense of control and perceive lower organizational politics than their counterparts. In this study, we expect an inverse relationship between leader-member exchange based on the notion that open channels of communication between supervisors and subordinates will lead to lower suspicions of managerial political behavior on the part of employees (Kacmar, et al.,1999; Chicakidkarn, 2000; Harris and Kacmar, 2005).

Cooperation refers to the willingness of employees to exert effort towards the success of the organization and also the extent to which co-workers are in active support of one another (Chatman and Barsade, 1995). The majority of research covered in this meta-analysis suggests that a negative relationship exists between perceptions of organizational politics and cooperation (Kacmar et al., 1999; Andrews and Kacmar 2001; Harris, et al., 2005). More recent research has shown that perceptions of organizational politics have a stronger effect on job satisfaction through the value or importance placed on cooperation (Valle and Witt, 2001). The basic premise of this finding is that employees who place more emphasis on teamwork will have a better understanding and control over their environments which will minimize job anxiety and, therefore, lead to lower politics perceptions. Employees who perceive less political behavior in the upper echelons of management are more likely to feel that their success is based on teamwork and collective effort; and not contingent on the decisions and political activity of certain policymakers.

Personal Influences

There has been a growing disagreement within the literature regarding personal influences. For example, some studies have shown that females perceive organizational politics to a higher extent than males. This finding was attributed to the notion that females normally operate from positions of inferiority in organizations, therefore, they are more likely to detect abnormal behavior within an organization (Ferris, et. al 1989). On the other hand, other research has shown that males are more perceptive of organizational politics, and attributed this finding to the perception that males are usually more involved in upper management than females, and therefore, would be more likely to be involved with politics (Heilman, 1983). Subsequent political climate research suggested that gender and supervisory position may moderate the relationship between climate and job attitudes (Drory, 1993). Educational level is suggested to be a personal variable with negative effects on POPS since the higher an employee’s education level, the more likely that employee is to have lower job ambiguity, higher control, and a reduced perception of politics (Parker et al., 1995).
Research has shown that locus of control has a significant impact on perceptions of organizational politics since those with a higher sense of control over their workplace do not feel as helpless as those with lower control, and therefore, have a higher job satisfaction and lower POPS (Ferris, Brand, Brand, Roland, Gilmore, et al., 1993). However, there are inherent differences when assessing external and internal locus of control. External locus of control refers to an employee’s belief that their fate is dependent on forces outside of their control, while internal locus of control refers to employee’s sense that they are in control of their environment. Numerous studies have suggested a positive relationship between external locus of control and perceptions of organizational politics (Valle and Perrewe 2000; Andrews and Kacmar 2001; O’Connor and Morrison, 2001). It would be reasonable to assume, therefore, that employees with a high level of external control would also perceive higher levels of politics.

An interesting study on the effects of dispositional variables on politics perceptions indicates that individuals who portray a more positive outlook on their lives tend to have lower perceptions of organizational politics (Valle, Witt and Hochwarter, 2002). The authors suggest that individuals with a high positive affectivity are likely to exhibit a positive and enthusiastic attitude toward their jobs, while individuals with a high negative affectivity tend to possess a more pessimistic outlook and focus on the negative aspects of their organizations. Therefore, employees who rank high on negative affectivity may inherently search for scapegoats, namely political behavior, within the organization to shoulder the blame for their deficiencies and negative attitudes; whereas positively affective individuals are more likely to give management the benefit of the doubt when suspicions of political behavior may arise.

Mixed results were also found for age in a study which provided conflicting findings regarding age (Ferris and Kacmar, 1992). Study 1 found a positive age/POPS relationship, while Study 2 found a negative age/POPS relationship. Other studies showed that age moderated the relationship between organizational politics and commitment with more significant effects on younger employees (Witt, Treadway and Ferris, 2004). Contrary to these findings, subsequent research suggests that increases in perceptions of politics are associated with decreases in job satisfaction for older employees with no significant effects on younger employees (Treadway, Conner and Hochwarter, 2005).

Minority status has been associated with perceptions of organization politics in several studies. Parker et al. (1995) explored the construct as a moderator in the relationship between affirmative action/equal opportunity and the perception of organizational politics. They did not find evidence to suggest this moderated relationship was present, but did find a weak (.02) albeit significant relationship with perceptions of organizational politics. Some interesting research on minority status (racial/ethnic minorities) in organizations found that understanding was a significant moderator for some groups, but not others (Ferris et al., 1996).

In three of the five studies included in this analysis, the construct was used as a control variable resulting in a positive relationship in each study. Ferris and Kacmar (1989), however, did not include the construct as a variable in their analysis. A subsequent study by Zivnuska, Kacmar, Witt, Carlson and Bratton (2004) was the only study to have found a negative relationship between the variables. Compounding the interpretation of these results is the reported technique used to code the variable. Some studies dummy coded minorities with a value of 1 and non-minorities with a value of 2, while another separated the population as either “white” or “minority” without disclosing the ordinal coding relationship between them. As a result, interpretations of the previous studies yield unclear and potentially conflicting inferences.

Outcomes
Among the most consistent outcomes of POPS covered in the literature were job stress, job satisfaction, and turnover (Ferris, Frink, Galang, Zhou, Kacmar, et al., 1992). Job stress is caused by an inherent uncertainty about the job which leads to a lack of control that causes frustration. The authors suggest a positive relationship between POPS and stress since the higher an employee’s sense of job stress, the more likely they will attribute this frustration to politics. The study posits that a sense of autonomy, job variety, and feedback could significantly reduce an employee’s job stress level. An international study found that job distress was an immediate response to perceptions of organizational politics and also played the role of mediator between POPS and aggressive behavior (Vigoda, 2002).

The job satisfaction/performance outcomes are central to virtually all behavioral disciplines that study the attitudes and behaviors of employees in order to relate them to overall effectiveness. The POPS/job satisfaction/performance relationship is no exception. The consensus within the literature is that POPS negatively influences job satisfaction because the higher the employee perceptions of politics, the higher their job stress and sense of helplessness; which eventually leads to lower satisfaction ratings (Ferris et al., 1996). Performance is often deemed the “bottom line” for a growing majority of successful managers, and the effects of POPS on performance has been covered extensively in the literature (Randall et al., 1999; Treadway, Ferris, Hochwarter, Perrewe, Witt, Kacmar, Carlson, Zivnuska, 2002; Vigoda-Gadot and Kapun, 2005; Rosen et al., 2006; Vigoda-Gadot, 2007). The overall consensus of the studies is that higher levels of organizational politics lead to detrimental effects on performance. When employees sense that their work environment is saturated with political tension, this leads to higher job stress which negatively affects employee performance.

Studies on the effects of POPS on organizational commitment provided mixed results. Witt and colleagues (2004) found that perceptions of politics were inversely, but weakly related to organizational commitment. However, other studies found significantly stronger negative relationships between the two constructs (Randall et al., 1999; Vigoda-Gadot, and Kapun, 2005). A more recent study (Rosen et al., 2006) posits that lowered perceptions of politics have a positive effect on performance and organizational citizenship behaviors based on a mediating through morale (measured as a combination of job satisfaction and affective commitment).

Recent research has shown that organizational citizenship behaviors can be a potential outcome of perceptions of organizational politics (Rosen et al., 2006). The authors propose that lowered perceptions of organizational politics lead to higher levels of employee morale, which mediates the relationship of politics perceptions and organizational citizenship behaviors. These findings were consistent with prior research which indicated that perceptions of organizational politics were significantly related to job satisfaction and organizational citizenship behaviors (Randall et al., 1999).

The perception of organizational politics and turnover relationship is considered to be a positive relationship in that the more politics that is perceived by an employee the more likely they are to leave the organization. Some studies have shown that POPS can moderate the relationship between job strain (stress) and intent to leave an organization (Harris et al., 2005). Other research proposes a more direct effect, positing that organizational politics and supervisor support had a direct effect on turnover intentions, commitment, and job satisfaction (Randall, et al., 1999). Research has shown that there are three possible employee reactions to perceived organization politics: leave the organization, remain in the organization and do not become involved in organizational politics, or remain in the organization and become involved in
organizational politics (Ferris et al., 1989). These turnover tendencies may also be attributable to the effects of burnout or stress related exhaustion.

Vigoda-Gadot (2005) suggested burnout as a consequence of perceptions of organizational politics which may be mediated by job distress. In separate samples, the study found a positive relationship (0.31 and 0.30) between the two constructs. Huang et al. (2003) used components of the Maslach Burnout Inventory to assess the negative impact of burnout compared to different organizational perceptions, and found a positive relationship between perceptions of organizational politics and exhaustion (0.49). Two other studies found positive relationships between the two constructs (0.16 and 0.37), respectively (James, 2005; Cropanzano, Howes, Grandey, Toft, 1997). Consistent with these findings, we also predict a positive relationship between the two constructs since high stress levels may cause internal frustrations which may be redirected at management leading to suspicions of political behavior.

Correlates
The impact of perceptions of organizational support (POS) as an antecedent to perceptions of organizational politics, and vice versa has received limited research attention in past studies. Randall et al. (1999) noted much of the data collected in the study was from self reported data and may be inflated due to response bias. The inverse relationship found by these studies, -0.77, was also reflected by a study on the water industry where a -0.72 relationship was found (Harris et al., 2005). Andrews and Kaemar (2001) also suggest a negative relationship, -0.72, between the constructs. Taken collectively, we predict these findings will be consistent with the current meta-analytic study since employees who perceive a higher sense of support and concern on the part of their superiors would be less likely to suspect political behaviors.

Methods
Study Sources
To provide an integrative meta-analytic framework of perceptions of organizational politics, we first searched for refereed journal articles reporting POPS relationships using computerized sources (ABI Inform and Business Source Premier). We also manually searched key journals in the organizational sciences such as: Journal of Management, Journal of Organizational Behavior, Public Personnel Management, Journal of Managerial Psychology, Journal of Applied Psychology, Organizational Analysis, Human Relations, Policy and Politics, The Journal of Social Psychology, Journal of Managerial Issues, and Organizational Analysis. In addition, the references cited in a previous meta-analysis (Miller et al., 2008) were also checked for any missing ones in our analysis. Initially, a total of 50 studies were identified containing relevant correlation tables from these journals. Subsequently, 2 conference proceedings were received from the original authors after contacting the Academy of Management as well as 10 dissertations from the ABI / Informs dissertation database. The total number of independent samples included in our analyses came out to be 68 from a total number of 62 individual studies.

Initially, 37 variables were chosen for analysis based on constructs assessed in the correlation tables of the collected articles. For the sake of a more robust and generalizable study, the variable list was subsequently reduced to 28 variables based on the number of articles assessing each variable. Consequent deliberations with researchers in the area ensured that the inclusion of the assigned variables to the model were inter-subjectively certifiable.

Meta-Analytic Procedures
The purpose of a meta-analysis is to cumulate findings across studies, estimate the amount of artifactual variation between studies, and based on these results, assess the existing
relationships between variables (Wanous, Sullivan and Malankak, 1989). We utilized Hunter and Schmidt’s (1990) random-effects model to conduct our meta-analysis and corrected studies individually for artifacts because of its predominance in the literature and research supporting its accuracy (e.g., Hall and Brannick, 2002). This method corrects for sampling error and attenuation due to unreliability in both the predictor and criterion and generates sample-weighted estimates of the population correlation. When no reliability estimate was provided, average reliability reported in the other studies in our sample was used. With regard to maintaining the statistical independence of studies, we adhered to the guidelines provided by Hunter and Schmidt (1990). Inputs into the meta-analyses included reliability estimates for independent and dependent (POPS) variables, correlations between the variables obtained from correlation tables, and sample sizes. For studies that reported identical variables that were assessed with multiple measures (e.g. cross cultural studies in which subjects from each country were measured separately) the correlations were averaged and one composite correlation was used. This technique has been shown to improve both reliability and construct validity (Hunter and Schmidt, 1990).

We followed a two-step procedure proposed by Hunter and Schmidt (1990) and Whitener (1990). First, we determined whether the group of studies in the meta-analysis represented one population (i.e., homogeneous group of studies), or more than one population (i.e., heterogeneous group of studies). The proportion of variance accounted for by sampling and measurement error was used to assess sample homogeneity. The generally accepted rule of thumb is that when sampling and measurement error accounts for more than 75% of observed variance, then the remaining variance should be accounted for by other artifacts and the sample population should be considered homogeneous. This provides a better indication of homogeneity than significance tests (Hunter and Schmidt, 2004). We also calculated 95% credibility intervals to provide another indication of sample population homogeneity, as suggested by Whitener (1990). Credibility intervals indicate sample heterogeneity (i.e., the presence of moderators) when they either include zero or display wide intervals.

Based upon the indication of sample homogeneity/heterogeneity provided by the proportion of variance accounted for by artifacts and the 95% credibility interval, we calculated a 95% confidence interval (Whitener, 1990). Given the observed data, confidence intervals provide an indication of the “range within which the population is likely to be” (Lipsey and Wilson, 2001: 114). If the 95% confidence interval does not include zero, the population mean effect size is statistically significant at the .05 level.

Hunter and Schmidt’s (1990) “Critical Ratio Z” test was used to provide a statistical indicator of moderation as compared to subgroups of data. This test accounts for second-order sampling error in assessing the difference between mean effect sizes by constructing 95% confidence intervals around each subgroup mean effect size and assessing the extent to which the two confidence intervals overlap.

Avoiding Publication Bias

We generated a “fail-safe N” statistic to address the “file drawer problem” often encountered in meta-analytic studies (Hunter and Schmidt, 1990). The fail-safe N provides an estimate of the number of studies hidden in a file drawer (i.e., missing from our literature search) with a null effect size that would be required to reduce the estimated populated correlation to a non-significant statistical level.

Main Effects Coding
Coding for variables was completed by the research team and cross verified by team members, then verified by an independent evaluator. Discrepancies were resolved through discussion and agreement by the research team. When dichotomous variable coding was not clearly detailed in the original research, an attempt was made through analysis of the sample mean and sample size/composition to define the coding. When no definitive agreement could be reached, the sample was excluded for evaluation of the variable in question. Minority status, for example, while present in twelve studies, was excluded from analysis on five studies where the coding could not be determined.

Results

Originating from our theory section, and as mentioned in our methods section, we were able to extract 28 variables with 4 or more studies available for the meta-analysis. Based on the original theory studies (Ferris et al., 1989; Ferris and Kacmar, 1992), we placed each variable under different antecedent or outcome categories. Out of these 28 variables, 6 were organizational antecedents, 6 were job/work environment antecedents, 8 were personal antecedents, 7 were outcomes and 1 was a correlate variable. We also performed a moderator analysis for two of the outcome variables. Results of the meta-analytic procedures are summarized in four tables provided in the following pages.

Table 1 includes the results for organizational antecedents of perceptions of organizational politics. Our meta-analytic procedures do not suggest any statistically significant relationship between hierarchical level and POPS (corrected r=.04, CI -.06 to .13). On the other hand, centralization (corrected r=.58, CI .49 to .66) and span of control (corrected r=.06, CI .03 to .09) are positively related as hypothesized by the original model, although the impact of span of control does not seem to be as powerful. In addition, formalization (corrected r=-.24, CI -.37 to -.10), procedural justice (corrected r=-.61, CI -.70 to -.51) and involvement in decision making (corrected r=-.56, CI -.64 to -.48) are all strong negative predictors of politics perceptions. It should be noted that the relatively reduced impact of span of control can be attributed to relatively low number of studies included in the analysis (k=4). Researchers with access to more studies of the relationships between span of control and POPS may discover more promising results.

In Table 2, meta-analytic results of job/work environment antecedents and perceptions of organizational politics are reported. All six variables included in our analysis; autonomy (corrected r=-.29, CI -.37 to -.21), feedback (corrected r=-.46, CI -.63 to -.23), opportunity for advancement (corrected r=-.37, CI -.53 to -.21), trust (corrected r=-.72, CI -.83 to -.61), leader member exchange (corrected r=-.52, CI -.54 to -.50) and cooperation (corrected r=-.60, CI -.68 to -.53), show strong negative relationships with POPS. In fact, this group of antecedents can be considered the most powerful predictor of political perceptions of participants included in our analysis.

Results for the final group of antecedents, namely personal influences, are reported in Table 3. None of the demographic variables; age (corrected r=-.03, CI -.06 to .00), gender (corrected r=-.01, CI -.03 to .05), education (corrected r=-.01 CI -.07 to .06) and minority status (corrected r=.01, CI -.04 to .05) show any significant relationship with POPS other than the moderate impact of tenure (corrected r=.05, CI .02 to .08). We were able to find strong
relationships between external locus of control (corrected $r=.53$, CI .34 to .72), positive affect (corrected $r=-.33$, CI -.38 to -.28), negative affect (corrected $r=.51$, CI .44 to .57) and POPS in which were consistent with the directions proposed in previous studies.

Meta-analytic results for perceptions of organizational politics and outcomes and a correlate are reported in Table 4. Burnout (corrected $r=.36$, CI .29 to .43), turnover (corrected $r=.47$, CI .40 to .54) and stress (corrected $r=.46$, CI .38 to .54) are positively related outcomes of POPS. Performance (corrected $r=-.09$, CI -.14 to -.05), organizational citizenship behavior (corrected $r=-.14$, CI -.19 to -.10), commitment (corrected $r=-.44$, CI -.51 to -.37), satisfaction (corrected $r=-.54$, CI -.59 to -.49) are all negatively related outcomes and perceived organizational support (corrected $r=-.61$, CI -.75 to -.47) is a negatively related correlate of politics perceptions. In addition to regular analysis, we also performed a moderator analysis for performance and OCB based on coding technique (multi-source or self-reported). Results do not indicate moderator effects of multi-source and self-report for performance measures ($Z=0.55$) but do suggest a significant moderator impact for OCB measures ($Z=2.28$, $p<.05$). Several other artifact variance percentage values and credibility intervals indicate potential moderating effects for the relationship between some of the antecedents/outcomes and POPS, but we did not perform such analyses. A more in depth moderator analysis could prove to be a research avenue that could constitute an insightful contribution to the literature stream.

Discussion

With a few exceptions, the overall findings of this study support the basic theoretical framework for perceptions of organizational politics proposed by Ferris et al. (1989) and Ferris and Kacmar (1992) of prior research of relationships between the studied variables and perceptions of organizational politics. The antecedents with the strongest impact on perceptions of organizational politics were job/work influences, followed by organizational influences and personal influences, respectively. This finding emphasizes the importance of placing more managerial attention on the work related, or “on the job” concerns of employees.

Although personal influence variables are prevalent in the majority of organizational politics research, the results of the meta-analysis suggest a minimal effect. There were no significant relationships found between age, gender, education, tenure, and minority status with perceptions of organizational politics. These results suggest that these factors are likely to be of little use as control variables. However, psychological dispositions such as positive affect (inverse relationship), negative affect (positive relationship), and external locus of control (positive relationship) were shown to have a significant impact on perceptions of organizational politics. Therefore, if researchers are interested in controlling for nonwork-related personal factors, personality variables such as those examined here are likely to be more important than demographic factors. Leadership styles may also be influential in moderating the external locus of control relationship since leaders that empower their subordinates and create environments of mutual understanding and goal attainment may reduce perceptions of helplessness. Future research should analyze the potential effects of these suspected moderators.

Organizational influence variables provided mixed relationships with perceptions of organizational politics. Formalization and centralization had significantly negative and positive relationships, respectively. However, the magnitude of the relationships we found indicates that centralization is likely to be the more influential of the two. Surprisingly, hierarchical level did not have any relationship with perceptions of organizational politics. This may be attributed to
the notion that politics, in some form, may exist at the lowest levels of an organization, since according to previous research, politics is deeply rooted in human nature regardless of job status (Drory, 1993). The surprisingly weak relationship between span of control and perceptions of organizational politics could be attributable to an insufficient number of studies covered in the analysis, but an alternative explanation could be the increased sense of autonomy experienced by employees with reduced supervision, which may lead to reductions in suspicions of political behavior.

Procedural justice and involvement in decision making both exhibited strong negative relationships with perceptions of organizational politics. If employees feel the decision making procedures are unfair, they are likely to have lowered job satisfaction (lowered sense of fulfillment due to unfairness and vice versa), and organizational commitment (lowered sense of obligation due to unfairness and vice versa). If employees sense that their supervisor is open to their ideas for improvement or that the supervisor is genuinely interested in employee input, employees may be less likely to sense political behavior since the decisions made are based on their own participation and feedback. Together, these results point out the importance of decision making processes in fostering perceptions of politics.

The strongest predictors of perceptions of organizational politics were the variables categorized as job/work environment influences. The uniformly inverse relationships found throughout this category shed considerable light on the impact that work related behaviors in reducing political suspicions. As expected, leader member exchange, cooperation, and feedback from supervisors provided negative relationships with perceptions of political behavior. The extent to which supervisors communicate freely with subordinates and provide a work environment conducive to a coordinated development process is a strong indicator of how subordinates view political behavior within an organization. In previous research, feedback from supervisors has been suggested to produce minimizing effects on perceptions of organizational politics since increased feedback reduces job ambiguity. However, the nature of feedback received (constructive criticism vs. destructive criticism) may not only affect this relationship, but eventually lead to turnover intentions due to a negative work environment.

Advancement opportunities, or potential to advance within an organization, can indicate how an employee perceives political behavior. Unacceptable promotion standards will lead to feelings of managerial suppression. A potential moderator of this relationship is the level of formalization implemented by firms since an employee that is not sure of the actual logistics of what needs to be done in order to be promoted will have a lower sense of potentials for career advancement. As for job autonomy, employees who are given adequate discretion in deciding how their jobs are conducted are less likely to attribute job difficulties to political behavior. A potential moderator of this relationship could be an employee’s role clarity since the ability to perform job functions in an independent manner would rely heavily on having a proper understanding of what the job entails. As expected, trust also has a significantly negative effect on perceptions of organizational politics. An organization that is capable of instilling trust into supervisor-employee relationships will greatly reduce the negative effects of intra-firm political suspicions. The reciprocally inverse relationship between perceived organizational support and perceptions of organizational politics was also supported which indicates that the extent to which supervisors and/or authority figures in a firm reach out to employees is highly correlated with political behavior perceptions.

Commitment, satisfaction, organizational citizenship behaviors, and performance were negatively related to perceptions of organizational politics. Interestingly, results suggest that the
method used in reporting organizational citizenship behaviors (multi-source or self-reported) actually moderate the relationship between the construct and perceptions of organizational politics. Recent research has shown that organizational citizenship behaviors are potential outcomes of perceptions of organizational politics (Rosen et al., 2006). The authors propose that lowered perceptions of organizational politics lead to higher levels of employee morale, which mediates the relationship of politics perceptions and organizational citizenship behaviors. These findings were consistent with prior research studies which indicate that perceptions of organizational politics are significantly related to job satisfaction and organizational citizenship behaviors (Randall et al., 1999).

Consistent with prior research, burnout, stress, and turnover were positively related to perceptions of organizational politics since employees who perceive political behavior will experience anxiety due to a lack of control over their work environment, and if not controlled effectively could translate into burnout and permanent detachment from the organization. It should be noted that these relationships are consistent with the original model proposed by Ferris et al. (1989) and revisited by Ferris and Kacmar (1992). The moderately strong positive relationship with turnover is perhaps most interesting in that it appears to be substantially stronger than that reported for organizational commitment or job satisfaction. In sum, this study attempts to provide an integrative framework of the existing literature stream on organizational politics and reinforces prior findings about relationships between the studied variables.

**Limitations and Conclusions**

Our study had several limitations. First, we were only able to study potential moderating effects for two of our outcome variables. Future studies should address this shortcoming by a more complete assessment of moderating effects. The second limitation is related to the number of studies included in the analysis. An intensive data gathering process was conducted to include the majority of published studies in the literature stream. However, we are aware of the fact that some studies are still “works in progress” or do not reach the publication stage altogether. Future research should focus on a more thorough review of the literature stream and the inclusion of upcoming studies which may provide a more comprehensive review of potential variables not included in the meta-analysis.

This meta-analytic assessment of organizational politics perceptions attempts to summarize decades of research about perceptions of organizational politics in a conservative, yet reliable format. Most of the reported results coincide with the original POPS model and its extensions. This study aims to provide an assessment of the different antecedents of perceptions of organizational politics and their effects on employee behavior which signifies a valuable contribution to academicians and practitioners alike.
Table 1 - Meta-Analytic Results for Organizational Antecedents of Perceptions of Organizational Politics

<table>
<thead>
<tr>
<th>Variable</th>
<th>K</th>
<th>N</th>
<th>$-r$</th>
<th>$p$</th>
<th>Corrected Observed Variance</th>
<th>Artifact Variance</th>
<th>$%$ Artifact Variance</th>
<th>95% Credibility Interval</th>
<th>95% Confidence Interval</th>
<th>Fail Safe N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralization</td>
<td>6</td>
<td>3,221</td>
<td>.48</td>
<td>.58</td>
<td>.011741</td>
<td>.001622</td>
<td>14%</td>
<td>(.38          , .77)</td>
<td>(.49          , .66)</td>
<td>281</td>
</tr>
<tr>
<td>Formalization</td>
<td>10</td>
<td>3,726</td>
<td>-.18</td>
<td>-.24</td>
<td>.048471</td>
<td>.004137</td>
<td>9%</td>
<td>(-.65         , .18)</td>
<td>(-.37         , -.10)</td>
<td>174</td>
</tr>
<tr>
<td>Hierarchical Level</td>
<td>8</td>
<td>3,988</td>
<td>.03</td>
<td>.04</td>
<td>.019578</td>
<td>.002454</td>
<td>13%</td>
<td>(-.22         , .29)</td>
<td>(-.06         , .13)</td>
<td>NA</td>
</tr>
<tr>
<td>Span of Control</td>
<td>4</td>
<td>879</td>
<td>.06</td>
<td>.06</td>
<td>.001544</td>
<td>.005236</td>
<td>100%</td>
<td>.06</td>
<td>.03          , .09</td>
<td>19</td>
</tr>
<tr>
<td>Procedural Justice</td>
<td>6</td>
<td>1,619</td>
<td>-.51</td>
<td>-.61</td>
<td>.014846</td>
<td>.002907</td>
<td>20%</td>
<td>(-.82         , -.39)</td>
<td>(-.70         , -.51)</td>
<td>298</td>
</tr>
<tr>
<td>Involvement in Decision Making</td>
<td>8</td>
<td>6,209</td>
<td>-.47</td>
<td>-.56</td>
<td>.014262</td>
<td>.001120</td>
<td>8%</td>
<td>(-.78         , -.33)</td>
<td>(-.64         , -.48)</td>
<td>367</td>
</tr>
</tbody>
</table>

Note. $K = \text{number of studies}; N = \text{total sample size}; r = \text{average observed effect size}; p = r \text{bar corrected for measurement error in both the predictor and the criterion}; \text{Corrected Observed Variance} = \text{observed variance in corrected correlations}; \text{Artifact Variance} = \text{variance in corrected correlations attributable to all artifacts}.

Table 2 - Meta-Analytic Results for Job/Work Environment Antecedents of Perceptions of Organizational Politics

<table>
<thead>
<tr>
<th>Variable</th>
<th>K</th>
<th>N</th>
<th>$-r$</th>
<th>$p$</th>
<th>Corrected Observed Variance</th>
<th>Artifact Variance</th>
<th>$%$ Artifact Variance</th>
<th>95% Credibility Interval</th>
<th>95% Confidence Interval</th>
<th>Fail Safe N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>9</td>
<td>3,786</td>
<td>-.24</td>
<td>-.29</td>
<td>.015099</td>
<td>.003033</td>
<td>20%</td>
<td>(-.50         , -.07)</td>
<td>(-.37         , -.21)</td>
<td>209</td>
</tr>
<tr>
<td>Feedback</td>
<td>7</td>
<td>3,052</td>
<td>-.39</td>
<td>-.46</td>
<td>.005329</td>
<td>.002378</td>
<td>4%</td>
<td>(-.90         , -.02)</td>
<td>(-.63         , -.29)</td>
<td>263</td>
</tr>
<tr>
<td>Opportunity for Advancement</td>
<td>7</td>
<td>3,384</td>
<td>-.31</td>
<td>-.37</td>
<td>.045863</td>
<td>.002284</td>
<td>5%</td>
<td>(-.78         , .04)</td>
<td>(-.53         , -.21)</td>
<td>213</td>
</tr>
<tr>
<td>Trust</td>
<td>6</td>
<td>1,848</td>
<td>-.62</td>
<td>-.72</td>
<td>.019966</td>
<td>.001662</td>
<td>8%</td>
<td>(-.99         , -.46)</td>
<td>(-.83         , -.61)</td>
<td>367</td>
</tr>
<tr>
<td>Leader Member Exchange</td>
<td>5</td>
<td>3,612</td>
<td>-.46</td>
<td>-.52</td>
<td>.001280</td>
<td>.001121</td>
<td>88%</td>
<td>(-.54         , -.49)</td>
<td>(-.54         , -.50)</td>
<td>224</td>
</tr>
<tr>
<td>Cooperation</td>
<td>4</td>
<td>2,760</td>
<td>-.50</td>
<td>-.60</td>
<td>.006452</td>
<td>.001202</td>
<td>19%</td>
<td>(-.74         , -.46)</td>
<td>(-.68         , -.53)</td>
<td>195</td>
</tr>
</tbody>
</table>

Table 3 - Meta-Analytic Results for Personal Antecedents of Perceptions of Organizational Politics

<table>
<thead>
<tr>
<th>Variable</th>
<th>K</th>
<th>N</th>
<th>$-r$</th>
<th>$p$</th>
<th>Corrected Observed Variance</th>
<th>Artifact Variance</th>
<th>$%$ Artifact Variance</th>
<th>95% Credibility Interval</th>
<th>95% Confidence Interval</th>
<th>Fail Safe N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>34</td>
<td>14,063</td>
<td>-.03</td>
<td>-.03</td>
<td>.009811</td>
<td>.002904</td>
<td>30%</td>
<td>(-.19         , .13)</td>
<td>(-.06         , .00)</td>
<td>NA</td>
</tr>
<tr>
<td>Gender</td>
<td>23</td>
<td>11,009</td>
<td>.00</td>
<td>-.01</td>
<td>.009852</td>
<td>.002462</td>
<td>25%</td>
<td>(-.16         , .17)</td>
<td>(-.03         , .05)</td>
<td>NA</td>
</tr>
<tr>
<td>Tenure</td>
<td>25</td>
<td>10,441</td>
<td>.05</td>
<td>.05</td>
<td>.009545</td>
<td>.002476</td>
<td>40%</td>
<td>(-.07         , .18)</td>
<td>(.02          , .08)</td>
<td>94</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>4</td>
<td>1,439</td>
<td>.45</td>
<td>.53</td>
<td>.038214</td>
<td>.002412</td>
<td>6%</td>
<td>(.16          , .90)</td>
<td>(.34          , .72)</td>
<td>178</td>
</tr>
<tr>
<td>External Positive Affect</td>
<td>7</td>
<td>3,646</td>
<td>-.29</td>
<td>-.33</td>
<td>.004621</td>
<td>.002002</td>
<td>43%</td>
<td>(-.43         , -.23)</td>
<td>(-.38         , -.28)</td>
<td>199</td>
</tr>
<tr>
<td>Negative Affect</td>
<td>5</td>
<td>3,119</td>
<td>.44</td>
<td>.51</td>
<td>.006091</td>
<td>.001367</td>
<td>22%</td>
<td>(.37          , .64)</td>
<td>(.44          , .57)</td>
<td>216</td>
</tr>
<tr>
<td>Education</td>
<td>11</td>
<td>5,204</td>
<td>-.01</td>
<td>-.01</td>
<td>.012934</td>
<td>.002559</td>
<td>20%</td>
<td>(-.21         , .19)</td>
<td>(-.07         , .06)</td>
<td>NA</td>
</tr>
<tr>
<td>Minority Status</td>
<td>7</td>
<td>4,747</td>
<td>.00</td>
<td>.01</td>
<td>.004683</td>
<td>.001788</td>
<td>38%</td>
<td>(-.10         , .11)</td>
<td>(-.04         , .05)</td>
<td>NA</td>
</tr>
</tbody>
</table>

Note. $K = \text{number of studies}; N = \text{total sample size}; r = \text{average observed effect size}; p = r \text{bar corrected for measurement error in both the predictor and the criterion}; \text{Corrected Observed Variance} = \text{observed variance in corrected correlations}; \text{Artifact Variance} = \text{variance in corrected correlations attributable to all artifacts}.
<table>
<thead>
<tr>
<th>Variable</th>
<th>$K$</th>
<th>$N$</th>
<th>$r$</th>
<th>$p$</th>
<th>Corrected Observed Variance</th>
<th>Artifact Variance</th>
<th>$p$ corrected for measurement error in both the predictor and the criterion</th>
<th>Corrected Observed Variance</th>
<th>Artifact Variance</th>
<th>$p$ corrected for measurement error in both the predictor and the criterion</th>
<th>Fail Safe $N$</th>
<th>$Z$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>12</td>
<td>3,322</td>
<td>-.07</td>
<td>-.09</td>
<td>.011051</td>
<td>.004843</td>
<td>44% (-.24 .07)</td>
<td>(.14 .05)</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-source</td>
<td>10</td>
<td>2,648</td>
<td>-.07</td>
<td>-.08</td>
<td>.013579</td>
<td>.005108</td>
<td>38% (-.26 .01)</td>
<td>(.15 .01)</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-report</td>
<td>2</td>
<td>674</td>
<td>-.09</td>
<td>-.10</td>
<td>.001165</td>
<td>.003841</td>
<td>100% (1)</td>
<td>(.05 .01)</td>
<td>16</td>
<td>.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Citizenship Behavior</td>
<td>8</td>
<td>1,906</td>
<td>-.12</td>
<td>-.14</td>
<td>.004529</td>
<td>.005643</td>
<td>100% (1)</td>
<td>(.14 .10)</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-source</td>
<td>5</td>
<td>851</td>
<td>-.16</td>
<td>-.19</td>
<td>.000736</td>
<td>.008023</td>
<td>100% (1)</td>
<td>(.26 .13)</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-report</td>
<td>3</td>
<td>1,055</td>
<td>-.09</td>
<td>-.10</td>
<td>.003841</td>
<td>.003756</td>
<td>98% (-.12 .08)</td>
<td>(.16 .04)</td>
<td>24</td>
<td>2.28*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burnout</td>
<td>6</td>
<td>2,006</td>
<td>.31</td>
<td>.36</td>
<td>.008655</td>
<td>.003262</td>
<td>38% (.21 .50)</td>
<td>(.29 .43)</td>
<td>180</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>15</td>
<td>4,343</td>
<td>-.35</td>
<td>-.44</td>
<td>.020541</td>
<td>.003982</td>
<td>19% (-.69 -.19)</td>
<td>(-.51 -.37)</td>
<td>514</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Satisfaction</td>
<td>35</td>
<td>14,053</td>
<td>-.45</td>
<td>-.54</td>
<td>.022403</td>
<td>.002267</td>
<td>10% (-.82 -.26)</td>
<td>(-.59 -.49)</td>
<td>1,543</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnover</td>
<td>18</td>
<td>5,821</td>
<td>.39</td>
<td>.47</td>
<td>.025424</td>
<td>.003203</td>
<td>13% (.18 .76)</td>
<td>(.40 .54)</td>
<td>689</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td>11</td>
<td>2976</td>
<td>.38</td>
<td>.46</td>
<td>.019291</td>
<td>.003786</td>
<td>20% (.21 .70)</td>
<td>(.38 .54)</td>
<td>410</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Correlates**

| Perceived Organizational Support | 7   | 2,372| -.55 | -.61  | .036896                        | .001808           | 5% (-.98 -.24)                                                                  | (-.75 -.47)                    | 376               |                                                                 |

Note. $K =$ number of studies; $N =$ total sample size; $r$ bar = average observed effect size; $p =$ $r$ bar corrected for measurement error in both the predictor and the criterion; Corrected Observed Variance = observed variance in corrected correlations; Artifact Variance = variance in corrected correlations attributable to all artifacts. $Z$ is a Critical Ratio $Z$-score comparing multi-source and self-report subgroups. A value of 1.64 or greater indicates a statistically significant difference, $p < .05$. 

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References

References marked with * indicate the studies included in the meta-analysis


COMMITMENT TO ORGANIZATIONAL CHANGE: A CRITICAL REVIEW

Stephen Jaros, Southern University, sjaros3@cox.net

ABSTRACT

This paper provides a critical, narrative review of existing findings from the organizational behavior literature on the assessment of employee commitment to change initiatives. First, I analyze papers that have assessed commitment to change and attempted to link it to antecedents and/or outcomes, describing the hypotheses tested and the research findings. Second, I discuss implications of these results and provide recommendations for future research, focusing on the dimensionality of change commitment, its measurement, its relationship to organizational commitment, and its relationship to culture.

INTRODUCTION

As markets become ever more global, de-regulated, and competitive, strategic adaptability, which often translates into the implementation of new goals and change initiatives, is becoming the norm for many organizations. Over the past 20 to 25 years, this fact of business life has made commitment to change initiatives more salient for managers and employees (Conner & Patterson, 1982; Armenakis & Bedeian, 1999). Managers who can get their subordinates to commit to new goals, policies, and procedures may stand a better chance of having these critical business activities successfully implemented (Kotter, 1996). Thus, as change initiatives have become more important to business, organizational researchers interested in commitment have begun to analyze commitment to participate in change initiatives, the idea being that employees who are committed to a change will put forth more, and better, effort towards implementing it. Indeed, as the current presidential election campaign, in which both Obama and McCain are claiming the mantle of “change”, shows, getting people to commit to change initiatives is a societal, not just organizational, concern.

Because this interest reflects relatively new developments in the business environment, the literature on this topic is of a more recent vintage than that of other foci of commitment, such as organizational commitment, or commitment to the union or work group, all of which have been studied for several decades (Cooper-Hakim & Viswesveran, 2005). Nevertheless, the literature has arguably reached a critical mass, if not for formal meta-analysis, but such that a narrative review of important studies and findings might be helpful to researchers seeking a way forward in advancing our understanding of how employees experience commitment to change and its impact on organizational outcomes.

Therefore, the purpose of this paper is to provide a critical review of existing findings from the organizational behavior literature on the assessment of commitment to change initiatives, the attitudinal and behavioral antecedents and outcomes associated with it, and recommendations for future research in these areas. To accomplish this, I first describe 7 papers that, in my view, provide a representative account of the development of the commitment to change literature,
including the hypotheses tested and the research findings. The purpose of this part of the paper is to assist researchers who are NOT experts in the area, but are interested in the commitment-to-change concept and thinking about studying it, in getting up to speed with the key issues and findings generated and addressed by past research. Second, I discuss implications of these results and provide recommendations for future research in this area. Thus, the second part of the paper is intended to benefit anyone, expert or new to the literature, in crafting new research projects.

**COMMITMENT TO ORGANIZATIONAL CHANGE INITIATIVES: RESEARCH FINDINGS**

In this section, the development of the commitment-to-change literature is traced, with key developments highlighted.

**Lau and Woodman (1995)**

This paper broke ground in the study of commitment to organizational change. They conceptualized commitment to change as a “specific attitude towards change”. Lau and Woodman studied university students and how they reacted to changes planned by the school’s administration, namely a proposed cancellation of a large bonfire ceremony conducted before a football game with the school’s traditional rival. The research goal was to identify the causes, not consequences, of change commitment, and hypothesized that a student’s change schema, defined as a cognitive structure reflecting the individual’s sense of the change initiative’s valence, meaning, salience, significance, and their personal influence on it, would be the most significant predictor of how committed to the change initiative the student would be. They also posited that a student’s locus of control and organizational commitment would predict commitment to change, either directly or via change schema, as well. Commitment to change was measured with an 8-item scale designed for the study to tap feelings and cognitions about change, such as “I do not want to be involved with this change”, and “everyone should support this change”. The study reported an internal reliability estimate for this scale of .85.

Structural equation modeling (SEM) path analysis revealed that a student’s change schema did significantly and positively predict commitment to change (b=.16), fully mediated the effects of locus of control on commitment to change, and partially mediated the impact of organizational commitment (measured by the short-form OCQ) on commitment to change. However, contrary to expectations, organizational commitment also had a direct, negative impact on commitment to change that was even stronger (b= - .35) than the effect of change schema. This negative effect implies that students tended to view the change initiative as conflicting with the core goals and values of the university: the planned cancellation of the bonfire was perceived by students to be contrary to the organization’s traditions and interests, thus those with high commitment to the organization (as reflected in its values) tended to experience low commitment to the planned change.

**Hartline & Ferrell (1996)**

This paper studied a hotel that was in the process of implementing improvements to their customer service program. Specifically, the authors examined "manager commitment to service
quality" (MCSQ) as a mechanism influencing the behavior of hotel service workers. Their goal was to measure the impact that the hotel manager’s commitment to change had on the amount and type of effort they were willing to put forth to make sure that customer-contact workers under their supervision were implementing the planned changes in hotel service activities. Thus, unlike Lau and Woodman (1995), this paper examined outcomes, not antecedents, of change commitment. Another contribution was that the paper looked at the commitment-to-change of managers, not front-line workers. Also, whereas Lau and Woodman developed their own change commitment scale, MCSQ was measured with a modified version of the 9-item organizational commitment questionnaire (OCQ), an established measure of commitment to the organization, reworded to reflect commitment to service quality. Sample item: "I feel strongly about improving the quality of my company's services". The resulting measure had acceptable reliability (.86), though CFA item analysis resulted in the deletion of 3 items that had non-significant loadings on the change commitment factor.

Substantive SEM analysis showed that, as predicted, MCSQ significantly and positively predicted two supervisory behaviors, use of empowerment (path coefficient = .43) and use of behavioral evaluation techniques (pc = .65), to influence subordinate activities. Thus, managers who were highly committed to the change were likely to employ these specific leadership tactics to get subordinates to implement the change.

**Herscovitch & Meyer (2002)**

While Lau and Woodman and Hartline and Ferrell conceptualized commitment to change as a ‘unidimensional’ construct, Herscovitch and Meyer extended the three-dimensional logic of the Meyer and Allen model of organizational commitment (i.e., affective – commitment based on positive feelings; normative – commitment based on a perceived obligation to comply; and continuance – commitment based on the perceived costs of failing to comply) to the change initiative foci. They defined commitment to change as "a force (mind-set) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative" (p. 475) and used 6-item scales quite differently worded compared to the three Meyer/Allen organizational commitment scales. Three samples were analyzed from a preliminary validation study and two substantive studies of nurses drawn from a single hospital nursing association. The major hypotheses tested were that employees do experience three commitment- to- change mindsets, that commitment to change is distinguishable from organizational commitment, and that commitment to change would predict change-oriented behaviors better than would organizational commitment. This prediction reflects a “compatibility thesis”, in which commitment to a given focus is expected to predict behavior related to that focus better than commitments to other foci will. They also experimented with the notion that employees experience profiles of commitment, high and low combinations of the three commitments- to- change mindsets, and how these profiles would influence change-related behavior.

Across the three studies, Herscovitch and Meyer (2002) were able to show that commitment to change is (a) possibly a multi-dimensional construct (the commitment-to-change scales reported acceptable reliability scores, and CFA showed that when analyzed together, the 3 organizational
and 3 change-commitment scales loaded on separate factors, but the model failed to reach adequate-fit on some fit indices, (b) that commitment to change, particularly normative-based commitment, was a stronger predictor of change-related behavioral motivation than was different dimensions of organizational commitment, and (c) there are some differences in how commitment to change profiles influence behavioral performance. However, the behavioral predictive utility of ACC was only partially supported, and that of CCC was not supported, and CCC was found to overlap considerably with continuance commitment to the organization, suggesting that perhaps employees do not distinguish between feeling “compelled” to support change and to support the organization. Thus, the overall results suggested that perhaps a two-dimensional model of commitment to change, or maybe even a one-dimensional model consisting solely of NCC, was more reflective of how employees actually experience it.


Unlike any of the previous studies, this paper studied both antecedents and outcomes of commitment to change, specifically police officer's commitment to a newly implemented community policing strategy. The authors hypothesized that managerial support (i.e., does the officer perceive that his or her manager is supporting the community policing effort, rewards them for doing so, etc.), job experience (does the officer have prior experience with community policing), and organizational commitment would each have a positive impact on “community policing strategy commitment” (CPSC), which would in turn positively influence community-policing related behaviors. Thus, unlike Herscovitch and Meyer (2002), who view organizational commitment and commitment to change as simultaneous mindsets and thus competing explanation for change-related behavior, this study, like Lau and Woodman (1995) posits a causal ordering in which organizational commitment is a cause of change commitment.

Ford et al. used the 9-item OCQ to measure organizational commitment, while CPSC was measured with a 6-item scale (alpha=.89) written for the study. Sample item: "I am committed to the idea of community oriented policing". A CFA indicated that the CPSC items loaded together, as well as separately from the OCQ. The OCQ and the CPSC scale were correlated at .35, indicating substantial distinctiveness between them. SEM path results showed that as expected, CPSC did predict self-reported change-related behaviors, and that management support, job experience, and organizational commitment positively predicted CPSC. The study’s results suggest that work experience factors, such as supervisory support and prior experience with similar change efforts, are important determinants of commitment to a change strategy.

Fedor, Caldwell, & Herrold (2006)

Studied the effects of organizational change processes on employee's commitment to change and their commitment to the organization using a sample of employees from 34 companies. A key theoretical innovation was that this study conceptualized "change", at least in large organizations, as a multi-level phenomenon. The authors proposed that change initiated by top management cascades down the various divisions, departments, work units, and ultimately, jobs within an organization, having differing effects within and across levels, depending on the nature and scope of the change. Thus, they proposed that prior change commitment studies, which
measured change at the organizational level and the impact of the change at the individual level, may miss important dynamics at the work unit or group level. Furthermore, Fedor et al. proposed that these effects are not necessarily equal in impact: change at multiple levels could simultaneously affect employee-level commitment to change, but changes in the employee's immediate work environment would be most salient to the employee.

To measure work-unit (group) level variables such as work unit change, perceived change favorableness to the group, and perceived fairness of the change process, the authors split their sample such that half of the respondents sharing the same group-level effects would provide group-level data. This controlled for same-source response bias. To calculate group-level effects, they computed Rwg scores to examine agreement among group members, ICC(1) and ICC(2) coefficients to examine the extent to which unit membership accounted for individual member ratings (% of variance explained by group membership) and the reliability level at which the variables differentiate amongst the groups. Commitment to change was measured with 4 items written for the study (alpha=.74): “I am doing whatever I can to help this change be successful”, “I am fully supportive of this change”, “I have tried (or intend to try) to convince others to support this change”, and “I intend to fully support my supervisor during this change”. These items were intended to capture commitment conceptualized as "intent to change", which they argued is more representative than Herscovitch and Meyer’s (2002) multi-bases measures, because of its “established association with actual behavior”. Fedor et al. argued that the Meyer and Herscovitch measures tap underlying psychological dimensions of change commitment – affective, normative, and cost-based factors that motivate one’s commitment to change, but not the commitment itself.

Also, instead of directly measuring organizational commitment, they measured "perceived changes in organizational commitment" (PCOC) with 5 OCQ items, modified to begin with "as a result of this change...” (alpha=.70). Commitment to change and PCOC correlated at fairly high .53, but Fedor et al. did not conduct a CFA to distinguish them or establish their factor structure. Hierarchical linear modeling showed that a group-level variable, change favorableness, had a positive impact on commitment to change, explaining 19% of the between group variance in commitment to change. Change favorableness also interacted with change level, both work-unit and job-level, to predict commitment to change (commitment to change was highest when change favorableness is perceived by the employee’s work unit to be positive, work-unit change level is high, and job-level change is low). This interaction term explained an additional 3.7% of the variance in commitment to change. Perceived change in organizational commitment was also predicted by the group-level change favorableness construct, and change favorableness and work unit change interacted to predict perceived change in organizational commitment. Thus, Fedor et al. found evidence that employee’s commitment to change is a product not only of how they personally perceive the change and how it affects their specific job, but by how the groups they identify with perceive it and are affected by it as well.

Cunningham (2006)

Examined the relationship between commitment to change, as measured by the affective, continuance, and normative commitment-to-change scales developed by Herscovitch & Meyer
(2002), and two hypothesized outcomes: coping strategy (how well the employee perceives their ability to cope with changing circumstances), and turnover intentions. The authors hypothesized that since NCC and ACC are based on positive feelings such as desire and a sense of moral obligation, these constructs would be negatively related to turnover intentions, but since CCC is based on feeling compelled to commit to change, it would have a positive impact on turnover intentions, because employees high in CCC might desire to leave the organization rather than be forced to implement a change that they disagree with. The model also posited that an employee’s ability to cope with change would mediate the relationship between the commitment to change constructs and turnover intentions. Cunningham hypothesized that since employees with high ACC feel good about the change, they will be better able to cope with it, while employees with high CCC will experience high stress, which will reduce their coping abilities. NCC was not expected to predict coping ability, and high coping ability was predicted to have a negative influence on turnover intentions. Thus, this paper departs from prior research by exploring whether commitment to change ultimately impacts on behaviors not directly related to the change, such as turnover intentions.

The author analyzed a sample of 299 employees from 10 NCAA athletic departments undergoing change initiatives sponsored by new athletic directors. As in the Herscovitch and Meyer and Chen and Wang (see below) studies, the results provided some evidence for the reliability and distinguishability of the CCC, NCC, and ACC scales. Reliability estimates for the scales were .89 (CCC), .93 (ACC), and .74 (NCC). A CFA showed that the three commitment measures loaded on separate factors. The pattern of intercorrelations was somewhat similar to Herscovitch and Meyer (2002): NCC and ACC correlated at .49, CCC and ACC at -.45. But unlike in Herscovitch and Meyer, CCC and NCC correlated at a non-significant .01. SEM path analysis revealed that, as hypothesized, CCC negatively impacted “coping with change” (-.14), and also directly and positively predicted intent to quit (.29). Also as expected, NCC had a direct negative impact on intent to quit (-.25), while ACC’s impact on intent to quit was fully mediated by "coping with change".

Unfortunately, this study did not include measures of organizational commitment, so it could not be determined if the impact of the change commitment measures on organizational turnover intentions would have remained significant if organizational commitment were controlled for. Recall that Herscovitch and Meyer’s “compatibility hypothesis” argues that commitment to change will likely predict change-related behaviors better than organizational commitment, but conversely organizational commitment should predict organizational outcomes, such as turnover, better than commitment to change. Another problem was that the alpha coefficient for the “coping with change” measure was only .63, indicating that this critical mediating construct lacked a customarily acceptable level of reliability in this study.

Chen & Wang (2007)

The purpose of this study was to assess the impact of locus of control on affective, normative, and continuance commitment to change, again as defined and measured by Herscovitch and Meyer (2002). The study was conducted using a sample of 215 Chinese Customs service staff impacted by the implementation of a new performance appraisal system. Thus, this paper is
notable for attempting to extend the 3-component model of change commitment to a non-Western environment. They proposed that employees with an internal locus of control would be likely to commit to the change out of desire to do so (ACC), and would also likely do so out of a sense of obligation (NCC). In contrast, they would not be likely to commit out of sense of being compelled to do so (CCC), because of their belief that they control events that transpire in their environment. The opposite relationships were proposed to hold for employees with an external locus of control. Commitment to change was measured with Herscovitch and Meyer's (2002) 6-item scales, back-translated into Chinese. Reliability estimates were above .8 for the CCC and ACC, but two items had to be dropped from the NCC due to low item-total correlations. The revised 4-item NCC scale had an alpha coefficient of .71. This study did not report any factor analyses to examine the factor structure of the scales.

Substantive results showed that (a) as in Herscovitch and Meyer (2002) and Cunningham (2006), the NCC and ACC correlated highly and positively (.47), and as in those two prior studies, the CCC and ACC correlated highly and negatively (-.36), but the NCC and CCC correlated at a non-significant .05 - much lower than in Herscovitch and Meyer (2002) but similar to Cunningham (2006); (b) None of the control variables, including age, tenure, gender, and education, predicted any of the commitment to change measures, but hierarchical regression showed that locus of control negatively predicted ACC (-.23) and NCC (-.18), and positively predicted CCC (.30), meaning that, consistent with their hypotheses, high internals were higher in NCC and ACC than high externals, but high externals were higher in CCC. The latter finding can be explained motivationally: Those with an external locus of control tend to view themselves as being prisoners of events, their actions dictated by external forces, and CCC is defined as commitment based on the perception that one is compelled to implement the change by high costs associated with failing to support the change initiative.

Recall that Lau and Woodman (1995) also tested locus of control as an antecedent of a unidimensional commitment to change construct, but found no significant direct relationship. By measuring different bases of commitment to change, this study was able to identify significant, and different, direct effects.

**RECOMMENDATIONS FOR FUTURE RESEARCH**

What are the implications of these studies for future directions in commitment-to-change research? The following issues merit attention: (1) Making additional progress in understanding the development of commitment to change, and the nature of the concept itself; (2) Improving measurement of commitment to change; (3) sorting out the relationship between commitment to change and organizational commitment, and (4) methodological issues related to choosing which types of employees to study.

**Making further progress in describing the concept of commitment to change**

The first step in understanding behavior that flows from a concept, such as commitment to change, is to establish the definition of the concept. We first must know what a concept is before
we can make behavioral attributions to it (Schwab, 1980). In this case, our review of the literature shows that disagreement exists over exactly what is meant by the term “commitment to change”. The key issues seem to be (a) How does commitment to change develop? And (b) is commitment to change a unidimensional or multidimensional construct?

First, how does commitment to change develop? This question pertains to the issue of the antecedents, the causes, of commitment to change. Our review of the literature shows that for the most part, researchers have tended to focus on specific factors that might influence an employee’s level of change commitment, such as supervisory support, locus of control, perceived favorableness of the proposed change, and prior experience with a change effort. What is lacking is a broader theoretical process for the development of change-commitment in the first place, before it achieves a particular level (i.e., high or low) in the mind of the employee. This is problematic, because it means that the existing antecedent research largely atheoretical, meaning that we have no systematic way of comparing the relative predictive power of specific causes identified in the reviewed studies.

What would a process model of antecedents look like? Perhaps it might be that before a change initiative is introduced, an employee has an explicit or perhaps implicit “commitment to the status quo”. This commitment to the status quo is a mental construct that must be altered for a commitment to change to emerge. It constitutes a barrier to the latter’s development. For example, the literature on habitual routines (i.e. Gersick & Hackman, 1990) or entrainment (i.e. Ancona & Chong, 1996) may introduce some of the mechanisms that inhibit commitment to change.

Also, Armenakis and colleagues (e.g., Armenakis, Harris, & Mossholder, 1993: Armenakis & Bedian, 1999; Berneth, Armenakis, Field, & Walker, 2007) have developed a theoretical model for predicting employee’s motivation to implement planned change. In their approach, motivation is a function of five factors: perceived appropriateness of the proposed change, felt need for change (discrepancy), personal valence (will the change benefit me?), efficacy, and principal support (is the organization committing resources to the planned change). Although the focus of this model is on employee motivation to change, these five factors could be theorized to act as levers that could overcome habitual or trained ‘inertia’ in the form of a commitment to the status quo. This might provide a theory of commitment to change with a model that describes the process of its development, one that encompasses the kinds of specific effects tested for in existing research.

Also, is commitment to change unidimensional or multidimensional? Herscovitch & Meyer's (2002) extension of Meyer and Allen’s three-component model of organizational commitment to commitment-to-change, and the studies that have since used this model, raises an issue that has as yet not been resolved in the organizational commitment literature: Is commitment to change a multi-dimensional construct reflecting affective, normative, and continuance components, or, as assessed by other researchers (e.g., Lau & Woodman, 1995; Ford et al., 2003) a unidimensional construct? Herscovitch and Meyer (2002), Cunningham (2006), and Chen and Wang (2007) generated some support for the notion that commitment to change is characterized by three mindsets. In the first two studies, CFA results showed that affective, continuance, and normative
commitment to change scale items loaded on three separate factors. Furthermore, the correlations among these factors, with the exception of ACC and NCC, were for the most part modest, suggesting that there is not a great deal of conceptual overlap among them. They also found that ACC, NCC, and CCC had different relations with outcomes such as turnover intentions (Cunningham) and change-related behaviors (Herscovitch and Meyer). Likewise, while Chen and Wang (2007) did not conduct a CFA to assess the factor structure of the Herscovitch and Meyer scales, they did report correlations among them that did not suggest much concept redundancy, and they also found that locus of control predicted them somewhat differently.

On the other hand, some evidence of construct redundancy, particularly between ACC and NCC, was present as well. For example, when Herscovitch and Meyer (2002) modeled the impact of change commitment *profiles*, high and low combinations, of the three commitment to change constructs on the behavioral continuum, about 80% of the profiles reflected ACC and NCC at the same level, such that it was hard to fill the cells of profiles that have these forms of commitment at contrasting levels. This reflects the relatively high correlation among these two constructs, which tend to be highly correlated in organizational commitment research as well. Whether this high correlation is an inherent aspect of the affective and normative constructs themselves (perhaps the allegedly different normative and affective mindsets are largely redundant), or is a measurement artifact of the Meyer and Allen scales, has yet to be fully resolved (cf. Bergman, 2006; Jaros, 2007).

Overall, however, the preponderance of the evidence from the Herscovitch and Meyer, Cunningham, and Chen and Wang studies does suggest that ACC, NCC, and CCC are distinguishable from each other, suggesting that within the context of the Herscovitch/Meyer model, commitment to change is multidimensional. But does this model accurately reflect commitment to change? Other studies surveyed here successfully utilized unidimensional change commitment constructs. Thus, to resolve the dimensionality issue, what is needed is research that compares the *predictive* power of the Meyer/Herscovitch constructs and the unidimensional constructs. For example, one could collect data on both the three Meyer/Herscovitch measures and the Ford et al. (2003) unidimensional change commitment measure or the Lau and Woodman (1995) measure, and compare their ability to predict important outcomes. If the Meyer/Herscovitch measures predict outcomes above-and-beyond what the Ford et al. (or Lau and Woodman) measure is able to predict, that would support the multidimensional framework. But if the additional Meyer/Herscovitch constructs do not provide additional predictive power, this would be supportive of the unidimensional approach.

Despite their differences, the multidimensional approach and the unidimensional approach discussed above share a common theme, commitment as an emotional state of mind reflected in cognitions: In the unidimensional approach, commitment to change is defined as a general feeling (Lau & Woodman, Ford et al.) and in the multidimensional approach as feelings of desire (affective CC), obligation (normative CC), or felt-need to commit to the change (continuance CC). The issue is whether a model of 3 distinct feelings of commitment will predict outcomes better than a single general feeling of commitment.
However, as mentioned earlier, Fedor et al.’s (2006) unidimensional conceptualization does not comport with this theme. Fedor et al. note that “attitudes” are traditionally conceived as having cognitive, emotional, and behavioral-intent components. Their study focuses on the last of these, defining “commitment to change” as “the individual’s intentions to act on behalf of the change”, a concept which is devoid of emotional content. Thus, a theoretical dispute is brought to the fore: is commitment to change primarily an emotional state of mind, or does it reflect intentions to act, independent of feelings? Perhaps the answer is “both”, in the sense that maybe feelings of commitment to a change effort cause the formation of a behavioral intent to act, which leads to actual change-supportive behaviors. This implies a causal ordering among the concepts, testable by structural path analysis.

**Measurement of change commitment**

Measurement is putatively important. If we aren’t accurately measuring our construct of interest, any substantive relationships with antecedents and outcomes revealed by empirical research can’t be reliably attributed to that construct. Thus, once ambiguity in the concept of commitment to change is resolved, measurement issues come to the fore. In this area, a comparison with organizational commitment is warranted, because most commitment-to-change measures used in the studies previously discussed are modifications of scales originally developed to measure organizational commitment, such as the Meyer/Herscovitch measures and the OCQ.

Assessment of commitment to strategies or change initiatives differs from the measurement of organizational commitment in two important ways. First, commitment to the organization is usually more of an enduring experience. As long as the employee is a member of organization X, they experience some, albeit fluctuating, level of commitment to organization X; and second, it’s usually a unique and unambiguous experience. That is, when an employee is asked to fill out an organizational commitment questionnaire, there usually aren’t multiple entities that could reasonably be called ‘the organization’ for that employee (though in some rare cases there might be). The ‘target’ of the commitment they are being asked about by the researcher, the organization, is usually clearly understood by the employee. In contrast, by their nature, change initiatives tend to be of a shorter duration, since they are usually implemented to take the organization (or department or work-unit) from state A to state B, and thus typically have a finite start and end point, so commitment to change is a less enduring, more transient state of mind.

Furthermore, at any given point in time, the target of commitment, “change”, might be more uncertain to the employee, because change initiatives may be either non-existent (if the organization is not undergoing change at that moment) or there might be multiple change initiatives underway, such that if an employee is asked to report their commitment to change, they might think to themselves "what change?" or "which change?".

For measurement purposes, this raises the issue of how the change-referent is worded in the scale. In some of the research reviewed here, such as Herscovitch & Meyer (2002), Cunningham (2006), and Chen & Wang (2007), item wording of change commitment measures referred to a generic "change" process, as in "I believe in the value of this change" from the Herscovitch and Meyer ACC scale. In the Chen & Wang study, the authors prefaced the administration of the
measure by telling respondents to think specifically about the new performance appraisal system when filling out the survey, while Cunningham (2006) conducted a group-level manipulation check to make sure employees in the departments he surveyed were experiencing significant change. These practices possibly mitigated respondent confusion about "what or which change" they might have experienced, but the best practice is to word the items so as to refer specifically to the change that the researcher wishes to measure the employee's commitment to. For example, in both Hartline & Ferrell (1996) and Ford et al. (2003), the specific change/strategy initiative is mentioned in the scale items, as in "I am committed to the idea of community policing" from the latter study. This practice would probably eliminate all confusion from the mind of the respondent about the change they are being asked to reflect on.

How are organizational commitment and change commitment related?

Another issue that remains unresolved is exactly how organizational commitment and change commitment are related. One aspect of this issue concerns construct overlap, particularly for research using the Meyer multidimensional approach (cf. Herscovitch & Meyer, 2002). Of the three studies that have used the Meyer/Herscovitch scales, only Herscovitch and Meyer (2002) conducted CFAs that modeled both commitment to change and organizational commitment to determine the distinguishability of those measures. While that study’s CFA results indicated that a 6-factor model that included separate AC/NC/CC commitments to the organization and to change fit the data better than models that collapsed measures of change commitment and organizational commitment on to single factors, this model did not reach the level of "good fit" on the RMSEA measure. The authors reported only one other fit statistic, the ECVI, so it's not clear if multiple fit statistics would have altered this conclusion.

Also, the very high CCC/CCO correlations reported in studies 2 and 3 suggest a lack of discriminant validity between continuance commitment to change and to the organization. Likewise, the failure of the CCC measure to predict behavioral outcomes when controlling for organizational commitment also suggests that it lacks utility. Thus, studies that use the Herscovitch and Meyer scales in substantive research should first conduct CFA's to determine the dimensionality of the scales in conjunction with measures of organizational commitment, and control for organizational commitment when testing for relationships with outcomes. In the Cunningham study, for example, it would have been interesting to know if commitment to change predicted organizational turnover intentions when controlling for organizational commitment, because theoretically (as per the compatibility thesis) we’d expect organizational commitment to be the stronger predictor of an organizational outcome like turnover intentions.

Additionally, assuming that organizational commitment and change commitment do tap different domains, from a practical perspective, we also need to know more about their causal ordering and impact. From a unidimensional perspective, Lau and Woodman (1995) found that organizational commitment negatively predicted change commitment, while Ford et al. (2003) found that organizational commitment positively predicted change commitment. These contradictory findings suggest that organizational and change commitment can be characterized as having reinforcing or conflicting goals: if employees are highly committed to the organization but perceive the change initiative as being contrary to the organization’s interests, they are not
likely to be committed to the change. In contrast, highly organizationally-committed employees who perceive a change initiative as advancing the mission of the organization are likely to respond with high levels of commitment to the change (cf. Huy, 1999). This implies that managers hoping to foster high levels of employee commitment to a change initiative must be able to persuade employees to believe that the goals of the change initiative are congruent with the goals of the organization.

Conversely, though none of the studies reviewed here tested for this relationship, it could be the case that commitment to change influences organizational commitment as well. If an employee is experiencing a low level of organizational commitment because he/she is alienated, or perhaps just not enthused, about the current goals and mission of the organization, but his or her supervisor implements a change initiative that the employee is excited and enthused about, their high commitment to this change initiative could possibly have a positive influence on their commitment to the organization, because the “changed” organization will be more appealing to them. Specifically, high commitment to the change initiative could raise the psychological costs of leaving the organization (i.e., continuance organizational commitment), and/or cause the employee to view the goals/missions of the organization in a more emotionally positive light (affective organizational commitment). Future research could assess these possibilities by modeling reciprocal relations between change commitment and organizational commitment via longitudinal research.

Methodological issues: timing of measurement and deciding which employees to study

The Fedor et al. (2006) study is interesting in that their "perceived change in organizational commitment" variable represents an alternate way of measuring changes in organizational commitment. Traditionally, changes in organizational commitment due to change strategies are assessed by measuring commitment before the change and then after, and then comparing the mean levels at times one and two for differences. Instead, Fedor et al.’s scale asked respondents to reflect on and report how their commitment had changed as a result of a change initiative that has already been implemented. Future research could compare the relative efficacy of these two measurement strategies. If the researcher can measure commitment before and after the change event, the Fedor et al. measure could be administered as well, and the degree of overlap with the before-after measure could be assessed. The traditional approach should be more accurate, since with that strategy the change in commitment is measured as the difference between two contemporaneous measures of commitment, whereas the Fedor et al. measure is retrospective and thus more prone to memory bias. But in field settings, researchers are often unable to access situations where they have the opportunity to measure commitment before a change process begins, so the Fedor et al. measure might have practical utility.

Fedor et al. is also exemplary in its modeling of multi-level effects on commitment to change. Organizational change is often a multi-level phenomenon, initiated at the top and having ripple effects down and across the hierarchy, and if cross-level effects are not modeled and measured, improper inferences about what is influencing individual-level attitudes and behavior may be drawn. Sometimes, change initiatives ostensibly apply to the entire organization, and yet may
impact some employees far more than others. For example, a company-wide Total Quality Management initiative might have profound work-experience implications for production workers but be barely noticed in the accounting department. Or, the change might be equally-felt in each department, but be perceived in very different ways by members of the different areas of the firm because of how it specifically impacts their jobs. Thus, we should be sensitive to targeting employees who are likely undergoing the most changes, and control for subunit membership when conducting empirical analyses to determine level of change commitment, and perceptions about the change effort.

On the other hand, multi-level effects are not always to be expected. If a change is initiated within a work-unit and its effects are limited to that sphere, it wouldn’t make sense to model multi-level factors when analyzing the change commitment of employees in that work unit. In this vein, the Hartline & Ferrell (1996) study is instructive: If a change initiative is specifically aimed at a particular workgroup or department, than only employees in that department should be studied, and multi-level effects need not be modeled.

Additionally, even within a particular work unit, managers and subordinates often have different responsibilities in implementing the change. Notably, Hartline and Ferrell (1996) assessed managerial, not service-worker, commitment to implementing a customer-service policy, since in their research setting it was managers that were primarily responsible for directing the implementation of the change strategy. But since then, change commitment research has focused on the commitment of subordinates, not managers. Thus, in assessing commitment to change, we should be sensitive as to the impact of the change itself, perhaps by controlling for employee type, level, or job category, when testing substantive relationships with outcomes.

Finally, national and cultural differences might exist in how employees experience change commitment. For example, in research using the Herscovitch and Meyer scales, both Chen and Wang (2007), using a Chinese sample, and Cunningham (2006), analyzing a USA sample, found that NCC and CCC were not significantly correlated (r=.05, r=.01), whereas Herscovitch and Meyer (2002) found a significant relationship (r=.24 in both study 2 and study 3, significant at .01 and .05 respectively). Perhaps Canadians view their obligation to the change initiative (NCC) as a kind of a “cost” that would be incurred should they violate it (and thus somewhat akin to CCC), whereas USA and Chinese employees might view NCC in a more purely moral/normative light, clearly distinguishing it from economic costs, and thus from CCC. While this proposition is largely speculative (the empirical difference reported here is both modest and drawn from just a few studies), future research could investigate national/cultural differences in how employees experience commitment to change, including tests of cross-cultural invariance with regard to factor structure and relationships with antecedents and outcomes.

In conclusion, organizational change initiatives are a ubiquitous aspect of organizational life, and the commitments generated continue to be of import to employees, in terms of how they experience their working lives, and to managers, in terms of achieving desirable organizational or work-unit outcomes, and overcoming resistance to change (cf. Öreg, 2003). One of the positive aspects of the change commitment literature reviewed here is its focus: unlike the organizational commitment literature, which tends to be characterized by a proliferation of
studies characterized by a seemingly haphazard, laundry-list assessment of antecedents and outcomes (Cooper-Hakim & Viswesvaran, 2005), change commitment research has focused on a theoretically-driven set of causes (locus of control, change schema, supervisory support) and consequences, particularly change-related implementation behaviors. Pursuing the research recommendations outlined above could take us closer towards greater understanding of commitment to change, how it relates to these causes and consequences, and thereby help organizations implement change initiatives more successfully.

REFERENCES


WHAT BUSINESS ORGANIZATIONS CAN LEARN FROM THE PERFORMING ARTS

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ABSTRACT

The purpose of this paper is to use an analogy from the performing arts to help managers of today to understand different methods that may be applied to their organizations. Traditional managerial functions of planning, directing, organizing, and controlling have limited application in a rapidly changing environment such as the business world. A major area of change that affects business organizations is the education of the workforce. Management techniques from the 1900’s, specifically scientific management, were predicated on an unskilled, uneducated, and socially inept workforce which was moving from an agricultural society into an industrial society. Today’s workers are expected to be educated, trained, and socially accepted as peers working in collaboration with one another, much like the performing arts. This paper explores common areas from the performing arts that may help business managers better handle today’s workforce.

INTRODUCTION

There are many challenges faced by modern workers in the 21st century as well as those who manage them. These challenges have been caused by many changes especially in technology, globalization, and the education of the workforce. No longer can a management or organizational model based on industrial age cultures be considered relevant. Indeed, rapidly changing organizations require a different type of worker. The worker of the 21st century must be much more entrepreneurial, bringing well-developed expertise to the organization rather than just a willingness to be taught. An understanding of what is required to manage the 21st century worker can be gained by looking at some unique modern organizations from the performing arts. Managing in the performing arts is relevant for business organizations in that workers entering the workforce today are highly educated and skilled compared to the workers of even just 50 years ago. Similarly, many performing arts “workers” are highly skilled and educated.

Many aspects of the models of managing and leadership from the early 1900’s are still in use today, but in many instances, they no longer fit the needs of the 21st century businesses very well. Since their inception, the performing arts have had to rely upon highly trained workers, such as musicians and actors. The organizations that have evolved to promote and manage the performing arts have created the roles of directors and conductors to oversee workers who are highly trained professionals in specific specialties. For the business manager, the challenge is even more difficult. Due to technological, political, and social advances, the business environment itself is rapidly changing and with it, the role of the worker (Drucker, 1989; Friedman, 2007; Kotter, 1996). To maintain a sustainable advantage in the marketplace, organizations have had to become more flexible in all aspects of organizing the workplace including how it is structured. Some businesses are beginning to take advantage of these
refinements to the 21st century organization’s structure by becoming more responsive to changes in customer needs by forming teams that can respond to the customer (Bolman & Deal, 2008). In such organizations the traditional business functions of production, marketing, accounting, and finance are no longer their own separate and distinct domains as they were in typical hierarchal structures from earlier times. Rather, in these modern emerging organizational types, the workers from these various functional areas are required to work together in cross functional teams (Drucker, 1989; Kotter, 1996).

The workers in such 21st century businesses are required to collaborate in processes designed to produce outputs analogous to a completed performance in theater or music. A typical theater production requires several specialized roles that its “workers” must play. For example, it has lead actors who are required to play a major role in the production, it has supporting actors who have smaller roles, and it has character actors. In addition to the various types of actors, lighting, sound, and interior design needs must be coordinated with the performance, requiring a crew with different sets of skills than the actors. Like the theater productions cast and crew, the symphony has many roles also, such as the string section, the woodwind section, the percussion section, the brass section, and even vocalists, each with its own special set of skills. Managers of such skilled “workers” have little need to plan, direct, organize, and control the workers in the classical sense of business management functions (Bolman & Deal, 2008; Drucker, 1989). Like theater directors and musical conductors, managers in business today must be prepared to coach, mentor, and facilitate for the workers in the 21st century work environment. In this paper we concentrate on how the operation of three types of organizations from the music world can be used as models by organizations in the business world for managing 21st century workers.

BACKGROUND

In recent times, organizational structures have increasingly changed from vertical (i.e., tall and hierarchal) to horizontal (flat and integrated) (Bolman & Deal, 2008; Kotter, 1996). No longer can organizations function as repetitious machines where the worker is an insignificant cog with his/her functionality limited to a narrow scope and where deviation from norms cannot be tolerated (Drucker, 1989). Instead, organizations in today’s world must work more like a symphony orchestra, a chamber ensemble, or even a jazz quartet.

Evidence that the world is changing can be seen all around us and the speed at which that change is happening has dramatically increased in the last 100 years (Friedman, 2007; Hamel, 2000; Kotter, 1996). Causes of these changes are many, but most will agree that technology has driven many of them (Friedman, 2007; Hope & Hope, 1997; Toffler, 1980). However, these changes in technology would have limited usefulness if there were no one to exploit this potential. Consequently, educated and skilled workers are instrumental in making these technology changes meaningful (Drucker, 1989). Exacerbating these technological and educational changes is the phenomenon of globalization. Boundaries (e.g., geographical, cultural, social) that may have seemed formidable even 15 years ago do not now exist at all (Drucker, 1989; Friedman, 2007). Such dramatic changes have forced organization structures to adapt and take on new forms.

Vertical structures (hierarchal) have their roots in antiquity. An early example is Ancient Egypt with the Pharaoh system (a precursor to the Western civilization of Kings) followed by the Roman system of Caesar and the Roman Legions. Later, the work of Adam Smith and others
described hierarchal structures for an industrialized world (Smith, 1776). These early systems were based on command and control from the top of the organization. A slow moving agricultural society or an emerging industrial society with no need for formal education of workers required only a system that could plan, direct, organize, and control those workers. By contrast, in our rapidly changing world where the performance of today may not meet the needs of tomorrow, a very flexible and responsive organizational structure that can adapt rapidly is essential if an organization is to survive.

A horizontal (flat) structure is based on a common goal or product shared by all organizational members. Formal lines of authority common in earlier structural forms have diminished in importance to facilitate the need for quick decisive responses to changes in the environment. Twenty-first century workers must cooperate with others who may or may not be trained in the same field, thus breaking down traditional departmental boundaries. Therefore, leaders must be aware of the need for different disciplines to work together towards a common goal. Another required response to technological change is that workers must be willing and able to stay abreast of new technologies, knowledge, and skills as they develop in their field of expertise. Much more is required of today’s workers. They must be proactive in identifying potential needs and taking preventative or forward looking action to achieve better, faster, and more efficient ways of doing business. To further this approach, managers must encourage rather than stifle the workers’ proactivity.

Just 50 years ago the social contract between workers and organizations assumed that workers would come into the workforce reasonably sober, somewhat educated in the basics and ready and willing to stand by attentively to be told what to do, when to do it, with whom to do it, and where to do it. In this earlier workplace scenario, managers were the technical experts. They were the only ones who knew the right way, the right order, and to whom the service or product should be delivered. All of the organization’s knowledge remained with the manager.

In the last 50 years social, political, cultural, and technological changes have made it difficult for managers to try to predict what will be germane next week, never mind in the next century. It is no longer practical or even possible for the manager to be the sole technical expert. Along with the leveling of the organization due to less hierarchy (Friedman, 2007) has come a change in the classic functions of managers. Managers can no longer plan, direct, organize, and control people (Drucker, 1989; Kotter, 1996). Instead, modern managers must learn to become leaders who coach, mentor, and facilitate a highly skilled and educated workforce (Drucker, 1989; Kotter, 1996), because members of such a workforce can no longer be considered nameless, faceless cogs in an organizational machine with each performing the smallest division of labor in isolation (Smith, 1776). Rather, the 21st century manager must function like a conductor of a symphony where the manager (conductor) is not expected to be the only technical expert (e.g., the most accomplished violinist or cellist, etc.).

The symphony orchestra
A symphony orchestra is often considered a community’s most important symbol of culture and the community derives a sense of pride for supporting such an entity (Hoffmann, Bailey, Fogel, Horbrugh, & Pender, 1993). The symphony is the musical organization that most closely resembles a traditional business organization with one notable exception. While on one hand the conductor is the ultimate authority in terms of interpreting a composer’s work, on the other hand, the conductor is not expected to be the only expert when that work is performed. Even though
the conductor is certainly a technical expert when it comes to the art of conducting, (Maitlis & Lawrence, 2003) he/she cannot be expected to be the most accomplished artist on every instrument in the orchestra. Somewhat like the symphony orchestra, many businesses are run in the traditional way where the manager is considered the ultimate authority in all aspects and is, in addition the technical expert. In some highly technical or professional business settings, the manager must be regarded as the most accomplished technician (e.g., accountant or computer programmer) in order to gain the respect and trust of subordinates. However, with the symphony, rarely is the best violinist or oboist selected to conduct a major composition just on the basis of his/her technical skill. Rather, in the field of music, professionals recognize that there are different skills required of a conductor and of the instrumentalists and each respects the expertise of the others. Similarly, in 21st century organizations managers and workers must agree to recognize that they are all experts in particular specialties. This is a lesson that many business organizations must learn in order to manage effectively.

The conductor unquestionably is the all encompassing leader and manager in a symphony orchestra (Maitlis & Lawrence, 2003). While it is true that musicians in a symphony have some say in what notes to play, the conductor is tasked with making final decisions about how the musical composition will be performed (Maitlis & Lawrence, 2003). Conductors will be most proactive in complex situations and when they are supported by the musicians (Maitlis, 1999). The professional expertise of the musicians allows the conductor to trust their ability and to concentrate instead on interpretation of the composition. In the respect that the musicians are highly trained and educated in their own orchestral part of the overall composition, they are considered “knowledge workers” (Drucker, 1989). Such knowledge workers require a leader who can coach, mentor, and facilitate, and the conductor plays these roles with regard to the musician’s contributions to the performance. (Boerner, Krause, & Gebert, 2004).

The symphony orchestra resembles a traditional hierarchical organizational structure in another way: the conductor is the top manager, the first violinist normally serves the role of the concert master/mistress for all sections of the orchestra, and the principle players (section leaders) act as individual supervisors. Yet, each one acknowledges and respects the expertise of all the others in the organization. A business organization can benefit from the example of the symphony orchestra by recognizing that the workers in the organization are the systems experts, much like the individual members of an orchestra who are highly trained musicians. Conductors may have more orchestral experience as well as their acknowledged conducting expertise and are tasked with interpreting the musical score for an orchestral performance, but they would not likely consider themselves to be competent to play all the orchestral instruments at the same level of expertise as the orchestra players. Somewhat like a traditional organizational structure that is based on managerial functions such as planning, organizing, directing, and controlling, the orchestra players are limited in their opportunities for innovation and creativity in the actual performance of a composition. In performance, the conductor is the only one with any creative latitude as he/she “plays” his/her “instrument” which is the orchestra itself. Likewise, in some 21st century organizations the business manager must function like a symphony orchestra conductor recognizing that each worker possesses the expertise to determine how best to perform his/her specialized role for maximum productivity.
A chamber ensemble resembles a work group that may be formed in an organization for a specific purpose, such as a safety group or a cleanliness group. Such a group works collaboratively to fulfill its assigned role. A chamber ensemble is organized such that the individual members collaborate to reach a consensus of how a composition is to be performed; e.g., which notes will be played in what rhythms, at what tempo. This type of organization is unlike the symphony orchestra where the conductor alone decides everything about the piece of music to be played and where each musician defers to the conductor’s artistic decisions in all matters (Boerner, et al., 2004). Viewed from the outside, the chamber ensemble appears to be a leaderless organization. There is no visible conductor leading the group, yet each player performs his/her part in concert with the other players to produce the complete musical performance. Leadership occurs through group consensus. What is not visibly apparent in performance is that a chamber ensemble has previously rehearsed and incorporated each individual player’s style into the public presentation of the piece. In fact, the composition as it is performed by the chamber ensemble is well rehearsed, and there is little individual innovation and creativity evident in the performance itself. Instead, innovation and creativity emerge in the development and rehearsal phases usually shaped by collaboration and consensus of the ensemble members. Businesses could learn from the example of the chamber ensemble because some situations demand that business manager’s allow their workers some creativity and opportunity for innovation in order to maximize the team’s effort.

The jazz quartet
A jazz quartet resembles a research and design organization that operates with self-managed teams. Such organizations have developed self-directed teams where there is no formal authority, where leaders emerge as needed and where members defer to the person who has the expert, or maybe referent, authority rather than legitimate authority (French & Raven, 1962) during the team development and growth phase, much like a jazz quartet. A jazz quartet may have a designated leader for the group purely for mundane organizational purposes, but in actual performance situations, the organization is completely fluid allowing each individual player to lead or follow as the piece flows to completion. With a jazz quartet, structure exists only to the extent that it fosters innovation and creativity in each individual’s performance. A general overview of the piece to be performed may be discussed by the players beforehand, but during the performance the individual musicians will defer to one another or take the lead depending on where the music is taking them in the moment. A performing jazz quartet is like a self managed team where there is no formal authority assigned to anyone. Rather than having any one group member play the role of manager carrying out the traditional roles of planning, organizing, directing, and controlling, jazz quartet members must emerge to coach, mentor, and facilitate each other as needed, sometimes leading; sometimes being led.

Group formation theory suggests that a group will go through stages of development (Tuckman & Jensen, 1977) and that different leaders will emerge as the group progresses through the stages. Initially a person who has experience with a particular type of group or function in the organization may be deferred to as the group forms its own boundaries and limits. As the members learn how to relate to one another when conflicts arise another person may emerge as the one who can smooth over delicate egos or help the group see that working together can be beneficial. Then, as the group learns the norms and culture that are necessary for its job, it may defer to yet another member for performance measures and techniques. As the group
becomes increasingly productive it may recognize someone else who can move the goods or promote the service of the group to outside agencies or constituents. A business manager must be able to appreciate that leaders in such groups may emerge for reasons that are not obvious to an outsider. Yet, the group is able to switch easily from leader to leader as particular needs arise. Similarly, the audience may not be able to predict which one of the four players in the jazz quartet will take the next lead, but the group instinctively knows, and the leadership transition occurs seamlessly during the performance of a piece of music. The manager of such a group needs to learn to trust that the group has its own internal rhythms that will help it to achieve superior performance. The manager that can be flexible and allow these groups to respond to rapid changes will be more successful in getting creative and innovative ideas to market.

Business organizations in the 21st century can learn techniques from the performing arts in how to lead in turbulent times. The symphony orchestra, chamber ensemble, and the jazz quartet each feature have characteristics that managers can use to proactively work and allow the worker to be creative and innovative. In the 21st century workplace, creativity and innovativeness are essential because they allow organizations to be flexible and change as conditions around them change. Table one summarizes the characteristics of the musical ensembles discussed here that offer suggestions that managers use to help them manage today’s emerging and evolving organizations.

### TABLE ONE

Musical Ensemble Characteristics and What Managers Can Learn about Managing 21st Century Workers

<table>
<thead>
<tr>
<th>Ensemble</th>
<th>Characteristic</th>
<th>Learning for Managers</th>
</tr>
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<tbody>
<tr>
<td>Symphony Orchestra</td>
<td>● The conductor as leader acknowledges the expertise of each member.</td>
<td>● Recognize expertise of each worker.</td>
</tr>
<tr>
<td></td>
<td>● Final performance would not be as good without the input of each player.</td>
<td>● Acknowledge that final product needs everyone’s unique input.</td>
</tr>
<tr>
<td></td>
<td>● Artistic creativity and innovation reside with the conductor.</td>
<td>● Manager retains creative and innovative discretion.</td>
</tr>
<tr>
<td>Chamber Ensemble</td>
<td>● Members decide on the final product by consensus.</td>
<td>● Leadership can occur in the collective.</td>
</tr>
<tr>
<td></td>
<td>● Leader is not visible.</td>
<td>● Final product is the result of consensus.</td>
</tr>
<tr>
<td></td>
<td>● Innovation and creativity emerge in rehearsal.</td>
<td>● Creativity and innovation emerge during development</td>
</tr>
<tr>
<td>Jazz Quartet</td>
<td>● Leadership flows tacitly from one member to another.</td>
<td>● Group leadership may shift from member to member to fit specialized needs.</td>
</tr>
<tr>
<td></td>
<td>● Group process is not apparent to outsiders.</td>
<td>● Manager may not understand group’s process; must recognize successful outcomes and trust the team.</td>
</tr>
<tr>
<td></td>
<td>● Creativity and innovation occur in the performance.</td>
<td>● Creativity and innovation are designed into the delivery of</td>
</tr>
</tbody>
</table>
the product.
REFERENCES


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TOWARDS AN IDENTIFICATION OF CORE SOURCES IN ORGANIZATIONAL DEVELOPMENT USING DOCTORAL DISSERTATIONS

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ABSTRACT

Researchers in Organization Development have primarily used expert panels and practitioner opinions in determining core sources in the field. These methods rely on the qualitative opinions of experts rather than taking a quantitative approach. Researchers have used citation analysis to determine other key factors in the field, most notably to identify key research themes. Library and Information Science has a long history of identifying core sources through citation analysis. Citations from 118 theses from three doctoral programs in Organization Development and Behavior were analyzed to determine these core sources. Overall, the result of this investigation produced a quantitatively derived list of core sources to be used as a starting point for further research.

BACKGROUND

Several authors in Organizational Development and related fields have undertaken efforts to identify key or core sources. Many researchers have complied bibliographies of sources based on personal expertise and accepted textbooks in the field. Other researchers have done so through expert panels, relying solely on their rankings or utilizing a combination of opinions and statistical evaluation methods (Pate, 1976; Varney, 1990). All rely on qualitative methods as the source of base data to be analyzed.

Citation analysis has been used in Management and Organizational Development as a quantitative measure to identify and evaluate themes in the literature. Head, Gavin and Sorensen (Head, Gavin, & Sorensen, 1991) identified key trends using an annotated bibliography of sources. Piotrowski and Armstrong (Piotrowski & Armstrong, 2004; Piotrowski & Armstrong, 2005) individually analyzed citations in two major research databases to identify emerging and declining areas of research in the field. Additionally, Johnson and Podsakoff measured the influence of journals in management, and Blackburn traces scholarly communication in and out of the field (Blackburn, 1990; Johnson & Podsakoff, 1994). Though these methods have been well employed, none have used citation analysis to identify core Organizational Development sources.

Researchers in Library and Information Science have utilized citation analysis since Gross and Gross’ landmark article in 1927, which determined the value of journal titles to specific disciplines (Gross & Gross, 1927). Additional applications have developed since then, including user studies, historical studies, communication patterns, collection development measures, and descriptive literature studies (Smith, 2003). Doctoral dissertations are often studied in Library Science due to the comprehensive literature reviews in their given discipline, the high use of library resources by graduate students and easy access to dissertations from online databases and
library collections (Zipp, 1996). Many recent researchers conducted citation analyses into dissertations with the primary purpose of assessing the use and cost-effectiveness of library collections (Peritz & Sor, 1990; Smith, 2003; Walcott, 1991). A useful result of this research is core lists of sources within the disciplines studied.

It is arguable that citations from doctoral dissertations may not hold the same weight as that of an experienced professional. However, there are several reasons why dissertations are a credible source. Doctoral research requires thorough academic investigation of an area of a field including core theoretical texts and current literature. This research is guided and evaluated by faculty advisors and dissertation committees who are themselves experts in their fields. There is also an established connection between the citations of graduate students and those of their faculty counterparts. Louise Zipp found that seventy percent of titles cited in faculty publications matched those used in graduate students’ dissertations (1996). Therefore, it can be inferred that doctoral dissertations are valid sources for identifying core resources in a field. This paper will examine this hypothesis through the study of three doctoral program’s dissertations and provide a methodology for further research.

METHODOLOGY

In order to have both a significant and defined set of citations for this study the doctoral dissertations from three doctoral programs were examined: Benedictine University’s PhD in Organizational Development, Case Western Reserve University’s PhD in Organizational Behavior, and Pepperdine University’s EdD in Organizational Leadership and Organization Change. These programs are of similar size and number of degrees awarded (National Center for Education Statistics, 2007), and each have known scholars in the field of OD in residence. Benedictine University was also partially chosen due to convenience, as the researcher is completing degree work there.

Due to the large number of dissertations in most university library collections, other studies have examined a random sample of dissertations instead of whole collections (Edwards, 1999; Smith, 2003). The size of the three selected universities program provided a fairly manageable number of dissertations, so all the OD dissertations in a seven year period were examined. This approach also provides a more comprehensive set of data from which to identify core sources.

Bibliographies from 118 dissertations submitted from 1999 to 2005 were printed from the online full-text in Dissertation Abstracts database or photocopied from the library collections when an online version was not available. The lack of granular indexing in Dissertation Abstracts and the multi-disciplinary focus of some departments required that dissertations from Case Western and Pepperdine be selected by the researcher based on graduation lists and major advisor. This may have resulted in some relevant results being excluded.

Abbreviated citations covering first author, publication year, and source title were entered into an Access database and associated with the year the dissertation was submitted. Citations were coded according to the format of the material, utilizing Erin Smith’s framework: monograph, periodical, conference proceeding or paper, newspaper or magazine, thesis or dissertation, web
site or other (Smith, 2003). The category of “other” represents any sources that do not fall into a specific category, and included videos, class notes, lectures and personal correspondence.

RESULTS

A total of 16,057 citations from 118 dissertations were examined. The smallest number of citations in a dissertation was 35, the greatest was 454, with a median of 100. The most frequent format of materials cited was monographs at 7753 citations, followed closely by periodicals at 7267. The large number of periodicals cited is somewhat surprising, given that the social sciences in general utilize monographs more in their research (Devin & Kellogg, 1990). Periodicals were used more at Benedictine then at Pepperdine and Case Western, where monographs had a clear majority. Theses, proceedings, newspapers and other sources were cited in approximately similar amounts across programs.

TABLE 1 - NUMBER OF CITATIONS PER DISSERTATION

<table>
<thead>
<tr>
<th>School</th>
<th>Small</th>
<th>Median</th>
<th>Large</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benedictine</td>
<td>44</td>
<td>135</td>
<td>359</td>
<td>148</td>
</tr>
<tr>
<td>Pepperdine</td>
<td>35</td>
<td>100</td>
<td>454</td>
<td>109</td>
</tr>
<tr>
<td>Case Western</td>
<td>45</td>
<td>150</td>
<td>267</td>
<td>142</td>
</tr>
<tr>
<td>Average</td>
<td>41.3</td>
<td>128.3</td>
<td>360.0</td>
<td>133.0</td>
</tr>
</tbody>
</table>

TABLE 2 – MATERIAL TYPE TOTALS

<table>
<thead>
<tr>
<th>School</th>
<th>Total Citations</th>
<th>Conference Proceeding/ Paper</th>
<th>Monograph</th>
<th>Newspaper/ Magazine</th>
<th>Other</th>
<th>Periodical</th>
<th>Thesis/ Dissertation</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benedictine</td>
<td>8875</td>
<td>79</td>
<td>3875</td>
<td>7</td>
<td>138</td>
<td>4513</td>
<td>192</td>
<td>71</td>
</tr>
<tr>
<td>Pepperdine</td>
<td>3478</td>
<td>36</td>
<td>1824</td>
<td>31</td>
<td>77</td>
<td>1362</td>
<td>63</td>
<td>85</td>
</tr>
<tr>
<td>Case Western</td>
<td>3704</td>
<td>32</td>
<td>2054</td>
<td>11</td>
<td>82</td>
<td>1392</td>
<td>109</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>16057</td>
<td>147</td>
<td>7753</td>
<td>49</td>
<td>297</td>
<td>7267</td>
<td>364</td>
<td>180</td>
</tr>
</tbody>
</table>

Due to the differences in the number of citations and dissertations studied between institutions, percentages instead of whole numbers were used to accurately compare trends across schools. The number of dissertations closely matched the IPEDS data for the number of graduates, though each institution did not have comparable graduation numbers to make a whole number comparison accurate.

The age of citations spanned from pre-publication to a handful of works over 100 years old. The age of citations trended the same in all three institutions, the only notable difference being that 1-2% more Pepperdine citations were from publications dating up to ten years before the dissertation compared to other programs. The age of citations studied match those from other fields, with approximately 30% of citations published five years from completion, 50% of the
citations covered by ten years, and 80% covered by twenty (Smith, 2003). This holds true for dissertations submitted across the range of dates, thus a rolling twenty-year currency of research can be inferred.

FIGURE 1 – CITATION AGE BY PROGRAM

To formulate a core list of resources, sources were counted each time they appeared in a bibliography. Since monographs and periodicals had close to an equal total number of citations, each group was studied to determine a core list in each area. Monographs tended to be used much less per title, with the highest number of monograph appearances being 62 (0.8% of citations) versus 436 for periodicals (6.1% of citations). Because periodicals and monographs cover the field differently, e.g. covering an entire area of study versus covering one area narrowly, they were analyzed separately to develop unique but equally important core lists.

Sources listed were the main work from which a citation was derived; i.e. the journal or book title, not the chapter or article title. The highest number of appearances for periodicals was 436, or 6.1% of all citations, and the lowest once (0.0141%). The highest number of appearances for monographs was 62 (0.8% of citations), and the lowest once (0.013%). The mean of unique values was calculated, resulting in an appearance value of 1.0176% for periodicals and 0.2487% for monographs. Inclusion on the core list of sources required an appearance value equal to or greater than the mean for that category.

Means were also calculated for each set of program’s citations individually to compare the core sources of each program against the compiled core list. Highlighted titles on Tables 4 and 6 represent titles that were not at or above mean in a program’s collection of citations, but were at or above mean in the list of all citations.
### TABLE 3 – LIST OF CORE PERIODICALS FOR EACH PROGRAM

<table>
<thead>
<tr>
<th>Periodical Title</th>
<th>Program Cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academy Of Management Journal</td>
<td>Benedictine, Case W., Pepperdine</td>
</tr>
<tr>
<td>Academy Of Management Review</td>
<td>Benedictine, Case W., Pepperdine</td>
</tr>
<tr>
<td>Administrative Science Quarterly</td>
<td>Benedictine, Case W., Pepperdine</td>
</tr>
<tr>
<td>American Psychologist</td>
<td>Case W.</td>
</tr>
<tr>
<td>Harvard Business Review</td>
<td>Benedictine, Pepperdine</td>
</tr>
<tr>
<td>Human Relations</td>
<td>Benedictine, Case W.</td>
</tr>
<tr>
<td>Journal Of Applied Behavioral Science</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Journal Of Applied Psychology</td>
<td>Benedictine, Case W., Pepperdine</td>
</tr>
<tr>
<td>Journal Of Business Venturing</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Journal Of Management</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Journal Of Management Studies</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Journal Of Personality &amp; Social Psychology</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Organization Science</td>
<td>Benedictine, Pepperdine</td>
</tr>
<tr>
<td>Organizational Behavior &amp; Human Decision Processes</td>
<td>Benedictine, Case W.</td>
</tr>
<tr>
<td>Organizational Dynamics</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Personality And Social Psychology</td>
<td>Case W.</td>
</tr>
<tr>
<td>Personnel Psychology</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Psychological Bulletin</td>
<td>Case W.</td>
</tr>
<tr>
<td>Strategic Management Journal</td>
<td>Benedictine, Pepperdine</td>
</tr>
</tbody>
</table>

### TABLE 4 – LIST OF CORE PERIODICALS FOR ALL CITATIONS

<table>
<thead>
<tr>
<th>Periodical Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academy of Management Executive</td>
</tr>
<tr>
<td>Academy of Management Journal</td>
</tr>
<tr>
<td>Academy of Management Review</td>
</tr>
<tr>
<td>Administrative Science Quarterly</td>
</tr>
<tr>
<td>American Psychologist</td>
</tr>
<tr>
<td>Harvard Business Review</td>
</tr>
<tr>
<td>Human Relations</td>
</tr>
<tr>
<td>Journal of Applied Behavioral Science</td>
</tr>
<tr>
<td>Journal of Applied Psychology</td>
</tr>
<tr>
<td>Journal of Management</td>
</tr>
<tr>
<td>Journal of Personality &amp; Social Psychology</td>
</tr>
<tr>
<td>Organization Science</td>
</tr>
<tr>
<td>Organizational Behavior &amp; Human Decision Processes</td>
</tr>
<tr>
<td>Organizational Dynamics</td>
</tr>
<tr>
<td>Psychological Bulletin</td>
</tr>
<tr>
<td>Strategic Management Journal</td>
</tr>
</tbody>
</table>
### TABLE 5 – LIST OF CORE MONOGRAPHS FOR EACH PROGRAM

<table>
<thead>
<tr>
<th>Monograph Title</th>
<th>Program Cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appreciative Inquiry</td>
<td>Case W.</td>
</tr>
<tr>
<td>Appreciative Management And Leadership</td>
<td>Case W.</td>
</tr>
<tr>
<td>Basics Of Qualitative Research: Techniques And Procedures For Developing Grounded Theory</td>
<td>Benedictine, Case W.</td>
</tr>
<tr>
<td>Bass And Stogdill's Handbook Of Leadership</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Discovery Of Grounded Theory: Strategies For Qualitative Research</td>
<td>Benedictine, Case W.</td>
</tr>
<tr>
<td>Fifth Discipline</td>
<td>Case W., Pepperdine</td>
</tr>
<tr>
<td>Groups That Work And Those That Don't</td>
<td>Case W.</td>
</tr>
<tr>
<td>Handbook Of Action Research: Participative Inquiry And Practice</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Handbook Of Creativity</td>
<td>Case W.</td>
</tr>
<tr>
<td>Handbook Of Qualitative Research</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Handbook Of Research On Educational Administrators</td>
<td>Case W.</td>
</tr>
<tr>
<td>Human Side Of Enterprise</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Innovation In Professional Education</td>
<td>Case W.</td>
</tr>
<tr>
<td>Leader Of The Future</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Leaders</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Leadership (Burns, J.M)</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Leadership (Northouse, P.G.)</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Leadership And The New Science</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Leadership Challenge</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Leadership Skills For Project Managers</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Learning Style Inventory</td>
<td>Case W.</td>
</tr>
<tr>
<td>Management Organizational Behavior</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Managerial Grid</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Organization Development &amp; Change</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Organizational Culture And Leadership: A Dynamic View</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Participant Observation: A Methodology For Human Studies</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Participation In Human Inquiry</td>
<td>Case W.</td>
</tr>
<tr>
<td>Qualitative Inquiry And Research Design</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Research Design</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Research In Education</td>
<td>Pepperdine</td>
</tr>
<tr>
<td>Research In Organizational Behavior</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Research In Organizational Change And Development</td>
<td>Benedictine</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>Pepperdine</td>
</tr>
</tbody>
</table>
DISCUSSION

From the data gathered, some clear trends emerge in both the general nature and specific resources in use in the field of Organization Development. Monographs and periodicals are by far the most used sources, with other types of materials trailing far behind. The reach of the literature is also quite broad, with 1348 unique periodical titles and 4186 unique monograph titles cited in the dissertations of the three programs. While compiling the citations, it was obvious that the field touches on multiple disciplines, types of organizations, and types of issues from technology to sense of self. Dissertations routinely contained resources specific to the area being studied as well as familiar OD/OB and management titles. This shows a broad applicability of Organization Behavior and Development while hinting at the existence of a core literature.

The core lists themselves illuminate these core sources, removing the majority of infrequently cited sources and focusing on often-used titles. There was a great deal of agreement on the list of periodicals from the combined sources versus those that were significant from each program. Nineteen periodicals encompassed the list from the programs, half of which were cited above the mean by more than one program. Sixteen titles made up the combined list, with only one title on the list that was not on the list from the individual programs. This kind of agreement validates the strength of both lists, and provides a list of periodicals where the bulk of new and breaking research in the field can be found. It is worthy to note that these lists contain a mix of...
Psychology, Management, and Organizational Development titles, clearly highlighting the roots of the field that lie in those areas. There was less agreement between the program and combined lists in the monograph citations. Given the much higher number of unique titles, that is not surprising, but the list should be viewed with this disagreement in mind.

Thirty-six monographs were on the programs list, with only three cited above the mean by more than one program. Fourteen titles were on the combined list, with five that were not above mean on the program list. Considering the narrow scope and breadth of topics that books cover, there are many more to consider when creating a core list. The lists presented here provide a good view of what monographic resources are being frequently utilized by researchers. Most are handbooks or core texts on the field itself or in research methodology. Some cover a specific topic, notably appreciative inquiry, transformational leadership, learning organizations, and teams. These topics encompass areas both traditionally covered by the field, and new areas of research that have impacted the profession in the last ten years.

CONCLUSIONS

Researchers in Organization Development have mostly used expert panels and practitioner opinions in determining core sources in the field. These methods rely on the qualitative opinions of experts rather than taking a quantitative approach. The field has used citation analysis to determine other key factors in the field, most notably to identify key research themes. Library and Information Science has a long history of identifying core sources through citation analysis, a methodology easily applied to Organization Development. This study has borrowed that methodology successfully to develop a core list of sources utilized by researchers in the field.

The results of the study of the 118 dissertations are validated lists of journals and books, compiled by student-practitioners and faculty experts. The multidisciplinary nature of the journals matches that of the field itself, and the most cited sources are known as key sources in the field or represent new areas of study that have emerged over the last several years.

While the outcomes of this study are promising, additional work can be done to verify the results. Studying a similar number of dissertations from the same time period but different academic institutions would provide for verification of sources and mitigate any subject-area bias that the studied programs may have. Citation patterns from the top identified sources could also be investigated to provide a contrasting data set based solely on scholar/expert publications. Finally, the student citation/faculty citation correlations could be tested using faculty publications in the academic institutions studied so that the methodology itself could be verified. Overall, the result of this investigation provides a less subjective, quantitatively derived list of core sources in the field to be used as a starting point for further research.

REFERENCES

Note: The dissertations studied for this paper are not included in the references below. Please contact the author for the full list.


INTEGRATING CONFLICT SITUATIONS, PERSONAL CHARACTERISTICS, AND BEHAVIOR IN THE WORKPLACE

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Jennie S. Johnson, The University of Texas at Brownsville

ABSTRACT

Bridging the perspectives of conflict style and a contingency approach to conflict management can lead to a new research agenda in the area of workplace conflict. The distinctions between the two are illustrated and recent research approaches critiqued. In addition, the paper explores research on individual behavior and semantics. From this, a conceptual model of the social processing of conflict, offering an interaction perspective, is proposed. Suggestions are made for a new research direction for the study of workplace conflict that may better inform practice and understanding.

“By its very nature, conflict is a phenomenon that everyone has experienced” (Lederach, 1995, p. 40).

Conflict is currently recognized to be a component of interpersonal interactions, not necessarily inevitable or innately bad, but often commonplace and is an emergent function of people interacting within the workplace (Deutsch & Coleman, 2000; Schellenberg, 1996).

The majority of people who work spend a good proportion of their weekday hours interacting with others at their workplace. The average number of hours worked each week has held fairly constant for a wide range of industries over the last ten years (Bureau of Labor Statistics, 2007). This fact alone seems to make workplace organizations a viable context in which to study conflict. Concomitantly, over the last decade there has been increased attention to conflict management in the workplace by organizations, both public and private. Evidence of this is seen in organizations’ activities focused at the system and individual level. At the system level, more organizations are implementing alternative dispute resolution (ADR) processes and procedures. Cost saving has been an impetus for companies and the Federal Government (General Accounting Office, 1997) to incorporate arbitration and mediation processes as alternatives to formal legal options. Peer and/or management review has been utilized to address interpersonal conflict situations at earlier stages of escalation. Additionally, there has been a growth in the number of companies and agencies creating organizational ombudsmen positions. An organizational or internal ombudsman provides a neutral, independent, and confidential mechanism for employees to deal with conflicts that occur with peers and/or managers.

At the individual-level, more organizations have included conflict management skills as a requirement for recruitment, selection and performance appraisal for employees, especially management and executive positions (Office of Personnel Management, 2007). A quick internet review of the training programs being offered by the Office of Personnel Management (OPM, 2007) reveals that “conflict management skills” is listed as a competency goal in the majority of the leadership courses offered to executives. In the private sector, consultants and internal
human resource departments are providing training that includes skills building in conflict management strategies (Deutsch & Coleman, 2000; Whetten & Cameron, 2002). The trend in organizations implementing both system-wide processes and individual-focused programs to facilitate management of interpersonal conflict in the workplace coincides with a growing body of research showing conflict, if not managed, can lead to poor organizational (De Dreu & Beersma, 2005; De Dreu & Weingart, 2003; Deutsch, 1949) and individual outcomes (Ayoko, Hartel, & Callan, 2002; Euwema, Van de Vliert, & Bakker, 2003; Friedman, Tidd, C., & Tsai, 2000).

Conflict interactions that occur in the workplace provide a rich opportunity to explore to what extent specific aspects of the situation influence the participants. The literature suggests that individuals interact within contexts and that meaning, perceptions, and behaviors are emerging properties. While the person may use a set of strategies during conflicts, the specific tools used will be contingent on the situation as it is unfolding. How the situation unfolds is influenced by the specific contextual features evident, manifest behaviors used by parties, and individuals’ social cognition processing. The latter may include causal analysis and inferences, attitudes about the specific conflict, perceived behavioral control over the situation, and subjective norms related to the specific conflict.

**Statement of the Problem**

The preponderance of the research conducted in the workplace setting still frames conflict management as a stable style, and while there is an acknowledgement that conflict management behaviors are emergent within a specific situation, this is not typically reflected in the empirical research. There is an opportunity to bridge perspectives by integrating a contingency perspective to examine the extent to which specific aspects of the context produce different relationships between personal characteristics and behaviors during a workplace conflict situation. This paper reviews existing theories and research related to conflict management taking into account individual background variables, as well as offering an expanded model for consideration. Psychology, sociology, organizational behavior, and education have all embraced this topic as an important one and offer perspectives and research contributing to the current knowledge relating to this complex topic. Opportunities exist for management scholars to assume leadership in enhancing our understanding of conflict in the workplace to create stronger and optimally functioning organizations.

**Conceptual and Theoretical Frameworks**

There is an enormous body of literature, theoretical and empirical, dealing with conflict and conflict management. This paper is grounded in a body of research specifically addressing interpersonal conflict in the workplace. The following section provides descriptions of a specific situation (conflict) in a given context (the workplace) and two views on conflict management behaviors: style versus contingency.

Hypothetical Scenario: John and Mary are peers at ABC organization. Mary believes that John took all of the credit for their joint work on a task force when he presented the results to the management committee. From his words and actions Mary has concluded that John
deliberately meant to mislead the committee about his contributions. Mary decides not to directly confront John but to talk to her friends about how angry and frustrated she is about this situation.

Does Mary always respond to conflict by avoiding confrontation or does she use different behaviors based upon the situation? If the conflict involved a female coworker or the disagreement was about a more technical issue, would Mary’s behavior be the same? A style perspective to conflict management is based upon the premise that a person uses the same behaviors across different contexts and conflict situations (Wilson & Waltman, 1988), while a contingency approach to conflict management suggests that the individual will use behaviors and actions that incorporates situational and contextual factors (Jameson, 1999). What follows is a more detailed look at style and contingency.

**Conflict Style**

Research conducted in workplace settings has largely framed the individual to have a conflict style that “may reflect a predisposition, habit or stable internal preference” (Wilson & Waltman, 1988) that is consistent over time and across situations. From this perspective, studies were designed to examine the relationship between individual differences in attributes such as sex (Bullis, Cox, & Herrod, 1982; Gayle, Preiss, & Allen, 1994; LaFrance, Brownell, & Hahn, 1997; Papa & Natalie, 1989), personality (Moberg, 1998; Percival, Smithmer, & Kelly, 1992), moral development (Rahim, Buntzman, & White, 1999), and cultural background (Chua & Gudykunst, 1987; Tinsley, 2001) to explain or predict their conflict style. Intuitively, many of these individual differences may be related to how a person may approach and behave in a conflict situation. However, if behavior is a function of the individual and the environment, the participants and issues involved in a conflict will often vary and may also contribute to the interaction. Additionally, research linking traits, such as sex to conflict management behavioral styles (Chusmir & Mills, 1989; Hottes & Kahn, 1974; Portello & Long, 1994) has had mixed results raising the possibility that sex is not consistently linked to conflict style or that conflict behavior, as a trait, is not the optimal framework.

**Contingency Perspective**

In contrast to a style framework, a contingency perspective suggests that an individual incorporates salient external variables into their cognitive processing during an interaction and this may affect the individual’s conflict management behaviors. Researchers in conflict management behaviors in the workplace have hypothesized and identified some relevant situational variables. The behaviors used by an individual during a disagreement may vary dependent upon the sex of the other person (Gayle et al., 1994; LaFrance et al., 1997; Tinsley, 2001). There may also be different “types” of conflicts. One categorization identified in qualitative research, task versus relationship-related (Jehn, 1995) has been related to differences in outcome variables, such as team satisfaction (Jehn, 1995), performance, (De Dreu & Weingart, 2003) and innovation (Lovelace, Shapiro, & Weingart, 2001). Conflicts in the workplace often take the form of verbal or written exchanges. The words used by a participant become part of the context in which the conflict interaction is occurring. When aspects of the context are relevant to the participant, such as sex or specific words used, a different pattern of
conflict management behaviors may be used to manage the interaction (Olson-Buchanan, Drasgow, Moberg, Mead, Keenan, & Donoyan, 1998).

In summary, a contingency perspective advocates that an individual has a tool kit of behaviors that s/he uses during a conflict interaction. These may be related to personal characteristics such as sex, age, or personality. However, there seems to be a growing interest by researchers to question what aspects of the context or situation may relate to or influence the individual’s conflict management behaviors. Understanding the person’s contribution to behavior has been extensively studied using variables such as sex and attitudes. This paper will apply well-supported theories, primarily from the field of social psychology, to propose a framework for exploring the relationships between the individual, the context, and behavior in workplace conflict situations.

The Individual and Behavior

Research that explores the relationship between the individual and behavior has been the focus of diverse fields, including psychology, education, marketing, and economics. Often the questions asked include: what personal characteristics can be used to predict a person’s actions or to understand behavior? The Theory of Planned Behavior (Ajzen & Fishbein, 1980; Ajzen & Madden, 1986) has been applied in an impressive body of research, which largely focuses on predicting a specified behavior from a set of individual characteristics, that includes attitudes, subjective norms, and perceived behavioral control. Attribution Theory (Heider, 1958; Weiner, 1986) is a set of theories that relates how individuals make sense of outcomes and situations and the subsequent actions related to this process. The following sections briefly describe these two complex theories as they may be integrated into research on workplace conflict.

The Theory of Planned Behavior. An individual’s actions are generally under volitional control and serve a purpose. Ajzen and Fishbein (1980) proposed that the immediate and major determinant of behavior is intention, or what they termed behavioral intention. The model has three individual variables that are antecedent to intention: attitudes, subjective norms, and perceived behavioral control. Attitude toward a behavior is a positive or negative evaluation of performing a specified behavior. Subjective norm is the perceived social pressure that the individual feels that is either for or against performing a specific behavior. Behaviors occurring in a social interaction may not be under a single person’s direct control because there are external variables, including the other person’s actions that may influence that control. Perceived behavioral control (PBC) serves as an additional antecedent to intention (Ajzen & Madden, 1986) to reflect the extent that a person feels that s/he has control over and the ease or difficulty in performing a specific behavior. The PBC variable largely considers the extent to which an individual believes or infers that s/he has personal control to perform or not perform a behavior. The Theory of Planned Behavior has been used extensively in research to explain and predict a range of behaviors, including dishonest behaviors, such as cheating and lying, exceeding speed limits, and a range of health topics such as exercising, dieting, and using condoms. The model of the Theory of Planned Behavior is in Figure 1 below.
Figure 1: Theory of Planned Behavior (Ajzen, 1991)

At the heart of the Theory of Planned Behavior is the concept of Behavioral Intention, which is a function of Attitude toward the behavior, Subjective Norm, and Perceived Behavioral Control.

**Attribution Theory and Locus of Causality.** People come to know about each others’ states (e.g., emotions and intentions) and more enduring dispositions (e.g., traits and beliefs) through processes referred to as social cognition (Fiske & Taylor, 1991b; Gilbert, 1998) and described by Attribution Theory. Fritz Heider (1958), credited as the founder of Attribution Theory, suggested that people use naïve processes to understand the causes of events in order to make decisions and take actions to adapt and respond to events. The processes that people use to know themselves and others may be conscious, unconscious, perceptual, cognitive, and behavioral. While there may be different attributions and inferences made by an individual during an interaction, researchers have hypothesized that attributions of the locus of causality play a significant role (Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Weiner, 2000, 2001). Participants in an interpersonal interaction likely make attributions of causality such that they infer the cause of the event or outcome is oneself, the other person or the situation (Allred, 2000; Jones & Davis, 1965; Weiner, 1986). Attributions made during an interpersonal interaction have been shown to be influenced by participant characteristics, such as sex (Fiedler, Semin, & Finkenauder, 1993) and group membership (Maass, Salvi, Arcuri, & Semin, 2000; Rubini & Semin, 1994). Research designed to look at language revealed that words used during an interaction, specifically verbs, conveyed information that both implied and lead to different attributions of causality (Fiedler & Semin, 1988; Semin & Fiedler, 1988; Semin & Marsman, 1994). Research focused on intrapersonal attributions of causality (within oneself) has supported a relationship between different attributions (e.g., to oneself or situation) and subsequent behaviors and outcomes, such as achievement and depression (Abramson & Martin, 1981; Weiner, 2000). An Attribution Model of Emotion and Motivation is in Figure 2 below.
In summary, the Theory of Planned Behavior and Attribution Theory have each been applied in research to explore the relationship between individual characteristics and behavior. Researchers have found that attitudes alone are not always the best predictor of behavior and have included additional individual variables, such as subjective norms and perceived behavioral control. Locus of causality, an individual’s inference of the cause of the event, is thought to play an important role in interpersonal interactions (Weiner, 2000), and may explain behavior, in addition to the other individual variables.

**The Individual, Context & Behavior**

A person’s behavior can be framed to be an emergent function of the individual and the environment or context (Lewin, 1951). Whereas the field of psychology focuses more on the individual and behavior, social psychology is built upon the notion that the individual develops and interacts within social systems (Turner, 1991). Examples of research within this perspective includes: the development and manifestations of stereotyping (Allport, 1954/1979; Fiske, 1998; Maass et al., 2000), alcohol use in the Greek system at colleges (Borsari, Murphy, & Barnett, 2007), and violence within families (Gelles & Straus, 1979). A contingency perspective adopted in conflict management research (Jameson, 1999; Olson-Buchanan et al., 1998) considers how the context influences the individual and behavior. Individuals act and interact within a context. While the individual brings a lot to the situation, whether that is exercising alone or interacting with others, the context has the potential to affect what behaviors are intended.

**Sex of Parties**

The extent to which there is a relationship between various personal characteristics and conflict management has generated considerable research. Examples of these include: sex (Brewer, Mitchell, & Weber, 2002; Bullis et al., 1982; Gayle et al., 1994; Papa & Natalie, 1989), personality (Moberg, 1998; Percival et al., 1992), moral development (Rahim et al., 1999), and cultural background (Chua & Gudykunst, 1987; Tinsley, 2001). While some research has indeed suggested relationships between them, others have found mixed results.

The influence that sex plays on conflict interactions is considered in this paper, because of possible affects that extend beyond a relationship to conflict management behaviors as an
individual-level variable. Sex is considered to be a salient contextual variable in the literature and research in attributions (McLean, Stongman, & Neha, 2007; Tay, Ang, & Dyne, 2006), social cognition (Brewer, 1988; Fiske, Lin, & Neuberg, 1999; McCrae & Bodenhausen, 2000; Rothbart & Taylor, 1992) and stereotyping (Schneider, 2004). Research by Mannetti and DeGrada (1991) using the linguistic category model (LCM), a language-attribute model, showed different main effects related to sex. Also using the LCM, Fiedler et al. (1993) examined the relationship between sex and language used to describe ten gender-role issues, such as prevention of pregnancy and driving cars, in a small student sample. Their results suggested different patterns of language use when comparing female and male respondents. Research using the Theory of Planned Behavior (TPB) to explain a range of behaviors, including to predict driver’s compliance with speed limits (Elliott, Armitage, & Baughan, 2003), adolescent eating and activity behaviors (Baker, Little, & Brownell, 2003), and exercise (Brickell, Chatzisarantis, & Pretty, 2006) reported statistically significant effects for respondents’ sex.

The literature cited represents a slice of the research that has been done on these topics and theories. Many other articles exist that do not include sex as a variable in the design. However, because sex has been implicated to be relevant as both an individual and contextual variable, its potential role is valuable to explore workplace conflict management situations.

**Language & Linguistic Category Model (LCM)**

During a conflict interaction, the behaviors that manifest between parties are often in the form of verbal utterances. A lot of information, in addition to the actual meaning, is conveyed in the words. It is this additional information that may be a contextual influence on the conflict interaction. Additionally, the LCM presented in this paper shows how language interacts in conflict and its potential to influence behavior.

Research on what is commonly called the “implicit causality” of verbs arises from a social psychological perspective in that, “language will be viewed as a behavior that is both influenced by other people, as well as a means for influencing the behavior of others” (Holtgraves, 2002, p. 2). Experimental designs are typical for this research using a questionnaire with items worded in the sentence structure, “subject predicate object.” Overall, the results have showed a pattern that action verbs (e.g., hit or tells) lead to attributions of causality to the subject while state verbs (e.g., like or trust) lead to attributions of causality to the object of the sentence (Brown & Fish, 1983). Further, adjectives that stemmed from either action verbs or state verbs showed the same pattern of attributions of causality.

Semin and Fiedler (1988) provide a further development to the verb causality pattern with the LCM. The authors propose that terms used as predicates (i.e., verbs and adjectives) can be categorized into a model along a single dimension of concreteness to abstractness. In their initial research with the LCM (Fiedler & Semin, 1988; Semin & Fiedler, 1988) they developed the categories, examined how well a corpus of terms discriminated into the categories, and explored relationships between categories and attribution-related questions. Their results showed a majority of their participants agreed in categorizing the verbs (84.72%) and the

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1 “The subject of a sentence is the person, object or idea being described. The predicate is the explanation of the action, condition, or effect of the subject (p. 6)” (Shertzer, 1986).
categories discriminated, both theoretically and empirically, when related to five attribution-related variables (i.e., subject informativeness, enduringness, verifiability, disputability, and situation informativeness) (Fiedler & Semin, 1988; Semin & Fiedler, 1988). Using the LCM, Douglas and Sutton (2006) explored the relationship between the language used (concrete-abstract dimension) to describe the actions depicted in cartoons and participants’ inferences of actor’s attitudes and goals. Participants inferred from a positive abstract description that the describer was more likely a friend (than enemy or unbiased observer) and was in favor of the protagonist. Several researchers (cf., Maass & Arcuri, 1992; Maass, Salvi, Arcuri, & Semin, 1989; Maass & Schaller, 1991; Rubini & Semin, 1994) have examined the relationship between group-membership and language use. Participants described positive ingroup (within one’s own social group) and negative outgroup behaviors in more abstract language (i.e., using adjectives and state verbs). Additionally, they described negative ingroup and positive outgroup behaviors in more concrete language (i.e., using action verbs).

Going a step further, the purpose of the research was to explore the relationship between different patterns of language used and subsequent behavior. Semin and De Poot studied to what extent does the question, the specific wording of it using the LCM, influence the answer (De Poot & Semin, 1995; Semin & De Poot, 1997b). This work was built upon earlier research done by Semin and Marsman (1994) who found that the inferences were along two independent dimensions: causality or who instigated the action and dispositional quality of the subject or object of the sentence. Inferences of disposition follow the same pattern as causality, but seemed to also be influenced by contextual information, such as the priming instructions given to the participants by the researchers. Semin and De Poot’s research showed a relationship that abstract predicates used in questions resulted in answers with more abstract predicates (e.g., state verbs). They coined the phenomenon, “Question-Answer Paradigm” (QAP) and replicated the previous research results (Semin & De Poot, 1997a). Their subsequent research also revealed that narratives written by participants were influenced by the predicates used in the questions. Therefore, the authors suggested that participants incorporate and respond to concrete and abstract language implicitly.

If a question can influence an answer through a manipulation of the verbs, Semin, Gil de Montes, Higgins, Estourget and Valencia (2005) explored the effects of a manipulation in a health-related message on participants’ intent to act. The authors reported that in participants that were promotion-focused, determined by a scale, showed a stronger intention to engage in sports when the message included abstract verbs than if it included concrete verbs. The opposite pattern was seen for prevention-focused participants who showed a stronger intention to engage in sports when the message included concrete verbs compared to abstract verbs. They concluded that persuasive messages that are tailored to fit the recipients’ linguistic preferences may be more effective in influencing intention and behavior.

Summary and Consideration for Future Theory, Research and Practice

Conflict interactions that occur in the workplace provide a rich opportunity to integrate different theories and explore to what extent specific aspects of the situation influence the participants. This paper is grounded in literature and research that suggests that individuals interact with contexts and that the meaning, perceptions, and behaviors are emerging properties...
Lewin (1951) labeled this the interaction perspective of behavior and involves social processing of the context.

The research that has used the Theory of Planned Behavior has generally performed very well in predicting intention and behavior from three individual variables: attitudes, subjective norms, perceived behavioral control (Armitage & Conner, 2001; Hagger, Chatzisarantis, & Biddle, 2002; Sheppard, Hartwick, & Warshaw, 1988). The behaviors that have been studied with the TPB have generally been intrapersonal (e.g., weight-loss or exercise) as compared to interpersonal. Additionally, in the previous research, the TPB has been used to study a single target behavior, such as smoking cessation. This practice has been questioned by some researchers because the individual generally has more than one behavioral option available in any given situation (Kashima & Lewis, 2000; Sheppard et al., 1988). Attribution researchers suggest that attributions of causality play an important role in interpersonal interactions, but empirical research is limited.

To develop a richer understanding of conflict behavior, it is essential that research include both individual and situational variables. The TPB, representing individual variables, can be extended and expanded in three ways. 1) The model can be applied in an interpersonal interaction, a workplace conflict situation, 2) three conflict management behavioral intentions can be included: nonconfrontation, solution-oriented, and control (Putnam & Wilson, 1982) because during a conflict interaction, an individual has a range of behaviors that can be chosen, and 3) include attributions of the locus of causality to potentially explain additional variance in conflict management intentions beyond that already explained by the three individual variables of the TPB. In the proposed model, three variables: sex of protagonist, type of conflict, and words used, are considered to represent salient aspects of the context suggested in previous research in conflict and attribution. Figure 3 displays the proposed Interactionist Model of Conflict Management.

**Figure 3. Interactionist Model of Conflict Management**
Organizations are devoting resources to implement systems, processes, and training to improve the management and outcome of workplace conflicts. This trend will likely continue as organizations and employees are required to work effectively within a changing environment. Additionally, results from research showing conflicts can lead to poor organizational and personal outcomes is adding further impetus to understanding conflict situations and conflict management in the workplace. Research is needed to bridge perspectives and apply them in a different way raising questions about the extent to which specific aspects of the context produce different relationships between personal characteristics and behaviors during a workplace conflict situation. Research agendas around this topic need to be created.

Potential questions for exploration generated by this paper are:

1. Does the context of a given workplace conflict situation influence a person’s response?

2. Specifically, in the workplace do people respond differently depending upon each of the following:
   a. The type of conflict; that is, if the conflict task or relationship-related?
   b. The language used; that is, if the language varies in abstraction?
   c. The sex of the person initiating the conflict?
   d. Do men and women have a different profile of responses related to the questions posed above?

Providing answers to these may lead us to greater understanding of the conflict phenomenon as well as inform learning interventions related to conflict management for managers and employees in the workplace.

References


Schneider, D. J. (2004). The psychology of stereotyping. New York: Guilford Press.


USING TECHNOLOGY TO PREVENT ONLINE CHEATING
A PILOT STUDY OF REMOTE PROCTOR

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Janie Gregg, University of West Alabama, jgregg@uwa.edu
Suzanne Clinton, University of Central Oklahoma, MClinton1@uco.edu

ABSTRACT

Online education programs at colleges and universities continue to grow in popularity. As a result, major accrediting agencies require the online programs to demonstrate rigor and integrity of similar on-campus programs. Some programs are turning to technology to verify the person taking tests is the enrolled student. They also use the same technology to monitor the testing environment for evidence of cheating.

We look at how creative the cheating process has become with the use of several technological devices that all students seem to carry and offer ways in which professors can combat the problem.

INTRODUCTION

Technology has led to creative new ways in which students from kindergarten through college can enhance their cheating abilities, especially in online classes. Any student who has a cell phone, PDA, or I-Pod, and knows how it works, can use any of these devices as savvy means to enhance cheating in class, but cheating in online classes takes on several additional factors.

This paper uses a problem solving approach to curbing online cheating. We first identify the problem: what kinds of students are cheating and why students are cheat. We discuss why students feel it is so very necessary to cheat to get ahead of other students in today’s competitive environment and why they take online classes to enhance their chances of being able to cheat. We look at how creative the cheating process has become with the use of several technological devices that all students seem to carry. Second, we took new technology available to professors and put it to the test. This paper contains a report of a pilot study of Software Secure’s Remote Proctor and the secure testing environment. The Technology Acceptance Model (TAM) was used to verify student perceptions of ease of use of Remote Proctor and whether the student believed it would reduce incidents of cheating. Instructors were also asked for their opinions based on viewing videos recorded in the test environment. Based on the results of this study, the researchers recommended that the university adopt Remote Proctor in their online program. Finally, we will offer other ways in which professors can use some of their own technology, new and no-so-new, to combat the problem.

How Students Cheat and Actions Instructors can take to Prevent Cheating in Online Courses
Cheating and the Literature: Variables Investigated

The literature is full of studies that have investigated cheating. A list of some of the variables that have been investigated and the contributing authors is provided in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>Iyer &amp; Eastman, 2006</td>
</tr>
<tr>
<td>Greek membership</td>
<td>Iyer &amp; Eastman, 2006; D. L. McCabe, &amp; Treviño, L. K., 1997; Park, 2003; Storch &amp; Storch, 2002; Straw, 2002</td>
</tr>
<tr>
<td>Peer involvement</td>
<td>Chapman, Davis, Toy, &amp; Wright, 2004; D. L. McCabe, &amp; Treviño, L. K., 1997</td>
</tr>
<tr>
<td>Religious vs. non-religious institutions</td>
<td>Boh S. Brown &amp; Choong, 2005; Bruggeman &amp; Hart, 1996</td>
</tr>
<tr>
<td>Efforts to increase academic integrity</td>
<td>Chapman, et al., 2004; D. L. McCabe, &amp; Treviño, L. K., 1997; Donald L. McCabe, et al., 2006</td>
</tr>
<tr>
<td>Graduate vs. undergraduate</td>
<td>Baird, 1980; Bowers, 1964; Iyer &amp; Eastman, 2006; D. L. McCabe, &amp; Treviño, L. K., 1997; Donald L. McCabe, et al., 2006; D. L. McCabe &amp; Treviño, 1995</td>
</tr>
<tr>
<td>Technologically innovative</td>
<td>Iyer &amp; Eastman, 2006</td>
</tr>
<tr>
<td>Time management</td>
<td>Lambert, et al., 2003; Park, 2003; Payne &amp; Nantz, 1994</td>
</tr>
<tr>
<td>Campus size</td>
<td>D. L. McCabe &amp; Treviño, 1996</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Whitley, 1998</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>Crown &amp; Spiller, 1998</td>
</tr>
<tr>
<td>Financial Support or Working less Hours</td>
<td>Diekhoff, LaBeff, Clark, Williams, Francis and Haines, 1996; Haines, Diekhoff, LaBeff and Clark, 1986</td>
</tr>
</tbody>
</table>

Cheating: What is Wrong and What is Not?
In addition to examining the relationships between cheating and all of the preceding variables, previous studies have also examined students’ perceptions of cheating, some indicating degrees of wrongness among forms of cheating. For example, cheating on a test may be viewed as much more “wrong” than plagiarism (Payne & Nantz, 1994). Given the myriad of definitions of plagiarism listed in the literature, students may find it hard to know exactly what cheating is. This fact is illustrated by numerous studies that posed questions or statements to which students would indicate the degree of rightness or wrongness of the activity. Results vary depending upon the respondent’s age, classification, major, GPA, etc.

Why is Cheating a Growing Problem?

Why is the number of cheaters growing? McCleans (2007 “Universities Simply have to do better”) lists reasons for the growth of cheating such as “social leniency around rule breaking, …heightened competition for jobs on graduation, …larger class size, … the proliferation of electronic devices that make it easier to cheat, … [and] offences are observed and ignored by the university (p1).” The authors believe the fact that university punishment is light if it is imposed at all and fear of violent retaliation from students, or the lack of consequences has resulted in increased cheating.

Cheating: What is Missing from the Literature?

What is not so prevalent in the literature are studies concerning cheating and distance learning. Although there is not a complete gap in the literature for this topic, there is a lack of research in this area. The current literature in this area is limited to studies that examined as part of a larger study, cheating in online courses (Chapman, Davis, Toy and Wright, 2004; Artsenger, 2003; McCabe, 2001-2002).

Why Cheating May Be More of an Issue for Online Courses

Ashworth and Bannister (1997) found that anonymity may contribute to cheating. Additionally, their study indicated that students are more likely to cheat when they feel that they are receiving a low quality educational experience, or when they are excluded from the academic community (Ashworth & Bannister, 1997). Chapman, Davis, Toy and Wright (2004, p.238) found that “the variables that seem to facilitate cheating include increased class size, decreased surveillance, test importance and difficulty, close seating arrangements, and grading on a curve.” Parke (2003) noted instructors’ concern that students may feel more comfortable using material from the internet as their own because they regularly download music without buying it. Similarly, Auer and Krupar (2001) stated that the ease of cutting and pasting may have increased the occurrence of plagiarism. The authors identified the following issues as increasing the likelihood of cheating in online courses: anonymity; not much face-to-face interaction with instructor to build trust or a relationship that might have prevented cheating; students’ questions of “how will they catch me if they don’t see me?”; students may not take online courses as seriously as in-person class (e.g., lack of informality in emails to professors and posting complaints about the professor in the discussion board for the class); pressure to cheat due to full-time employment which may be why students are taking online classes in first place; student perceptions that an online class should be easier than an in-person class; and students’ beliefs
that it is easier to get away with cheating due to lack of monitoring. Our next section explores the use of new technology to curb cheating in online classes.

The Pilot Study of Remote Proctor

Purpose
The Southern Association of Colleges and Schools (SACS) and other accrediting agencies require online programs to reflect the integrity and rigor of on-campus programs. To that end, the College of Business, in association with Software Secure, conducted a pilot study to test the applicability of the Remote Proctor to the courses offered online by The University of West Alabama. Of primary interest is the level of integrity that can be added to the testing procedures used in the online courses through biometric validation of the identity of the student and monitoring activity in the testing area. Additionally, to be accepted as a valuable component of the online program, Remote Proctor should demonstrate ease of use to students and faculty, as well as improve confidence in the integrity of the online program.

Software Secure Remote Proctor requires the student to use biometric verification as well as visual identification to log on to the testing site. The device plugs into a USB port on the student’s computer and contains a fingerprint scanner and 360 degree camera. The scanner and camera verify the student identity and the camera monitors activity in the examination area. Captured videos are uploaded to a secure website maintained by Software Secure. Instructors may view the videos to determine if activities occurred that might indicate cheating took place.

This pilot study was designed to test the Remote Proctor device in a lab environment, provide information about its ease of use by students and faculty, and make a recommendation about the adoption of the product in online courses.

Study Period
June 1 to June 30, 2008

Materials
Software Secure provided UWA with five Remote Proctor units for a period of 30 days for evaluation at a cost of $750. Additionally, UWA purchased a 30-day academic license for Securexam for Remote Proctor software to cover five students. The cost of the academic license was $750.

Participants
Faculty members from all colleges were encouraged to participate in this study. No special criteria were required for participation except an interest in improving the caliber of the online programs. An email was sent to all full-time faculty members with a questionnaire attached. The instructors were asked to visit the Remote Proctor website to view the videos taken during the test period and then submit a questionnaire about the experience. Table 1 provides a breakdown of participating faculty and their affiliation.

Table 1. Participating faculty

| Table 1. Participating faculty | 367 |
Due to the short period involved in the study, students in the College of Business were asked by their instructors to participate in the study by taking one or more prepared tests using Remote Proctor. The grades on these tests were unimportant to the process. The students installed the Remote Proctor hardware and software, enrolled their credentials (fingerprint and photo), and took one or more tests on the Software Secure Blackboard site. The students were encouraged to shuffle papers, talk, use their cell phones and perform other activities that would be captured as suspicious video by Remote Proctor and recorded to the administrative site. After completing the test(s), the students completed a short questionnaire about their perceptions of the process. The results from the student and faculty questionnaires are presented in the analysis section of this paper. Table 2 provides a breakdown of the student by rank and gender. Freshmen and sophomores were likely to be taking classes in other colleges as well as the College of Business; juniors and seniors were likely to only be taking courses in the College of Business.

### Table 2: Student demographics

<table>
<thead>
<tr>
<th>Rank</th>
<th>Gender</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Sophomore</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Junior</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Senior</td>
<td>11</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23</strong></td>
<td><strong>8</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

**Process**

For the purposes of this study, Software Secure prepared three courses on their Blackboard site. The first course is "American History 101" and the test name is "Early American History Quiz." The second course is "Math 101", and its test name is "Introductory Mathematics." The third course is "Popular Culture 101," and its tests are "Exam Question Samples," and “Streaming Media and PDF File Questions." This should be sufficient to test the Remote Proctor testing system. These prepared tests preclude faculty from having to prepare and upload special tests just for this project.

**Students:**
It was desirable to have as many students as possible participate in this study. We had hoped to have at least 50 students take the tests; however, this proved to be impracticable. Although the actual number (31) is lower than desired, it was sufficient to provide a statistically normal sample. To make the experience as close to what an online student will have to do, each student was required to do the following:

- remove the Remote Proctor and other materials from the original box;
- review installation instructions and other documentation;
- assemble the Remote Proctor;
- install the software and hardware following the instructions provided;
- register the installation and enroll their credentials;
- logon to the Software Secure Blackboard site and take the test(s).

As a test of the Remote Proctor capabilities, students were asked to perform activities that activate the suspicious activities monitor (talk, open a book, etc.). The activities were captured and recorded on a test site for viewing by faculty.

After finishing the tests and closing Blackboard, the students completed the short questionnaire. The entire process took about one-half hour to complete.

Faculty:
All faculty members were emailed a copy of the questionnaire and encouraged to participate in this study by doing the following:

- Review the Remote Proctor videos of the students recorded on the Remote Proctor website (www.remoteproctor.com/login/school-b)
  
  Userid for Faculty =teacher-b
  Password =teacher-b;

- Return the completed questionnaire via email.

Twenty faculty members covering all colleges responded to the questionnaire.

Analysis
Excel was used to provide the statistical analysis of the student and faculty questionnaires. Demographic data was collected from the student, which is shown in the Table 1, Appendix A. The sample was 74% male and 26% female. A majority of the students were juniors and seniors. Only four of the students reported they had taken online classes at UWA; however, nine indicated plans to take online courses. The students were supportive of adopting Remote Proctor by 3:1 (Figure 1).
Acceptance and Adoption

The successful adoption of a new technology is frequently determined by two primary factors: perceived usefulness and perceived ease of use (Davis, 1989). Perceived usefulness is defined as the degree to which users believe that the technology will facilitate the process. The process evaluated in this study was reducing opportunities for cheating and was addressed in questions 6, 7, and 8. Perceived ease of use is defined as the degree users find the effort involved in using the technology as minimal. This factor was addressed in the student questionnaire by questions 10, 11, 12. They were also addressed in the faculty questionnaire by questions 1, 3, 4 (ease of use), and 5, 6, 8 (perceived usefulness).

Structural equation modeling (SEM) was used in this study to identify the strength of the relationships between the variables and their effect on the latent variables of perceived usefulness (PU) and perceived ease of use (PEOU). Figure 2 illustrates the SEM model used in this study.

All of the variables were significant with t values well above the critical value of 2.457 ($\alpha=.05$, 30df). Additionally, the goodness of fit statistics for the model indicate an overall good model. Key goodness of fit indices include $\chi^2 = 9.78$ with a p-value of 0.28 and 8 degrees of freedom, adjusted goodness of fit (AGFI) = 0.94, and root mean square of approximation (RMSEA) = 0.086. The model confirms that students view Remote Proctor as useful for reducing or discouraging cheating and easy to set up and use and provides support for their willingness to adopt Remote Proctor.
Instructors were more limited in their exposure to Remote Proctor. Unlike students who were required to install, configure, and use Remote Proctor, instructors were only asked to view the videos captured during the time the tests were taken. Due to the small sample size (20), SEM could not be used for analysis. However, instructors supported adoption at a rate of almost 5:1 (Figure 3).

How Students Cheat and Actions Instructors can take to Prevent Cheating in Online Courses

In Table Three, the authors provide a list of how students cheat and what we, as professors, can do to combat it. The Remote Proctor, of course, is mentioned as a way to curb some of these cheating problem, but several other ideas are offered, as well.
Table Three: How Students Cheat and Actions Instructors can take to Prevent Cheating in Online Courses

<table>
<thead>
<tr>
<th>How Students Cheat Cheating</th>
<th>What Professors can do to Combat</th>
</tr>
</thead>
<tbody>
<tr>
<td>One student takes the test first and helps the other, then next time, the second student takes the exam first and helps the first</td>
<td>Use person to proctor or a camera proctor which has a 360 degree span which must be on while the student is taking the test so you can observe who is in the room with him. Give multiple forms of the test or a randomized block test, choosing to give each student a completely different test.</td>
</tr>
<tr>
<td>Take the test together</td>
<td>Have students submit all work in a digital format and use turnitin.com to check all assignments Have students sign honesty pledges Address cheating in syllabus, class discussions, online chats, etc</td>
</tr>
<tr>
<td>Sharing work with other students</td>
<td>Have proctor use fingerprint recognition software. Use fingerprint recognition software to log into tests.</td>
</tr>
<tr>
<td>Have another student take an unproctored exam for you</td>
<td>Have students submit, in person, a valid photo identification card issued by the University and make copies of them.</td>
</tr>
<tr>
<td>Have outside party take the exam for you if unproctored</td>
<td>Throw in a few course-navigation questions (which would be missed by an outsider)</td>
</tr>
<tr>
<td>Have another student take the class completely for you</td>
<td></td>
</tr>
<tr>
<td>Have a twin or look-alike relative take the test for you</td>
<td></td>
</tr>
<tr>
<td>Cell phones with internet capability</td>
<td>Have proctor use a Microsoft Dongle to detect any devices with Bluetooth technology in the “on” position.</td>
</tr>
<tr>
<td>Text answers using a cell phone</td>
<td>Have a box at the front of the room where students place their cell phones, calculators, etc., during a test. Be sure student names are on each piece of equipment. Show ID to reclaim equipment.</td>
</tr>
<tr>
<td>Take a picture of an exam using a cell phone</td>
<td>Give randomized block test, choosing to give</td>
</tr>
<tr>
<td>Each student a completely different test drawn from the entire test database. If proctored, give students a calculator to use.</td>
<td></td>
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<tr>
<td>---</td>
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<tr>
<td>Copy and paste the exam to a word processing program. Print the quiz or exam for another student.</td>
<td></td>
</tr>
<tr>
<td>Have software to track where students went in the computer or on the internet while they were on the computer. Do not allow printing during the test. Blackboard has a feature which does not allow printing during the test. Code no copy no print. If proctored, do not allow printing after the test and no checking/sending e-mail.</td>
<td></td>
</tr>
<tr>
<td>Crib notes/Open book</td>
<td></td>
</tr>
<tr>
<td>Remote camera proctor (Software Secure) Strict time limits can be added for taking the test, such as one minute per question for a standard multiple choice question, and the recognized time limits given in the test bank for more complex questions</td>
<td></td>
</tr>
<tr>
<td>Giving fraudulent excuses in order to take the test at a later date</td>
<td></td>
</tr>
<tr>
<td>Accept only excuses from reputable doctors on their letterhead or excuse pad. Accept only letters from employers on company letterhead Accept only funeral notices/bulletins which list the student as a relative Require prior notice of absence if it is not emergency related to makeup work Use the university’s advising center to check excuses to see if they are valid Use participation points that count only if the student is present, no consideration for excuses at all</td>
<td></td>
</tr>
<tr>
<td>Buy a paper from an online source or another student. Plagiarism</td>
<td></td>
</tr>
<tr>
<td>Have students submit a copy of all articles or a link to each of them which will be used to write the paper PRIOR to writing the paper, along with an outline showing where they will cite the articles. Refer back to them when...</td>
<td></td>
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</tbody>
</table>
grading. Count off a significant amount (maybe 10%) for using any article that is not in the original batch of articles or if not submitted prior to the final document.

Have them keep a research paper notebook. Have a place for the outline, the articles, notes, copies of all rough drafts, and the final paper. Have them submit it with their papers via snail mail or in person.

Accept only references with authors’ names listed and full journal citations...nothing from internet websites.

Have plagiarism definition on the course syllabus

Have plagiarism policy on the syllabus

Give a syllabus test and address several aspects of the plagiarism policy and definition in the questions.

ALWAYS PROSECUTE ALL OFFENDERS ACCORDING TO UNIVERSITY POLICY!!

Conclusion and Recommendation
As online programs take on a larger role in the mix of degrees offered by colleges and universities, the ability to maintain the integrity of the outcomes becomes more and more important. We need to verify the identity of the student taking tests and ensure the integrity of the testing environment. Live proctors can be used for that purpose, but this may prove to be too difficult for many students. One solution to the problem is applying modern technology. Secure Software Remote Proctor is a device that contains a fingerprint scanner and 360 degree camera. The student connects the device to his/her personal computer and uses the device to log on to the test environment. The study indicates that the device is easy to install and configure and the logon procedure is easy as well. Based on the results of this pilot study, it was recommended that Remote Proctor be adopted by the university to help reduce the problems of identity verification and test environment monitoring.

While this is a small study pertaining to a single university, it provides a demonstration of the usability of technology to improve the integrity of online courses and degree programs. Colleges and universities that incorporate the online delivery of their courses into their mix of programs
should investigate the use of technology like Remote Proctor for administering tests to remote students. More information about Remote Proctor is available at http://www.softwaresecure.com/.

References


## Remote Proctor Instructor Questionnaire

Please respond to the following statements by checking the appropriate number block.  
1 = Strongly Disagree; 2 = Disagree; 3 = No Opinion; 4 = Agree; 5 = Strongly Agree

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<tr>
<th></th>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>1</td>
<td>Remote Proctor video was easy to view</td>
<td></td>
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<tr>
<td>2</td>
<td>The students had no problems with Remote Proctor</td>
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<tr>
<td>3</td>
<td>Questionable activity was easy to see and identify</td>
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<td>4</td>
<td>Students were easy to recognize in the video</td>
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<td>5</td>
<td>Pictures and fingerprints ensure correct student takes test</td>
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<td>6</td>
<td>Sounds were clearly recorded with the video</td>
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<td>7</td>
<td>I would like to use Remote Proctor for my online tests</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>8</td>
<td>Remote Proctor will NOT discourage cheating</td>
<td></td>
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I teach one or more online courses for UWA
- Yes
- No

Tests in my online classes are proctored
- Yes
- No

My online students must identify their own proctors
- Yes
- No

UWA should adopt the use of Remote Proctor for online classes.
- Yes
- No

Please comment on your feelings about the use of Remote Proctor:
Remote Proctor Student Survey

Please respond to the following statements by checking the appropriate number block.  
1 = Strongly Disagree; 2 = Disagree; 3 = No Opinion; 4 = Agree; 5 = Strongly Agree

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<th>3</th>
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<tbody>
<tr>
<td>1</td>
<td>The installation procedure for the Remote Proctor was clear and easy to follow.</td>
<td></td>
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<tr>
<td>2</td>
<td>Remote Proctor will NOT discourage cheating.</td>
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<tr>
<td>3</td>
<td>I will NOT take an online class if Remoter Proctor is used.</td>
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<td>4</td>
<td>The login procedure using Remote Proctor was easy.</td>
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<td>5</td>
<td>I felt intimidated by the Remote Proctor.</td>
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<tr>
<td>6</td>
<td>Using Remote Proctor is a good way to prevent cheating.</td>
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<td>7</td>
<td>Remoter Proctor is more convenient that using a live proctor.</td>
<td></td>
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<td>8</td>
<td>Remote Proctor should be used for monitoring online tests</td>
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<td>9</td>
<td>I don’t mind giving my fingerprint for ID purposes.</td>
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<tr>
<td>10</td>
<td>Enrolling credential procedures were easy to complete</td>
<td></td>
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<tr>
<td>11</td>
<td>I had no problem installing the Remote Proctor hardware and software.</td>
<td></td>
<td></td>
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<tr>
<td>12</td>
<td>All instructions were clear and understandable.</td>
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Please check the appropriate boxes.

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<tr>
<td>Male</td>
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<td>Female</td>
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I have used Remote Proctor in online courses.

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<td>Yes</td>
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<td>Freshman</td>
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<td>Sophomore</td>
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<td>Junior</td>
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<td>Senior</td>
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<td>Graduate</td>
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Remote Proctor should be used for all online classes at UWA.

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<td>Yes</td>
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<tr>
<td>No</td>
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<tr>
<td>No Opinion</td>
<td></td>
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<tr>
<td>I have taken online classes at UWA</td>
<td>I plan on taking online classes at UWA</td>
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<tr>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>No</td>
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<table>
<thead>
<tr>
<th>I have taken online classes at other schools</th>
<th>I plan on taking online classes at another school</th>
</tr>
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<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
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<td>No</td>
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Please comment on your use of Remote Proctor.
AN IMPROVED CLUSTER CONCENTRATION TYPOLOGY FOR EXAMINING THE
FIT BETWEEN ORGANIZATION NEEDS AND CLUSTER CONCENTRATION
CHARACTERISTICS IN LOCATION DECISION MAKING

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Gregory V. Frazier, University of Texas @ Arlington, frazier@uta.edu

ABSTRACT

Location decisions are among the most costly decisions that organizations make. This research examines location decisions from a macro perspective and utilizes findings for the development of a typology. The resulting typology of clusters concentrations is based on four constructs identified in the literature: innovation, specialization, complementariness and transfer of knowledge. This typology can serve as an aid in making these critical location decisions for practitioners as well as identifying future research topics for academia.

INTRODUCTION

Location decisions are among the most costly strategic decisions an organization makes. Further, in competitive economies, an organization’s location can be a key strategic advantage. Organizations may strive to achieve a competitive advantage through location decisions because of transfer of knowledge and innovation (Gilbert, McDougall and Audretsch, 2008), specialization (Sölvell, Ketels and Lindqvist, 2008; McCann and Folta, 2008) and complementariness (coagglomeration) (Herruzo, Diaz-Balteiro and Calvo, 2008). When a business organization achieves competitive advantage as the result of location decision(s) it is conceivable that competing organizations will identify the same advantage and locate to the same vicinity. Such a concentration of organizations is referred to as an industry cluster (Porter, 1990).

An industry cluster links to other clusters that provide resources or services to the cluster members either individually or collectively. According to Cumbers and MacKinnon (2004), a cluster cannot be regarded as self-contained; instead they need to be examined from the perspective of being part of a mix of clusters (cluster concentration). In addition, associative linkages exist with other clusters that not only support the general population of the area but also organizations in other industry clusters.

As a result of these relationships, mixtures of clusters develop within an area. Unlike the old adage of “which came first, the chicken, or the egg”, it is arguable that for a cluster, and subsequent cluster concentration(s) to develop, an existing population capable of providing requisite labor skills to cluster member organizations must first exist. A possible exception could be a governmental action that drives the formation of specific industry within an area (e.g., a new military base or research center in a sparsely populated area). Even with this exception a workforce population capable of supporting the cluster must develop.
Significant research about topics such as cluster formation, evolution, nature and type has been conducted (e.g., Porter, 1990; Markusen, 1996; Eden, 2002), however, concentrations of various industry clusters are not well documented in the operations literature. Regarding typology development, Meyer, Tsui and Hinings (1993, p. 1175) state, “Configurations may be represented in typologies developed conceptually or captured in taxonomies derived empirically. They can be situated at multiple levels of analysis, depicting patterns common across individuals, groups, departments, organizations, or networks of organizations.” From a practitioner perspective, typologies can be used as an assessment tool when organizations are making costly location decisions.

Accordingly, this research first examines the typologies of cluster classifications in isolation as developed by Porter (1990), Markusen (1996) and Eden (2002). Based upon their respective findings a typology of cluster concentrations is then proposed. The typology is tested using a step-wise discriminant analysis procedure. The remaining sections of this paper include a brief literature review of cluster typologies, the proposed cluster concentration typology, methodology and results, topics suitable for future research and conclusions.

**LITERATURE REVIEW**

Location decision making has been the subject of a diverse set of literature because of the recognition of the need for innovation, specialization in order to gain competitive advantage (Sövell, Ketels and Lindqvist, 2009). Much research has been focused on the clustering of organizations to specific geographic areas in an effort to gain competitive advantage (Porter, 1998; Gilbert, McDougall, and Audretsch, 2008). Past research on clusters is generally characterized by an isolationist perspective in focusing on a specific industry cluster, or specific industry related clusters. As a result of this focus, past research may have inadvertently missed the gestalt of the collective mix of clusters. This paper explores clusters from a much broader, macro perspective in order to capture a holistic assessment of cluster concentrations. Central to this research is the conceptualization that to fully understand cluster concentrations, all of the clusters within the concentrations must be viewed as parts of a whole, and that the attributes and value of the whole (concentration) must be studied, versus the current practice of looking only at specific parts (clusters).

Initially, clusters tend to form in areas termed by Poudre and St. John (1996) as *hot spots*. Porter (1990) as well as Wolfe and Gertler (2004) state that cluster formations are seeded in many different ways but that their growth can only be facilitated by building upon existing resources (emphasis added). According to Wolfe and Gertler (2004), a cluster can emerge as a result of one or two firms that have needs. As these needs emerge, smaller firms enter to satisfy the requirements. As those smaller firms emerge, the dynamism of the competitive environment increases thus driving population growth which in turn results in a need for other clusters to develop to satisfy the needs of the additional population and organizations.

Porter’s definition of clusters is the most widely accepted in the literature today. Porter (1998, p. 78) defined clusters as “geographic concentrations of interconnected companies and institutions
in a particular field.” From Porter’s perspective it can be inferred that conceptually, if not in practicality, there could well be clusters within clusters, within clusters and so forth. The findings of cluster researchers can be extrapolated, and synthesized so as to form a working definition of these *cluster concentrations*. Markusen and Park (1993), Marshall (1997), Aydagon and Lyon (2004), as well as Bhatnagara and Sohal (2005) found that clusters must be concerned with a geographic element. Organizations within these geographic areas will be linked by common infrastructure (Barkley & Henry, 1997; Rosenfeld, 1997; Rogerson, 1998). Organizations and clusters within the geographic area will be comprised of a variety of industries (Porter, 1998; Rosenfeld, 2003). Further, these organizations and industries will collaborate and compete (Barkley & Henry, 1997; Birkinshaw & Hood, 2000; & European Commission (E.C.), 2000). The firms will engage in activities that result in benefits and contribute to competitive advantage (Porter, 1990; Doeringer & Terkla, 1995; Barkley & Henry, 1997; Rosenfeld 1997; Bathelt & Gertler, 2005).

Considering the views of previous research, a *cluster concentration* is defined here as being a geographically delineated grouping of collaborating and competing organizations from varied industries, linked together through common infrastructure, and engaged in activities that can be mutually beneficial, and that may contribute to competitive advantage.

**Cluster Typologies**

A review of previous research identified three cluster typologies, those of Porter (1990; 2003), Markusen (1996) and Eden (2002). This study discusses the three typologies and then expands upon them in order to establish a basis for a proposed typology of cluster concentrations.

Eden (2002) found that clusters could be described as being horizontal (specialization) or vertical (complementary). Eden’s simplistic approach to classifying clusters actually identifies cluster characteristics rather than cluster types. The level of specialization and complementariness sought within an area through cluster formation corresponds closely with the characteristics of efficiency and effectiveness presented later in this study.

Clusters have been examined from an economic perspective, and classified according to geographic and economic characteristics (Pouder and St. John, 1996). Markusen (1985, 1996) utilized these characteristics in the study of the formation of clusters around oligopolistic industries to identify the types of clusters that form within metropolitan areas. She identified types of clusters such as Marshallian Industrial Districts (as well as a subdistrict), Hub and Spoke Industrial Districts, Satellite Platform Districts and State Anchored Industrial Districts. Her typology is based on type of geographic area, public or private investment decisions, availability of labor, and amount of trade within and outside the district (Markusen, 1985, 1996). There are marked similarities between Markusen and Porter’s work.

Porter’s (2003) and Markusen’s (1996) typologies identified similar characteristics which are summarized in Table 1. Porter identified three types of clusters, Local Industry Clusters, Resource Dependent Clusters, and Traded Industry Clusters. For example, Porter’s Local Industry Clusters identify characteristics markedly similar to those of Markusen’s Marshallian...
Industrial Districts such as: 1) Employment evenly distributed across the cluster; 2) Goods and services provided mainly to local markets; 3) Competition with other regions is limited; 4) Most companies provide services; and 5) Few goods producing industries (Porter, 2003). Services in these clusters consist primarily of health services, utilities, and retail goods which are consumed locally (Porter, 2003). Goods producing industries within these clusters create products such as newspapers, soft drinks, and concrete which are also consumed locally (Porter, 2003). While Local Industry Clusters are encapsulated, Porter’s next classification, Resource Dependent Clusters, is not.

Porter’s Resource Dependent Cluster is also very similar to Markusen’s Hub and Spoke Industrial District. Porter concluded that employment is located near the needed resources and that competition is both domestic and international. As Resource Dependent Clusters are tied to the immobile resource, any manufacturing associated with this cluster type is therefore directly related to the resource, whereas the next classification discussed, Traded Industry Clusters, is characterized by manufacturing that is exported away from the area.

Porter’s Traded Industry Cluster is also comparable to Markusen’s Satellite Platform District. According to Porter, this type of cluster is characterized by the resource not being immobile; selling of products and services across regions and other countries; and initially locating in an area due to competition considerations, such as available labor concentrations.

While Eden (2002), Markusen (1996), and Porter (2003) each concluded independently that clusters do not form in isolation, nonetheless their typologies categorize cluster formation as being isolated. Further, while Eden and Markusen describe cluster formation from an isolationistic perspective, the only time a cluster may truly form in isolation is through a governmental action. Perhaps the purest example would be that of Los Alamos, New Mexico (United States), which did not exist prior to the federal government developing an entire community and infrastructure for the sole purpose of development of nuclear weapons (Gosling, 2001).

PROPOSED CLUSTER CONCENTRATION TYPOLOGY

This study proposes a cluster concentration typology based upon measurements of efficiency-seeking and effectiveness-seeking characteristics as identified in the literature. This typology provides a perspective of cluster formation in concentrations rather than Porter and Markusen’s typologies in isolation. Martin and Milway (2005) suggest that a typology for cluster concentrations be developed within their findings of Local Industry Clusters serving as the foundation for Resource Dependent and Traded Industry Concentrations.

Porter (1990; 2003), Markusen (1996), Cumbers and MacKinnon (2004), and Martin and Milway (2005) each concluded that clusters do not develop in isolation but they did not develop a typology based upon their individual findings. Several researchers found that certain activities are associated with the development of clusters (Krugman, 1991; Porter, 1998; Baptista & Swann, 1998; Eden, 2002; Damijan & Mrak, 2004; Simmie, 2004; Kalnins & Chung, 2005; and
Yang & Kang, 2005). These activities can be characterized as efficiency-seeking or effectiveness-seeking (Porter, 1990; Eden, 2002 and Hunt & Duhan, 2002).

1) Efficiency-seeking is herein defined as characterizing activities that focus on the timely production of goods or services at lower costs. (Drucker, 1955; Porter, 1998; Drucker, 2001; Hanvey, Rexe and Scott, 2003; Hofer and Schendel, 1978; Walters and Rainbird, 2004; Hunt and Duhan, 2002).

2) Effectiveness-seeking is herein defined as characterizing activities that have expected potential to enhance outcomes and benefits. (Drucker, 1955; Walters and Rainbird, 2004; Barnard, 1968; Hofer and Schendel, 1978; Hunt and Duhan, 2002; Eden, 2002)

Several constructs relevant to efficiency-seeking and effectiveness-seeking were identified in the literature: 1) Transfer of Knowledge (Barkley & Henry, 1997; Rosenfeld, 2003); 2) Innovation (Porter, 1998; E.C., 2000); 3) Specialization (Markusen & Park, 1993; Porter, 1998; E.C., 2000; Ketelhöhn, 2002); and 4) Complementariness (Barkley & Henry, 1997; Birkinshaw & Hood, 2000). These constructs along with appropriate measurements used in this study are discussed next.

**Transfer of Knowledge**

Transfer of Knowledge is a construct that has often been used in the business literature involving clusters. Gilbert et al (2008) identify that knowledge ‘spillovers’ should be viewed as an asset when making critical location decisions. As Lafourcade and Mion (2007) state the ability of the worker to travel the distance to the location is extremely important therefore labor mobility will be used as a measure of transfer of knowledge. It follows then that for a geographic area to grow and become attractive to workers with specific knowledge and/or skills the area would need employment opportunity growth. As such, employment growth will be used as a measure of transfer of knowledge. Labor mobility and employment growth primarily have been used as measurements at the county level (Porter, 1990; 1998; Power & Lundmark, 2004; Barkley & Henry, 1997). Past research has also used education level, wage level, and employment growth as measurements for transfer of knowledge (Porter, 1990; 1998). For the purposes of this study labor mobility, education level, wage level and employment growth are utilized to measure transfer of knowledge.

**Innovation**

Innovation is spurred by technological opportunity and creates benefits such as spillovers of knowledge within geographic areas. Gilbert et al (2008) identify that spillovers can lead to innovative environments that are attractive to organizations making location decisions. Baptista and Swann (1998) examined innovation in clusters and the role it plays in cluster development. They found that innovation activity varies and can in fact foster clustering. Two of the most common measures of innovation are: number of new firms entering the geographic area and productivity growth (Porter, 1990; Grossman & Helpman, 1991; Baptista & Swann, 1998;
Barkley, Henry & Kim, 1999). For this research the number of new firm entrants as well as productivity growth will be used to measure innovation.

Specialization

Porter (1990; 1998), Markusen and Park (1993), and the E.C. (2000) all specify that specialization and diversity are important characteristics to measure as an indication of the type of cluster. McCann and Folta (2008) identify that specialization and diversification of locations are closely linked. They identify that areas may choose to be diverse to reduce vulnerability to economic conditions. Other areas may focus on specialization for reasons such as the benefits of resources as inputs. Ketelhöhn (2002) developed an index that measures specialization and diversity at the county, state or national level on a continuum. Ketelhöhn placed specialization at one end of the continuum and diversity at the other. The closer the measure is to 1 the more specialized the cluster, the closer the measure is to 0 the more diverse the cluster. Another measure suggested in the literature as indicative of specialization is available labor pool (Porter, 1990; 2003). Porter concluded that if the available labor pool is large and unskilled then specialization is low with the opposite being indicative of high specialization. Ketelhöhn’s (2002) index as well as available labor pool will be utilized in this study as measures of specialization.

Complementariness

Porter (1990; 2003) describes complementariness as overlapping industries within a geographic area. Gilbert et al (2008) identify that organizations locate in geographic areas to gain access to knowledge that will complement their organizations mission which will in turn allow for a competitive advantage. Hunt and Duhan (2002) suggested using the North American Industrial Classification System (NAICS) to develop a Hirschman Herfindahl Index (HHI) to assess the complementariness of the geographic area exhibited. For the purposes of this paper the HHI will be utilized as a measure of complementariness.

Having established accepted measures based on past literature for the four constructs of transfer of knowledge, innovation, specialization and complementariness, identification of cluster concentrations and a proposed typology are discussed next.

Concentration Identification

Gibbs and Bernat (1997), Hoover (1999) and Power and Lundmark (2004) use the percentage of wages paid in services, trade and manufacturing as measurements associated with cluster type. Utilizing their methodologies to identify cluster concentration type, the percentage of wages paid for services, resource dependent, government, and manufacturing industries is calculated.
PROPOSED TYPOLOGY

A Venn diagram can be used to illustrate the types of cluster concentrations that result from an agglomeration of types of clusters as proposed in this study. The segments in Figure 1 labeled Resource Dependent Clusters (top left) and Traded Industry Clusters (top right), because they cannot exist in isolation, are not included in the proposed typology. However, Resource Dependent Concentrations (bottom left) and Traded Industry Concentrations (bottom right) which includes Local Industry Clusters (serving as the seed) are included in the proposed typology. Further discussion of Figure 1 is offered in the following subsections. Table 2 also serves as a reference for the description of the proposed typology.

Proposed Typology: Concentration of Local Industry Clusters

Previous discussion identified that Porter’s Local Industry Clusters are encapsulated and characterized by services and products that are consumed locally. This cluster type serves as a basic infrastructure or seed for some of the concentration types. Networks of this type of cluster result in Concentrations of Local Industry Clusters. As the focus is internal, Concentrations of Local Industry Clusters are concerned primarily with characteristics of effectiveness-seeking. As extrapolated from Marshall (1997), such concentrations seek capabilities needed to sustain the organizations and populations within the geographic area. While these types of concentrations exhibit similar characteristics to those of Local Industry Clusters in isolation, as identified by Markusen (1986), Porter (1990; 2003) and Eden (2002), this study conceptualizes that the significant exception is that concentrations are comprised of multiple clusters within the area.

In regard to transfer of knowledge, Concentrations of Local Industry Clusters should demonstrate that the pool of available workers is adequate to satisfy the labor requirements within the geographic area because excess workers would have to seek work in other geographic areas (Porter, 1990). Conceptually, this means wage opportunities most likely will be low and labor mobility most likely will be below average because of limited opportunities within these concentrations.

Innovation should also be low in Concentrations of Local Industry Clusters because there are limited opportunities for new organizations to enter (Baptista & Swann, 1998). As a result of low labor mobility, productivity levels should remain flat. Productivity should also remain flat because there is no need to produce more than the requirements of the geographic area as there is little external trade.

Specialization, however, should be above average within these concentrations because of the isolation of the geographic area and limited outside trade (Markusen & Park, 1993). Nonetheless, there is a need for at least limited access to external resources for the products traded within the geographic area, which could affect specialization.
As a result of limited access to external resources, Concentrations of Local Industry Clusters will most likely utilize complementary resources to provide products and services internally (Porter, 1990). Accordingly, concentration complementariness should be average.

Martin and Milway’s (2005) research supports the likelihood that a Concentration of Local Industry Clusters provides the support necessary for the formation of other cluster concentrations. As such, Concentrations of Local Industry Clusters serve as the baseline infrastructure for Resource Dependent Concentrations.

**Proposed Typology: Resource Dependent Concentrations**

Resource Dependent Concentrations are dependent upon immobile resources (Porter, 1990). It is conceivable therefore that transfer of knowledge may be low in Resource Dependent Concentrations as a result of limited wage opportunities, which in turn detract from employment opportunities in smaller labor pools (Porter, 1990). Simply put, the pool of available workers may not be adequate to satisfy the needs of the concentration because of the limited wage opportunities.

As with Concentrations of Local Industry Clusters, innovation will be low in Resource Dependent Concentrations because of limited opportunities for new entrants. The immobile resource is generally limited in capacity, and accordingly, other than technological advances, productivity growth is not likely.

As the immobile resource is the center of this type of concentration, there should be higher levels of specialization than in Concentrations of Local Industry Clusters (Porter, 1990). The organizations and businesses that operate in Resource Dependent Concentrations do so because of opportunities provided by the immobile resource. In Resource Dependent Concentrations, complementariness should be high because of the need for resources and organizations that are related or tied to the immobile resource.

Accordingly these concentrations should be focused on characteristics of efficiency-seeking. Just as Resource Dependent Concentrations have Concentrations of Local Industry Clusters as their baseline support, so do Traded Industry Concentrations.

**Proposed Typology: Traded Industry Concentrations**

Traded Industry Concentrations seek efficiencies through gains in transfer of knowledge (Kalnins & Chung, 2005). Conceptually organizations tend to locate in these concentrations because of the potential gains in efficiency from transfer of knowledge. As such, labor mobility at minimum should be average and wage opportunity should be high because of the need for highly skilled workers.
Traded Industry Concentrations create opportunities to innovate because organizations are looking for efficiency gain through new technologies (Baptista & Swann, 1998). Members focus on technologies that decrease the amount of time needed or reduce the cost of the inputs or outputs.

Specialization should be high in this type of concentration because members locate near firms within the same industry in order to seek efficiencies. Organizations within Traded Industry Concentrations make location decisions because of competitive considerations such as available labor pool (Porter, 2003). Traded Industry Concentrations bring needed resources from outside of the geographic area to provide products and services to organizations and population within the area.

As requirements for resources, products and services develop, there may be cost advantages in meeting such requirements from within the geographic area. As a result of these requirements, new organizations may form or enter the geographic area. Accordingly, these concentrations should exhibit some level of complementariness locally.

In summation, Traded Industry Concentrations focus on characteristics of efficiency-seeking. Damijan and Mrak (2005) suggest that areas of concentration that are characterized by trade outside of the region will seek to improve infrastructure and thus are efficiency-seeking.

Proposed Typology: Government Anchored Concentrations

Unlike Traded Industry Concentrations and Resource Dependent Concentrations, Government Anchored Concentrations can form without the baseline infrastructure provided by Concentrations of Local Industry Clusters. In this set of circumstances, the concentration is the result of a governmental entity such as a military base or research facility that is built in the area by the state or federal government. These concentrations are similar to Resource Dependent Concentrations in that if the government were to relocate or cease operations, such as with recent U.S. military base closings, the surrounding clusters would dissipate or re-locate to another geographic area.

Logically, transfer of knowledge should be average once operational performance has been achieved (Porter, 1990). Government Anchored Concentrations should demonstrate at least average labor mobility and wage opportunity because the government entities may transfer workers with skills specific to the requirements of the concentration type. In addition, wage opportunity will be average because most government entities are governed by wage guidelines that are tied to private sectors.

This type of concentration most likely provides limited opportunity for associated industry to enter into the geographic area (Baptista & Swann, 1998). Accordingly, productivity will most likely be limited in potential growth and therefore, innovation may be low.

The government entity will have little to no competition for labor or other types of resources within the immediate geographic area. Therefore the environment should not be conducive to
specialization in Government Anchored Concentrations. Most of the needed products will most likely be imported from outside of the geographic area for local consumption; therefore the need for complementary resources should also be low.

In summation, Government Anchored Concentrations are the result of a government investment decision to physically locate resources within a specific geographic area. Surrounding organizations and businesses which then develop will be dependent upon continuing operations of the government entity. This type of concentration is effectiveness-seeking in that the concern is most likely focused on the capabilities to perform to the requirements of the government.

This study’s research of Government Anchored Concentrations, Traded Industry Concentrations, Resource Dependent Concentrations and Concentrations of Local Industry Clusters in relation to efficiency as well as effectiveness indicates that a mix of concentrations previously not identified in the literature exists, and which is here-in-after referred to as Balanced Concentrations.

**Proposed Typology: Balanced Concentrations**

This study conceptualizes that within a geographic area the different and existing concentrations that exist jointly will result in a highly developed combination of cluster concentrations, the Balanced Concentration. Accordingly, Balanced Concentrations should exhibit more defined infrastructures, resulting in benefits to both new and existing organizations. Further, these benefits should be realized in terms of increases in efficiency and effectiveness.

The Balanced Concentration should also demonstrate average levels of labor mobility as well as employment growth. In addition, based on availability of labor, wage levels should be average or higher in these concentrations.

These types of concentrations should create an environment that is conducive to the entrance of new firms and should reward higher levels of productivity. Accordingly innovation in Balanced Concentrations should be high.

As these concentrations most likely require a variety of products and services, Balanced Concentrations should also foster an environment conducive to cooperation and competition. As a result, specialization should be high. Balanced Concentrations should also attract providers of complementary resources to the area, which in turn should result in above average levels of complementariness.

In summary, Balanced Concentrations would consist of a combination of concentration types and should demonstrate parity between efficiency-seeking and effectiveness-seeking. Should this be the case, recognition of Balanced Concentrations should facilitate investment decisions, for example, in regard to upgrading and maintaining infrastructure, which enhances or creates attractiveness from a macro perspective.

**METHODOLOGY**
County level source information is available through the U.S. Census Bureau, the United States (U.S.) Department of Commerce: Bureau of Economic Analysis (BEA), National Association of Counties (NACO), and Fedstats. The primary reasons for choosing the county level as the unit of analysis are that counties have been used in previous work and are the most locally based jurisdiction that reflect characteristics relevant to this study (NACO, 2006).

Discriminant analysis as a profile analysis provides an objective assessment of differences between the cluster concentrations shown in Figure 1. To accomplish this objective, a stepwise discriminant analysis procedure is utilized. Each variable is entered based on the F-value, then if the variable discriminates between groups it is retained, if not then that variable is removed (Hair et al, 1998).

The independent variables are analyzed at the county level to establish a percentile ranking (Table 3) based upon either county population or economic data pertinent to the specific analysis. The dependent variables are analyzed at the county level to establish a percentile ranking based upon wage data pertinent to the specific county. The percentiles identified in Table 3 are utilized to identify, describe, and code counties for use in this study.

Research Design

The dependent variables are concentration types as determined through coding results obtained by utilizing the dependent variable coding criteria identified in Table 3. The second consideration is the sample size necessary. Hair et al (1998) recommends 15-20 observations per independent variable. The third consideration is the division of the sample for validation purposes. The sample is randomly assigned to two groups, an analysis sample (60 percent of the total sample) and a holdout sample (40 percent of the total sample). This study uses 18 observations (counties) per independent variable for the analysis sample and 12 per variable for the holdout sample. The analysis sample is used to develop the discriminant function(s) and the holdout sample is used for validation (Hair et al, 1998).

Regions

Stratified random sampling is used to gather the data for the study. The regions used are West, Midwest, South, and Northeast as defined by the U.S. Census Bureau (2006). To assure a representative sample, stratified random sampling is utilized (Sower et al, 1999). Seventy-five counties are then randomly selected from each of these regions. A contingency test using frequencies is utilized to assess any differences in distribution of cluster concentration types that might possibly exist because of location and to ensure that there are no differences between regions. The distribution of cluster concentration types was fairly even across all four regions.

Discriminant Analysis

The concentration types are coded utilizing the percentage of total county wages paid in services; resource dependent; manufacturing; and government, in accordance with the percentiles established for this information in Table 3. The coding employed throughout the discriminant analysis is:
Based upon academic knowledge and business experience, individuals were asked to serve as coders for this study. The three coders were then instructed to assign each county within the study population to only one of the five concentration classifications. The criteria the coders were instructed to utilize was the comparison of the county dependent variables to the percentiles established in Table 3. Based upon the coders assessment of this comparison the coder then selected the concentration classification that best fit.

RESULTS

At the conclusion of the coding exercise all county classifications were sorted and those counties in which the coders were unanimous in their classifications were accepted prima facia. For the remaining counties, the coders were further instructed to jointly discuss their differing classifications with each other and to arrive at a consensus as to the most appropriate concentration classification for that county. These consensus classifications were then accepted for the purpose of analysis. Once the coders completed this task the stepwise discriminant analysis was then conducted. As a result of this analysis the Mean and Standard Deviation of each independent variable in relation to each type of cluster concentration was determined and is presented in Table 4.

Nine of the ten variables had significant mean differences (Table 5). Only productivity growth did not differ significantly across the concentration types (p<.305). Based on these variables the stepwise discriminant analysis established that four of these variables (mobility, college, wage and available labor) are predictors of concentration membership. Although High School had the fourth largest F-value, it did not contribute significant discriminate power to the function. Therefore, the stepwise discriminant analysis eliminated high school as a predictor variable.

Based on the four variables, the analysis generated four functions that are all significant (Table 6), however Functions 1 (2.715) and 2 (1.944) have Eigenvalues over 1 and thus were used to predict concentration membership. Functions 3 (.322) and 4 (.075) have Eigenvalues under 1 and were not used. Function 1 accounts for the least amount of unexplained variation (Λ=.064, χ² (16, N=180)=478.716, p<.0001). Function 2 accounts for the second least amount of unexplained variation (Λ=.239, χ² (9, N=180)= 249.711, p<.0001).

Cumulatively, Functions 1 and 2 accounted for 92.2 percent of the variation in the variables retained (Table 7). Using the four variables, 1) mobility; 2) college; 3) average wage; and 4) available labor pool, Function 1 and Function 2 identified five types of cluster concentrations (Figure 2).
Figure 2 graphically displays the centroids for each of the five concentration types. While the centroids are different there is some overlap between concentration types which was expected because of the basic premise that the cluster concentrations are the result of an agglomeration. The point of parity is identified by a star in Figure 2 (.7118=effectiveness-seeking; .3064=efficiency-seeking).

Table 8 presents the correlation coefficients and standard function coefficients. The coefficients indicate that both Function 1 and Function 2 heavily weight the three variables (mobility, college, and average wage) used to measure Transfer of Knowledge. Function 1 indicates that mobility is negatively correlated to the other variables within that function. In addition, the Standard Function Coefficients for mobility and available labor are negative. The negative coefficients suggest that Function 1 is more closely associated with effectiveness-seeking. Therefore, Function 1 is named the **Effectiveness-Seeking Function**. Function 2 has all positive correlations within the function. The Standard Coefficient for available labor is also negative in this function but the magnitude is much less than for the other variables. The positive coefficients in Function 2 are more closely associated with efficiency-seeking. Therefore, Function 2 is named the **Efficiency-Seeking Function**.

Classification results revealed that the original grouped observations were classified with 89.4 percent accuracy (Table 9). Accuracy by each group was 100 percent for Concentrations of Local Industry Clusters; 95.1 percent for Resource Dependent Concentrations; 83.9 percent for Traded Industry Concentrations; 73.1 percent for Government Anchored Concentrations; and 79.2 percent for Balanced Concentrations.

The Maximum Chance Criterion (C-max) and Proportional Chance Criterion (C-pro) are used to assess the predictive accuracy of the discriminant function(s). C-max is determined by computing the percentage of the total sample represented by the largest two groups. C-pro is the proportion of all of the groups that are classified correctly. Once calculated, the resulting C-max and C-pro are then compared to the Hit Ratio. The Hit Ratio is the percentage of cluster concentrations correctly classified by the characteristics identified by the stepwise procedure as good predictors of cluster concentration membership (Hair et al, 1998).

C-max and C-pro were calculated to assess whether the model used was predicting well. C-max was calculated as 32.2 percent and C-pro was calculated as 56.2 percent. Comparing C-max and C-pro to the Hit Ratio of 89.4% demonstrates that the model predicts concentration membership well.

The holdout sample of 120 observations was used to validate the model. Classification results revealed that the holdout sample observations were classified with 80.0 percent accuracy (Table 10). Accuracy by each group was 91.9 percent for Concentrations of Local Industry Clusters; 69.7 percent for Resource Dependent Concentrations; 81.3 percent for Traded Industry Concentrations; 71.4 percent for Government Anchored Concentrations; and 80.0 percent for Balanced Concentrations. C-max and C-pro were calculated to assess whether the model used was predicting well. C-max was calculated as 28.33 percent. C-pro was calculated as 79.6
Comparing C-max and C-pro to the Hit Ratio of 80.0 percent demonstrates that the model was validated and predicts well.

**DISCUSSION**

Through the use of discriminant analysis, the focus of this study was to identify variables within constructs that could predict cluster concentration membership. Four variables, college, wage, mobility, and available labor, were found to best predict membership of cluster concentration classifications.

Using the means identified in Table 4 as compared to the percentiles identified in Table 3, necessary adjustments for the now tested typology can be made. This in turn results in findings for an empirically tested Taxonomy of Cluster Concentrations. Discussion of these adjustments follows.

**Concentrations of Local Industry Clusters**

The analysis of concentration centroids as identified in Figure 2 demonstrates that Concentrations of Local Industry Clusters are characterized by effectiveness-seeking. The analysis of counties classified as being Concentrations of Local Industry Clusters demonstrates corresponding resultant values as identified in Table 11. Two of the variables (mobility and wage) differ between the proposed type of cluster concentration and the actual findings. Percent of county population with some college and available labor demonstrated the same value, that being above average and average respectively. These differences can most likely be explained by Martin and Milway’s (2005) findings that Concentrations of Local Industry Clusters provide the basis for the formation of other types of cluster concentrations. Accordingly, an insight is that as Concentrations of Local Industry Clusters evolve, the available labor pool may expand or contract in direct proportion to available jobs. Of interest is that there may be a relationship between mobility and available labor relative to the ebb and flow of employment opportunities resulting from evolutionary changes in concentration characteristics. Further, competition for available labor may in turn influence wage.

**Resource Dependent Concentrations**

The analysis of concentration centroids as identified in Figure 2 demonstrates that Resource Dependent Concentrations are characterized by efficiency-seeking. Analysis of counties classified as being Resource Dependent Concentrations demonstrate corresponding resultant values as identified in Table 11. The major difference between the proposed cluster concentration type and the analysis findings is that the proposed type identified low available labor and the findings indicate that available labor is average. This finding is indicative of the nature of the immobile resource associated with this type of concentration, as the resource generally involves low skilled laborers. It is logical that the labor mobility would be above average because of limited work opportunities and earnings potential within the concentration. Resource Dependent Concentrations not providing enough opportunities to attract higher skills to the geographic area could be explained by a negative effect on infrastructure. For example, if
higher skills cannot be attracted there may well be a detrimental effect on such quality of life infrastructures as healthcare and education.

**Traded Industry Concentrations**

The analysis of concentration centroids as identified in Figure 2, demonstrates that Traded Industry Concentrations are characterized more by efficiency-seeking. Analysis of counties classified as being Traded Industry Concentrations demonstrates corresponding resultant values as identified in Table 11. The differences between the proposed type and the findings in relation to the variables are minor. In regard to college, an insight as to this difference may well be that wage opportunity within Traded Industry Concentrations may favor higher education.

**Government Anchored Concentrations**

The analysis of concentration centroids as identified in Figure 2 demonstrates that Government Anchored Concentrations are characterized by effectiveness-seeking. Analysis of counties classified as being Government Anchored Concentrations demonstrates corresponding resultant values as identified in Table 11. Resultant values for mobility and available labor correspond with the proposed values. The proposed value for this type of concentration predicted the percent of population with some college would be average, but the holdout sample population mean indicates that the percent of population with some college is high. This is most likely because there are high levels of government employment and the government promotes higher education for employees. Wage also differs with the proposed value being average and the resultant value of the sample population being above average. The primary reason for this finding is likely that government employee’s benefit from standard wages and salaries paid. In turn with wages being above average, competitive compensation pressures increase within the concentration.

**Balanced Concentrations**

Figure 2 shows the analysis of concentration centroids. It shows that Balanced Concentrations are characterized by a balance of effectiveness-seeking and efficiency-seeking. Analysis of counties classified as being Balanced Concentrations demonstrates corresponding resultant values as identified in Table 11. The resultant values for mobility, college and available labor correspond to the proposed values. In this circumstance, the county may have a large population with an abundance of available jobs. Accordingly, workers may come into the county for employment whereas the measurement used looked only at the number of people that left the county for employment. This anomaly may explain the difference in proposed and actual findings for wages because there were more jobs available than the labor force could provide therefore wages would be high. An insight is that Balanced Concentrations may be characterized by both efficiency-seeking and effectiveness-seeking because of the mix of concentration types.

Accordingly, the variables identified as good predictors of group membership fall under two constructs, transfer of knowledge and specialization. Both of these constructs are closely associated with efficiency-seeking and effectiveness-seeking.
Managerial Implications

The typology of cluster concentrations is a tool for managers to use when making those crucial location decisions (Table 11). For example, companies with jobs requiring a high level of education might not want to locate in a Resource Dependent Concentration because the number of workers with college education is below average. Organizations having low-skilled jobs could benefit from locating in this type of concentration because the expected wage is lower. Wage expectations are high in Government Anchored concentrations. Organizations locating in this type of concentration would most likely do so because of goods or services they are providing to the dominant government entity. Education levels are high because of the support provided by the government entity. Organizations requiring higher skills could benefit by locating in this type of concentration. An interesting finding is that of the Balanced Concentration. This type of concentration is one in which potential employees from outside of the geographic area in fact are willing to commute some distance to work. The potential drawback, from a location decision standpoint, may be that wages are higher in this type of concentration.

LIMITATIONS AND FUTURE RESEARCH

Triangulation would help to further support the findings and extrapolations identified within this study. For example, regression would be useful in comparing the concentration types and the results would possibly give more support for the findings in this study. In addition, several areas of potential future research are suggested as well.

In regard to the concept of a geographic area being attractive for concentration formation, the following questions should be addressed by future research.

1) Can attractiveness be quantified?
2) If so, can practitioners achieve attractiveness by means of planning?
3) What is the relationship between attractiveness and dynamism?

Future research should also examine effects of loss or gain of organization members within cluster concentrations in relation to maintaining and/or regenerating dynamism. Additionally, a useful area of future research would be the ebb and flow of labor to available jobs and labor pool expansion/contraction in relation to concentration evolution. Finally, future research should include the study of Balanced Concentrations and whether they accelerate concentration growth.

This exploratory study is limited by its nature therefore cause and effect cannot be definitively stated. In addition, variables such as politics, environment, geography and cultural differences could have confounding effects on this study. Further, generalizability of this study could be affected because of the geographic location in relationship to national differences based on these and other variables.

CONCLUSION

This research develops an empirically tested Taxonomy of Cluster Concentrations that can be used as a tool for practitioners making location decisions. Five types of concentrations are
identified by means of concentration characteristics. This taxonomy supports previous researchers’ assertions that clusters do not form in isolation but rather as concentrations or mixes. Further, the taxonomy provides future researchers with a commonality of descriptive terms that should avoid miscommunication. In addition, the taxonomy provides practitioners a means of identifying cluster concentration types. This may assist practitioners in both short and long-term planning to achieve or maintain dynamism.

According to Gilbert et al (2008) organizations choose to locate in an area to gain competitive advantage and reduce uncertainty. Further they imply that making the right location decision can enhance organizational performance. This research identifies variables important to location decisions and uses those variables to identify cluster concentration types to aid practitioners in identifying the type of area that would be most beneficial for their organization.

Academically, a Balanced Concentration was conceptualized and was supported by this analysis. The identification of Balanced Concentrations, along with focusing on cluster concentrations rather than individual clusters, provides researchers with an avenue to explore cluster concentrations from a holistic perspective. In addition, should future research find that parity between efficiency-seeking and effectiveness-seeking is the point at which Balanced Concentrations accelerate, practitioners would have additional tools to facilitate decision making in relation to dynamism.

REFERENCES


TABLE 1. Comparison of Porter and Markusen’s Typology

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<tr>
<td>Firm Size</td>
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<tr>
<td>Small</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Large</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Government</td>
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<tr>
<td>Local</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>State</td>
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<td>✓</td>
</tr>
<tr>
<td>Federal</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Competition in Other Regions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>✓</td>
<td>✓</td>
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<td>Low</td>
<td>✓</td>
<td>✓</td>
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<tr>
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</tr>
<tr>
<td>Goods Produced</td>
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<tr>
<td>Services</td>
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<tr>
<td>Products</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td></td>
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<td>✓</td>
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<tr>
<td>Construct</td>
<td>Measure</td>
<td>Concentrations of Local Industry Clusters</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td><strong>Transfer of Knowledge</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Labor Mobility</td>
<td>Below Average</td>
</tr>
<tr>
<td></td>
<td>Education Level: College &amp; High School</td>
<td>Above Average</td>
</tr>
<tr>
<td></td>
<td>Wage Level</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Employment Growth</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Innovation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of New Firm Entranats</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Productivity Growth</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Specialization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ketelhöhn’s Index</td>
<td>Above Average</td>
</tr>
<tr>
<td></td>
<td>Available</td>
<td>Average</td>
</tr>
<tr>
<td>Complementariness</td>
<td>Labor Pool</td>
<td></td>
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<tr>
<td>-------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HHI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td></td>
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<td>Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
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</table>
TABLE 3. Concentration Coding Percentiles

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>10th (Low)</th>
<th>25th (Below Average)</th>
<th>50th (Average)</th>
<th>75th (Above Average)</th>
<th>90th (High)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Mobility</td>
<td>.103</td>
<td>.175</td>
<td>.299</td>
<td>.427</td>
<td>.483</td>
</tr>
<tr>
<td>High School</td>
<td>.684</td>
<td>.75</td>
<td>.81</td>
<td>.854</td>
<td>.867</td>
</tr>
<tr>
<td>College</td>
<td>.102</td>
<td>.126</td>
<td>.165</td>
<td>.206</td>
<td>.21</td>
</tr>
<tr>
<td>Employment Growth</td>
<td>(-.058)</td>
<td>(-.013)</td>
<td>.033</td>
<td>.078</td>
<td>.098</td>
</tr>
<tr>
<td>Average Wage</td>
<td>21511</td>
<td>24575</td>
<td>27450</td>
<td>29388</td>
<td>29714</td>
</tr>
<tr>
<td>New Firms</td>
<td>(-.036)</td>
<td>.013</td>
<td>.063</td>
<td>.120</td>
<td>.143</td>
</tr>
<tr>
<td>Productivity Growth</td>
<td>(-.231)</td>
<td>.049</td>
<td>.166</td>
<td>.298</td>
<td>.391</td>
</tr>
<tr>
<td>Specialization</td>
<td>.413</td>
<td>.459</td>
<td>.495</td>
<td>.540</td>
<td>.557</td>
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<tr>
<td>Available Labor</td>
<td>.427</td>
<td>.461</td>
<td>.489</td>
<td>.519</td>
<td>.529</td>
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<tr>
<td>HHI</td>
<td>392.830</td>
<td>472.855</td>
<td>568.644</td>
<td>764.788</td>
<td>851.750</td>
</tr>
</tbody>
</table>

Dependent Variable Coding Criteria

| Service    | .220 | .333 | .443 | .576 | .619 |
| Resource   | 0    | .0006 | .005 | .0234 | .033 |
| Manufacturing | .0435 | .0912 | 1762 | .3046 | .3306 |
| Government | .1326 | .1818 | .2492 | .3357 | .3789 |

TABLE 4 Discriminant Analysis Means and Standard Deviations

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Concentrations of Local Industry Clusters</th>
<th>Resource Dependent Concentrations</th>
<th>Traded Industry Concentrations</th>
<th>Government Anchored Concentrations</th>
<th>Balanced Concentrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>Mean</td>
<td>.2507</td>
<td>S.D.</td>
<td>.0238</td>
<td>.3677</td>
</tr>
<tr>
<td>Wage</td>
<td>Mean</td>
<td>27280</td>
<td>S.D.</td>
<td>857</td>
<td>24237</td>
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</tbody>
</table>

a Average wage in dollars  
b HHI in points
TABLE 5. Significance of Mean Differences

<table>
<thead>
<tr>
<th></th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Significant</th>
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</thead>
<tbody>
<tr>
<td>Mobility</td>
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<td>83.137</td>
<td>4</td>
<td>175</td>
<td>.0001</td>
</tr>
<tr>
<td>High School</td>
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<td>15.197</td>
<td>4</td>
<td>175</td>
<td>.0001</td>
</tr>
<tr>
<td>College</td>
<td>.358</td>
<td>78.429</td>
<td>4</td>
<td>175</td>
<td>.0001</td>
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<tr>
<td>Employment Growth</td>
<td>.909</td>
<td>4.388</td>
<td>4</td>
<td>175</td>
<td>.002</td>
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<tr>
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<td>.416</td>
<td>61.360</td>
<td>4</td>
<td>175</td>
<td>.0001</td>
</tr>
<tr>
<td>New Firms</td>
<td>.931</td>
<td>3.219</td>
<td>4</td>
<td>175</td>
<td>.014</td>
</tr>
<tr>
<td>Productivity</td>
<td>.973</td>
<td>1.217</td>
<td>4</td>
<td>175</td>
<td>.305</td>
</tr>
<tr>
<td>Specialization</td>
<td>.874</td>
<td>6.301</td>
<td>4</td>
<td>175</td>
<td>.0001</td>
</tr>
<tr>
<td>Available Labor</td>
<td>.818</td>
<td>9.743</td>
<td>4</td>
<td>175</td>
<td>.0001</td>
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<tr>
<td>HHI</td>
<td>.944</td>
<td>2.595</td>
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<td>175</td>
<td>.038</td>
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TABLE 6. Discriminant Functions

<table>
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<tr>
<th>Test of Function(s)</th>
<th>Wilks' Lambda</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
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<tbody>
<tr>
<td>1 through 4</td>
<td>.064</td>
<td>478.716</td>
<td>16</td>
<td>.0001</td>
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<tr>
<td>2 through 4</td>
<td>.239</td>
<td>249.711</td>
<td>9</td>
<td>.0001</td>
</tr>
<tr>
<td>3 through 4</td>
<td>.704</td>
<td>61.302</td>
<td>4</td>
<td>.0001</td>
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<tr>
<td>4</td>
<td>.930</td>
<td>12.570</td>
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TABLE 7. Variation

<table>
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<th>Function</th>
<th>Eigenvalue</th>
<th>% of Variance</th>
<th>Cumulative %</th>
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<tr>
<td>1</td>
<td>2.715(a)</td>
<td>53.7</td>
<td>53.7</td>
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<tr>
<td>2</td>
<td>1.944(a)</td>
<td>38.4</td>
<td>92.2</td>
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<tr>
<td>3</td>
<td>.322(a)</td>
<td>6.4</td>
<td>98.5</td>
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<tr>
<td>4</td>
<td>.075(a)</td>
<td>1.5</td>
<td>100.0</td>
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</table>

TABLE 8. Correlation Coefficients and Standardized Function Coefficients

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
<th>Function 4</th>
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</thead>
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<td></td>
<td>C.C.</td>
<td>S.F.C.</td>
<td>C.C.</td>
<td>S.F.C.</td>
</tr>
<tr>
<td>Mobility</td>
<td>-.612</td>
<td>-.592</td>
<td>.648</td>
<td>.706</td>
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<td>College</td>
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<td>.767</td>
<td>.311</td>
<td>.263</td>
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<td>Average Wage</td>
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<td>.696</td>
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<td>Available Labor</td>
<td>.206</td>
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<td>.082</td>
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### TABLE 9. Analysis Sample

<table>
<thead>
<tr>
<th>Code</th>
<th>Predicted Group Membership</th>
<th>Total</th>
<th>% Accurate</th>
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<tbody>
<tr>
<td>1</td>
<td>58</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2</td>
<td>1</td>
<td>39</td>
<td>1</td>
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<tr>
<td>3</td>
<td>5</td>
<td>0</td>
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</tr>
<tr>
<td>4</td>
<td>7</td>
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<tr>
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<td>2</td>
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</tbody>
</table>

Hit Ratio 89.4

### TABLE 10. Holdout Sample

<table>
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<tr>
<th>Code</th>
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<th>Total</th>
<th>% Accurate</th>
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</thead>
<tbody>
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<td>1</td>
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<td>23</td>
<td>2</td>
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<tr>
<td>3</td>
<td>2</td>
<td>1</td>
<td>13</td>
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<tr>
<td>4</td>
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<td>0</td>
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</table>

Hit Ratio 80.0
### TABLE 11. Resultant Values

<table>
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<tr>
<th>Construct</th>
<th>Measure</th>
<th>Concentrations of Local Industry Clusters</th>
<th>Resource Dependent Concentrations</th>
<th>Traded Industry Concentrations</th>
<th>Government Anchored Concentrations</th>
<th>Balanced Concentrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer of Knowledge</td>
<td>Labor Mobility</td>
<td>Average</td>
<td>Above Average</td>
<td>Average</td>
<td>Average</td>
<td>Average</td>
</tr>
<tr>
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<td>College Education</td>
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<td>Above Average</td>
<td>High</td>
<td>High</td>
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<tr>
<td></td>
<td>Wage Level</td>
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<td>Below Average</td>
<td>Above Average</td>
<td>Above Average</td>
<td>High</td>
</tr>
<tr>
<td>Specialization</td>
<td>Available Labor Pool</td>
<td>Average</td>
<td>Average</td>
<td>Above Average</td>
<td>Average</td>
<td>Above Average</td>
</tr>
</tbody>
</table>
FIGURE 1. Graphical Representation of Proposed Cluster Concentration Typology

Plot of Types of Concentrations

FIGURE 2. Concentration Type Centroids