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How Influential is Experience? A Study of the Relationship between Demography and Cognition in Large Diversified Firms

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HOW INFLUENTIAL IS EXPERIENCE? A STUDY OF THE RELATIONSHIP BETWEEN DEMOGRAPHY AND COGNITION IN LARGE DIVERSIFIED FIRMS[1]

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ABSTRACT

The study reported here examined the relationship between executives' career experiences and their beliefs and understandings about the management of diversification. The study identified three broad sets of beliefs or orientations that executives hold about the management of diversification. In spite of a longstanding theoretical basis for hypothesizing that managerial demography will influence cognition, the study found no association between the top managers' career experiences that were considered in this study and their beliefs about the management of diversification. Based on this finding of a lack of relationships between demography and managerial beliefs, the paper offers some new theorizing on the relationship between career experiences and managers' beliefs about the management of diversification. It also suggests some implications for human resource practices, specifically the recruiting and development of top executives in large diversified firms.

Given the importance of large diversified firms in the global economic landscape and the significant challenges associated with managing these complex organizations, two key human resource management questions are, first, who is likely to provide the best leadership of these firms, and second, are there patterns or types of career experiences that will best prepare individuals for these leadership roles? Thus, it is surprising that so little research has been done either to understand the beliefs and understandings that the top executives of these firms have about how to manage their firms successfully or to determine how they came to have these beliefs. This paper seeks to address this shortcoming in the literature. The research reported here had two key objectives: First, it aimed to identity and describe top executives' beliefs and understandings about how to manage their diversified firms. Second, it sought to determine whether meaningful relationships exist between executives' career experiences and their beliefs and understandings about the management of diversification.

THEORETICAL BACKGROUND

Interest in the influence of managers on strategy formulation and implementation was greatly encouraged by the work of Hambrick and Mason (1984). According to Hambrick and Mason, the characteristics of managers (both psychological and observable) influence the strategic choices they make, including decisions about innovation, diversification, capital intensity, and financing. These strategic choices, in turn, influence firm performance levels.

Hambrick and Mason also suggested a research strategy that would emphasize observable demographic variables over harder-to-measure cognitive factors or mental models that directly influence strategic decision making. According to Hambrick and Mason: "primary emphasis is placed on observable managerial characteristics as indicators of the givens that a manager brings to an administrative situation. Examples of such characteristics are age, tenure in the organization, functional background, education, socioeconomic roots, and financial position."

They acknowledged that by focusing on managerial characteristics, "some important but complex psychological issues are bypassed in favor of an emphasis on broad tendencies," but they argued that if these managerial characteristic variables were found to be significant, then later studies could focus on the underlying cognitive or psychological bases (1984: 196). This theoretical support from Hambrick and Mason for the use of demographic proxies, combined with the ease with which data for many demographic variables can be gathered from readily available archival sources, stimulated a great deal of subsequent upper echelons research, and much of this research focused on managerial demography.

This study focuses on two questions that have received too little study in previous research. First, what are the beliefs that executives hold about how to manage diversification? And, second, how, if at all, are executives' career experiences associated with these beliefs? The following sections highlight past studies from the diversification, upper echelons, and human resource management literatures that inform the study of these two research questions.

Managerial Cognition and the Management of Diversification

Like Hambrick and Mason, cognitive researchers hold that managers' beliefs or mental models influence decision making, but they reject the idea that experiences or demographic variables can serve as proxies for managers' beliefs and understandings. They argue instead that experiences are filtered by mental models, which determine what experiences are noticed and whether they are deemed important, influence how these experiences are interpreted, and ultimately suggest appropriate decisions based on these interpretations (Gioia & Chittipeddi, 1991; Levy, 2005; Lounsbury, & Glynn, 2001; March & Simon, 1958). Thus, the cognitive perspective argues that insight into decision making requires an appreciation of the beliefs contained in executives' mental models.

Research aiming to "get inside the heads" of executives assumes that they carry models of phenomena that allow them to make sense of their situations and respond appropriately (Johnson-Laird, 1983; Rumelhart, 1984). While the actual nature of mental models continues to be a source of debate, it is widely acknowledged that mental models play key roles in executives' decision making processes (Walsh, 1995; Weick, 1995). First, mental models simplify the complexity associated with business environments, and, in the process, they determine which environmental stimuli will be noticed and which stimuli will be ignored (Boisot & Child, 1999; Starbuck & Milliken, 1988). The management of a diversified firm is a particularly challenging and complex task. George Hall, writing from his own experience as a corporate executive, refers to the "bewildering complexity" of diversified firms (1987: 84). To manage this complexity, the executives of diversified companies must have a conceptualization of their firms – their scope, objectives, competitive environment, and management requirements – but in diversified firms, these demands are compounded both by the number and by the diversity of their businesses. Thus, the executives of these firms must process vast amounts of information and they face an almost unlimited array of choices. Their mental models play a key role in complexity reduction, making comprehensible the complex task of managing the diversified firm.

Mental models also influence how stimuli are interpreted, and suggest appropriate responses or decisions based on these interpretations. So, learning about how the executives of large diversified firms make sense of their situations and tasks is a key to understanding the strategies and structures of their firms. Perhaps the greatest contribution made by Prahalad and Bettis was to suggest that executives' dominant logics serve as "organizing paradigms," providing them with a way to "conceptualize the business and make critical resource allocation decisions" (1986: 490). Goold, Campbell, and Alexander have also emphasized the importance of executives' beliefs in large diversified firms:

> Parent company managers have rules of thumb and mental models that help them to interpret and synthesize information. These rules and models, which we refer to as the parent's mental maps, largely stem from their management experience… They shape the parent's perception of business improvement opportunities. They embody its understanding and feel for different types of businesses… They reflect deeply held values and objectives (1994: 18-19).

As Goold *et al.* suggest, mental models are shaped by individual experiences and by unique interpretations of these experiences. Thus, we could expect that mental models about the management of diversification could be quite idiosyncratic. In fact, Barney (1992) suggested that executives could gain advantage by managing their diversified firms in novel ways. On the other hand, researchers have cited a number of institutional factors that probably serve to create patterns of management beliefs that are widely shared among executives (Hambrick, 1982; Huff, 1982; Spender, 1989).

Though a significant body of managerial and organizational cognition literature has now accumulated, few researchers have applied this cognitive perspective to the study of diversification. In an influential article, Prahalad and Bettis (1986) argued that executives would need to learn how to manage diversification “as a distinct process and skill” (1986: 488), and in doing so, they would develop knowledge structures – mental models or dominant logics – that contain their beliefs and understandings about the management of diversification. “Dominant logic ... is a conceptualization of the business and the administrative tools to accomplish goals and make decisions in that business... It is expressed as a learned, problem-solving behavior” (1986: 491). Thus, dominant logic includes executives’ beliefs about the nature of their firms – size, number of business units, and the diversity among those business units – but it also includes their beliefs about the processes needed to manage diversification, including the choice of diversification mode (acquisition or internal development), the way resources are allocated, and the degree to which decision making is centralized (Prahalad & Bettis, 1986: 491).

Building on the work of Prahalad and Bettis, a few researchers have examined how management beliefs shape their understandings of the competitive environment and how their firms are positioned relative to their competitors (Garg, Walters, & Priem, 2003; Mason & Harris, 2005; Neill & Rose, 2006). Other studies have examined managers’ understandings or conceptualizations of their own firms. Empirical research by Stimpert and Duhaime (1997) focused on one aspect of dominant logic – how top managers of diversified firms conceptualize their organizations, specifically how they understand their firms’ businesses to be related. Recent studies by Piscitello (2004) and Pehrsson (2006) have examined how different conceptualizations of relatedness are associated with firm performance levels. Piscitello found that a focus or coherence around a company’s technological competencies is associated with enhanced performance, and Pehrsson also found that relatedness associated with common technologies was positively associated with performance.

Other researchers have studied how managers’ beliefs about firm resources influence decision making and performance (Kor & Leblebici, 2005; Leavy, 2001; Pehrsson, 2006; Tanriverdi & Venkatraman, 2005). Duhaime and Schwenk (1985) argued that managers’ cognitive biases and limitations are responsible for the success or failure of acquisitions. More recent research by Levy (2005) examined how managerial mindsets influence the extent of global diversification.

Conceptual work by Kazanjian and Drazin (1987) and Ginsberg (1990) focused on the influence of managerial cognition on the decision making associated with successful diversification. Vanhaverbeke and Peeters (2005) focused on the challenges large diversified companies have in managing discontinuous change, and focused specifically on how technological capabilities are associated with cognitive inertia.

Demographic Influences on Executives' Beliefs

Researchers have long argued that career experiences are an important influence on the content of executives' mental models (Herbert & Deresky, 1987; Starbuck & Milliken, 1988; Szilagyi & Schweiger, 1984). The research of Lawrence and Lorsch (1967), Miles and Snow (1978), and Dearborn and Simon (1958) showed that executives' responses to strategic issues are moderated by functional background. Katz and Kahn (1978) and Mintzberg (1973) also described how managerial roles differ markedly across various organizational levels, and Williamson (1975) emphasized that corporate-level executives face totally different issues than business unit managers. Weick (1979) concluded that these differences in executives' career experiences will result in different cognitive understandings, and that these differences are likely to result in different responses to the same stimuli. On the other hand, some empirical studies have found no connection between experience and beliefs (e.g., Walsh, 1988).

Hayes and Abernathy (1980) were among the first to draw a link among executives' career experiences, decision making, and the performance of diversified firms. Concerned by the declining competitiveness of U.S. companies during the late 1970s, Hayes and Abernathy focused on the growing percentage of CEOs with financial backgrounds, observing that "no longer does the typical career … provide future top executives with intimate hands-on knowledge of the company's technologies, customers, and suppliers." They argued that this shift in CEO experience had given rise to "a false and shallow pseudo-professional" who has "no special expertise in any particular industry or technology" (1980:74). They concluded that the financial controls favored by this breed of executives promote short-run profit maximizing and discourage R&D spending and capital investment. Resources that could be used to fund R&D and product development are used instead to finance a strategy of acquisitive, unrelated diversification that offers growth but delivers no gains in productivity or shareholder wealth.

Other researchers have also argued that executives who have worked primarily in accounting and finance can be expected to focus on financial performance (Davis & Stout, 1992). Fligstein (1987, 1990) argued that executives with financial backgrounds would hold a “financial conception of control,” and would therefore use financial criteria to evaluate their firms’ businesses. Similarly, executives who have spent most of their careers working in their firms’ central offices will have focused on the financial characteristics and performance of their firms’ businesses rather than on operating synergies (Williamson, 1975). They most likely have also been involved in developing corporate strategy and assessing acquisition opportunities (Katz & Kahn, 1978).

In contrast, executives who have spent most of their careers working in functional areas such as production, engineering, or marketing will have focused a good deal of their efforts on operating goals and growth through the development of new revenue sources (Katz & Kahn, 1978). These efforts will have required them to deal with a broad range of functional and technical issues at the business unit level, including how various functional departments might be more closely coordinated. They may also have focused on sharing marketing expertise, coordinating marketing efforts, and cross-selling products and services across businesses (Farjoun, 1998; Nayyar, 1993; Stewart, 1997). As a result, Williamson (1975) believed that CEOs who have spent most of their careers in their firms’ business units will focus on operating goals and the synergies that can be achieved by coordinating the production, marketing, and R&D activities of their divisions.

Empirical studies examining relationships between executives’ experiences and decision making in diversified firms have offered few consistent findings. Early studies by Song (1982) and Reed and Reed (1989) hypothesized that firms led by CEOs with financial, accounting, or legal backgrounds would be more likely to pursue diversification through acquisition, while firms led by CEOs with production or marketing backgrounds would be more likely to pursue internal development of new businesses. While Song found support for this linkage between CEO career experiences and diversification mode, Reed and Reed did not, even though the two studies employed comparable samples of large diversified firms.

Reed and Reed did, however, find support for a “fit” between CEO experience and diversification, and concluded that performance will be higher when CEOs with operational experience pursue internal development and CEOs with financial experience pursue acquisitive strategies. Studies by Michel and Hambrick (1992) and Datta, Guthrie, and Rajagopalan (2002) have also examined this issue of fit or the need to match CEO and top management team demography to firm and environmental characteristics in order to optimize performance. While Michel and Hambrick found no support for their specific hypotheses, Datta, Guthrie, and Rajagopalan did find support for the need to match CEO career experiences to the type of firm, industry, and competitive environment in order for firms to enjoy high performance.

Wiersema and Bantel (1992) examined the relationship between management team demography and changes in corporate strategy. They found that younger management teams that had shorter organizational tenures, higher team tenures, higher educational levels, and more academic training in the sciences are more likely to be associated with changes in diversification strategy. Their study did not indicate whether these demographic characteristics are likely to lead to more or less diversification (since their dependent variable was absolute changes in strategy, regardless of direction), but their findings are consistent with the view that younger, less experienced executives are more likely to initiate strategic change (Finkelstein & Hambrick, 1996). Wally and Becerra (2001) also examined the impact of top management team characteristics on strategic changes in international diversification. They found that greater top management team tenure was positively associated with increases in international diversification but that greater functional specialization among top management team members was negatively associated with international diversification.

Guthrie and Datta (1998) examined the impact of CEO experience on strategy and performance in more and less diversified firms. While they found no relationship between CEO experience and diversification strategy, they did find that less experienced CEOs are associated with performance improvements in less diversified firms, but that this relationship does not hold in more diversified firms. This implies that executives may need time to develop firm-specific administrative skills in order to manage effectively the complexity of more diversified firms.

Other, more recent studies have focused specifically on the performance effects of insiders and outsiders as CEOs (Karaevli, 2007; Zhang & Rajagopalan, 2003). Not surprisingly, Karaevli finds that the question of a relationship between CEO origin and firm performance is not at all straightforward, but that it depends on a variety of environmental and contextual factors.

Summary

This review suggests that researchers have made some progress in understanding how career experiences and managerial cognition influence decision making in diversified firms, but it also points to a number of shortcomings. First, relative to other streams of upper echelon, diversification, and human resource management research, the number of articles examining the influence of executives on strategic decision making in diversified firms is small and the literature is not nearly so well developed.

Inconsistency in the results of demographic studies is a second shortcoming. Such a criticism is not new, nor is it applicable only to studies examining the relationship between demography and strategic choices in diversified firms (Gunz & Jalland, 1996). Several scholars have argued that the lack of consistency across studies may be due to problems with the construct validity of the demographic variables used as proxies for underlying constructs (Hoskisson & Hitt, 1990; Priem, Lyon, & Dess, 1999). Cognitive researchers would also argue that inconsistencies in demographic studies are inevitable because two executives could easily have objectively similar experiences, yet, because of their unique mental models, they will almost certainly interpret and respond differently to these experiences.

Third, cognitive scholars have argued for an explicit focus on managers' mental models rather than demography (Markoczy, 1997; Walsh, 1995), and more empirical studies examining the influence of executives' beliefs on decision making have appeared (e.g., Barr, Stimpert, & Huff, 1992; Hitt & Tyler, 1991; Levy, 2005; Lounsbury & Glynn, 2001; Thomas, Clark, & Gioia, 1993). Yet, very few studies have examined the nature of executives' beliefs in the context of large diversified firms.

Finally, no study has specifically examined the nature of top managers' beliefs about the management of diversification or asked whether these beliefs are associated with specific career experiences. Thus, the study reported here sought answers to two important but little explored research questions: First, what are the beliefs that executives hold about the management of diversification? And, second, are executives' beliefs and understandings about the management of diversification influenced by or associated with their career experiences?

RESEARCH METHODOLOGY

The Survey Questionnaire and Cognitive Variables

Researchers have used a variety of techniques to map mental models, and carefully designed surveys can be an effective way to assess executives' beliefs (Hitt & Ireland, 1986; Zajac & Shortell, 1989). They are especially effective when researchers hope to obtain large numbers of observations across a broad cross-section of subjects in order to perform rigorous statistical analyses. This study incorporates a unique primary data set that was part of a broader research study that used a questionnaire developed from an in-depth review of the literature and field interviews with executives of several large diversified firms. Although this primary dataset was developed in 1991, its value for addressing this study's research questions is undiminished by time, and an inspection of important characteristics of the business environment reveals no significant factors that would undermine the validity of the study's results for the current environment. All other measures used in this study have been gathered for time periods appropriately matched to the primary dataset.

In developing the survey questionnaire, we first conducted a thorough search of the diversification literature in order to identify all of the processes for managing diversified firms that any scholar or writer had previously described. This search of the literature identified four broad categories of management processes in diversified firms, including 1) the sharing of functional skills across businesses (Goold & Luchs, 1993; Kazanjian & Drazin, 1987; Lauenstein, 1984; Porter, 1985, 1987; Rumelt, 1974, 1982; Pehrsson, 2006; Piscitello, 2004), 2) encouraging or insisting that all businesses pursue the same generic strategy (Porter, 1987), 3) a wide range of management and financial control systems (Dundas & Richardson, 1982; Goold & Campbell, 1987; Teece, 1982; Williamson, 1975), and 4) acquisition and internal development as possible modes of diversification (Lamont & Anderson, 1985; Pitts, 1980; Song, 1982). This compilation of management processes was followed by semi-structured interviews with strategic planning executives from six *Fortune* 500 firms. The interviews provided corroborating support for the management processes that our literature review had identified, while also suggesting a few additional processes that were not described in the literature.

Ultimately, our review of the diversification literature and our field interviews produced a list of 24 survey items to assess executive beliefs about the management of diversification, and these items formed the core of the survey instrument. CEOs who received the survey were asked to provide their assessments of each of the 24 items on a five-point scale (from "1" for *I believe this would almost always be an inappropriate policy* to "5" for *I believe this would almost always be an appropriate policy*). Three top planning officers and a CEO – all from diversified *Fortune* 500 firms – agreed to pretest the survey. They offered many suggestions that were incorporated into the final draft of the questionnaire. Table 1 categorizes and identifies the source of each of the 24 items and also provides the wording of the items as they appeared in the questionnaire.

Insert Table 1 about here

Demographic and Control Variables

Data on CEO experiences were obtained from the 1990 or 1991 editions of *Who's Who*, Dun and Bradstreet's *Reference Book of Corporate Managements*, and company 10Ks. To maintain consistency with previous studies (Reed & Reed, 1989; Song, 1982), the data were coded as "1" if CEO functional experience was in accounting, finance, or law, and "0" if in production, operations, engineering, marketing, or sales. Business unit and central office experience data were coded as "1" if worked predominately in corporate central offices or "0" if worked primarily in business units or operating divisions. Because CEO beliefs may be reinforced and their decisions more strongly manifested in their firms over time, tenure was included as a control variable.

Sample

Because diversification is a critical issue for large firms, the starting point for sample selection was the largest 1,000 U.S. companies. As 85 of these firms were privately owned or owned by another firm or had filed for bankruptcy at the time of the study, they were dropped, leaving a sample of 915 firms. Questionnaires were mailed to the CEOs of these firms because CEOs are ultimately responsible for their firms' diversification decisions and because no other single officer is likely to have the same degree of responsibility for and involvement in the planning and execution of diversification decisions. The use of

CEOs as informants is consistent with the research questions posed in this study, and many other studies examining the influence of top executives have also relied on CEOs as informants (Hitt & Ireland, 1986; Hoskisson & Hitt, 1988; Zajac & Shortell, 1989).

From the 915 CEOs who received the mail survey and two follow-up mailings, 174 completed and usable responses were received, for a response rate of just under 20 percent. This compares favorably with most mail surveys reported in the strategy literature that have been addressed to the executives of large firms (Hambrick, Geletkanycz, & Fredrickson, 1993; Hoskisson & Hitt, 1988; Tootelian & Gaedeke, 1987). Statistical analyses comparing total assets, sales revenues, and return on assets of the responding and nonresponding CEOs' firms revealed no significant differences.

Data Analysis

Respondents' ratings of the 24 management belief variables were factor analyzed to identify a more finite set of underlying dimensions, or, in this case, patterns of beliefs about the management of diversification (Hair, Anderson, Tatham, & Black, 1998). Factor analysis is the ideal method for analyzing the survey data. It reduces the 24 variables included in our survey into a more finite set of factors that show central tendencies in executives' beliefs about how to manage diversification. Moreover, while factor analysis shows central tendencies, it does not preclude the possibility that executives might hold unique or hybrid sets of beliefs or that the resulting orientations are mutually exclusive.

Due to the exploratory nature of the study, principal components analysis was employed to factor analyze the data and identify patterns of beliefs. With 174 respondents evaluating the 24 management variables, the study falls well within recommended guidelines for conducting factor analyses, which suggest that the number of observations should be greater than 100 and that the ratio of observations to variables should be at least four to one (Hair *et al.*, 1998). The resulting factors were rotated using the varimax transformation, since orthogonal transformations tend to be easier to interpret and are recommended when factor scores are to be used in subsequent statistical analyses (Hair *et al.*, 1998).

RESULTS

Managers' Beliefs and Understandings about the Management of Diversification

The original three-factor solution resulted in three variables that did not load significantly on any of the factors – "Businesses should meet the same financial objectives," "Low-performing businesses should be divested," and "Businesses should be cost leaders." Following the recommendation of Hair *et al.* (1998), the three-factor solution was rerun omitting these three variables. The resulting solution (shown in Table 2) produced a very straightforward and interpretable factor matrix with no cross-factor loadings and all but one of the remaining 21 variables loading significantly on one of the three factors. Given the number of items and observations included in the factor analysis, factor loadings with absolute values greater than .30 can be considered significant and are shown in bold print (Hair *et al.*, 1998).

Insert Table 2 about here

Loading significantly on the first factor were beliefs that businesses should use the same manufacturing processes, distribution channels, and marketing methods; that businesses should sell to the same customer groups; that manufacturing and marketing should be coordinated at the corporate level; and that businesses should be in the same industry. These beliefs are consistent with the perspective that executives should try to capture synergies by coordinating activities across their firms' businesses (Goold *et al.*, 1994; Jones & Hill, 1988; Porter, 1985; Rumelt, 1974, 1982). And, this factor is also similar to the strategic planning management style identified by Goold and Campbell (1987). Consistent with the first hypothesis, this factor is called *core business* orientation.

Loading on the second factor are beliefs that products and services should have strong brand name recognition and that businesses should be market share leaders; that businesses should emphasize R&D, product line extensions, the development of new products, and the reallocation of cash to support product development; that businesses should be in different life cycle stages; and that acquisitions should redirect the firm into new areas of opportunity. These beliefs are consistent with the view that the effective management of diversification results from applying a common set of marketing and product development skills to all businesses (Farjoun, 1998; Kazanjian & Drazin, 1987; Porter, 1985, 1987; Prahalad & Bettis, 1986; Stewart, 1997). This factor is labeled *marketing* orientation.

Beliefs that all businesses should consistently meet financial goals and that businesses should be evaluated primarily by financial criteria; that acquisitions should not necessarily be in the same industry nor strengthen firms' existing businesses; and that financial targets should not be missed even if other strategic goals are being met load on the third factor. These beliefs are consistent with the view that diversification is best managed by emphasizing financial controls and financial performance objectives (Grant, 1988; Jones & Hill, 1988; Williamson, 1975). Similar to the financial control management style identified by Goold and Campbell (1987), and this factor is labeled *financial control* orientation.

Relationships between Executives' Experiences and Their Beliefs about the Management of Diversification

Means, standard deviations, and correlations of the control variables, the career experience variables, and the management belief factors are shown in Table 3. The study's second key objective was to examine what, if any, influence executives' experiences would have on their beliefs about the management of diversification. The study specifically sought to examine whether executives with more experience in production, engineering, and marketing activities or their firms' business units would hold different beliefs than the executives with more experience in accounting and finance or in their firms' central offices. The results of regression analyses examining these relationships are summarized in Table 4, and they provide no evidence of relationships between executives' career experiences and their beliefs about the management of diversification. Noticeably absent are significant relationships assumed by Fligstein (1987, 1990) and Hayes and Abernathy (1980) to exist between career experiences and management orientations. In short, the career experiences examined in this study are not associated with executives' beliefs.

Insert Tables 3 and 4 about here

DISCUSSION

Managing the diversified firm is an exceedingly complicated task (Prahalad & Bettis, 1986), and a central human resource management challenge is to identify those executives who will provide effective leadership for these firms. Previous research has suggested that the executives of a diversified company must develop a conceptualization of their firm and must create and foster what Porter (1987) calls a "corporate theme" that describes the firm and how its various businesses are related. Executives of diversified firms must also develop a set of beliefs about how diversification should be managed (Prahalad & Bettis, 1986). The aims of this study were: 1) to learn more about these management beliefs, and 2) to test whether there are significant associations between executives' beliefs and their career experiences.

Executives' Beliefs about the Management of Diversification

One of the key contributions of this study is the finding that top executives of large diversified firms hold at least three sets of beliefs about the management of diversification. While this is the first empirical study we are aware of that attempts to document these beliefs and understandings, there is significant prior conceptual and theoretical support in the diversification literature for each of these three sets of beliefs. First, many authors offer support for the existence of a *core business* orientation. This core business orientation emphasizes the importance of the core business, having other businesses closely related to it, and having all businesses tightly integrated. Synergies are obtained by sharing common functional skills across businesses with similar product or process attributes (Goold *et al.*, 1994; Jones & Hill, 1988; Kazanjian & Drazin, 1987; Kiechel, 1982; Lauenstein, 1984; Porter, 1985; Robertson & Ulrich, 1998; Rumelt, 1974, 1982). Porter (1985) urged executives of diversified firms to develop "horizontal strategies," which he defined as "a coordinated set of goals and policies" to be applied across business units in order to integrate their value-adding activities. Kanter (1989) has also emphasized "the horizontal dimension," and the importance of getting business units to cooperate in an effort to realize synergies.

Second, like the *marketing orientation* identified in this study, the diversification literature also suggests that another commonly held pattern of beliefs emphasizes the importance of developing a set of marketing and differentiation skills that can be applied to all businesses – even though these businesses may lack common product or process characteristics and therefore be unable to share production, engineering, or R&D resources (Kazanjian & Drazin, 1987; Porter, 1985, 1987). This marketing orientation or approach to the management of diversification may be embodied in close relationships and tight coordination between businesses and their marketing channels and end users (Woodruff, 1997), or through the ability to apply knowledge about customers' needs and buying behaviors across businesses (Farjoun, 1998; Stewart, 1997). A marketing orientation also emphasizes opportunities for cross-selling products and services across businesses (Nayyar, 1993). Porter (1987) also suggested that executives of multibusiness firms could employ the generic strategy of differentiation across all business units in order to realize synergies in marketing and advertising.

The diversification literature also suggests that another commonly held pattern of beliefs emphasizes the importance of strict financial controls such as ROI and other performance criteria (Goold & Campbell, 1987; Hall, 1987; Teece, 1982; Williamson, 1975). Support for the *financial control* orientation that was found in this study also comes from Hill (1994), who concluded that the only way to manage the complexity of a widely diversified portfolio is to acknowledge the difficulty of realizing synergies and instead focus on the financial performance of these businesses. Not unlike mutual fund managers, these executives rely on financial criteria to assess the performance of their firms' portfolios (Teece, 1982; Williamson, 1975). In their field research, Goold and Campbell also identified a number of firms that they labeled as "financial control" companies. They found that these firms view budgets as "a contract" between corporate executives and individual businesses, and "that annual financial performance is the critical measure of achievement" (1987: 133). Grant (1988) also proposed that the evaluation of a common set of financial and investment criteria would be a core element of some executives' dominant logics.

To summarize, we cannot presume that the three orientations described here constitute a comprehensive set of executive beliefs about the management of diversification. Nor can we rule out the possibility that executives might combine various elements from these three orientations and other sources to create unique understandings about how they should manage their firms (Barney, 1992).

However, past detailed field research (Goold & Campbell, 1987), a thorough review of the diversification literature and our own preliminary field research provide strong support for proposing the existence of these three broad sets of beliefs about the management of diversification.

The Lack of Meaningful Relationships between Experience and Cognition

The second major contribution of the study reported here is the finding of no significant relationships between executives' career experiences and their beliefs about the management of diversification. While early research concluded that executives' functional backgrounds are significantly associated with their responses to strategic issues, more recent studies have cast doubt on the strength of these relationships (Beyer *et al.*, 1997; Chattopadhyay, Glick, Miller, & Huber, 1999; Finkelstein & Hambrick, 1996; Lawrence, 1997; Markoczy, 1997; Waller, Huber, & Glick, 1995; Walsh, 1988). And based on their results, Michel and Hambrick concluded that "Hayes and Abernathy were not correct in any blanket sense... The increasing preponderance of top executives drawn from staff areas such as law and finance is not a universally negative development" (1992: 32).

Nor does this study support the demographic determinism of Hayes and Abernathy (1980) and Fligstein (1987, 1990). In fact, our study found no significant relationships between executives' experiences and their beliefs about the management of diversification.

At the very least, the findings of this study and the studies cited above underscore the need for additional theory development focusing on the relationships between experience and managerial beliefs and how experiential and cognitive factors influence decision making. Though Goold, Campbell, and Alexander (1994) are almost surely correct in suggesting that managers' mental models are a product of their career experiences, the demographic perspective probably oversimplifies the processes associated with the development of executives' knowledge structures (Lawrence, 1997). As executives rise through the ranks, they must develop new, *general management* mental models that will almost certainly be quite distinct from the knowledge structures associated with their earlier career experiences. This is not to suggest that career experiences do not matter or that executives necessarily "lose" functional knowledge as they rise through the ranks. Rather, functional knowledge may simply become less relevant as executives become general managers, and the knowledge structures top executives employ are more likely to be related to their general management experiences than to their earlier functional experiences (Finkelstein & Hambrick, 1996).

Three specific general management activities are likely to be most influential in shaping executives' mental models. First, because of their involvement in boundary spanning activities such as industry and competitor analyses, executives' beliefs will be shaped by influences from the larger business environment. A number of studies have documented how industry influences shape managerial thinking (Huff, 1982; Spender, 1989), and we see this same type of institutionalization of executives' beliefs even in the case of diversified firms that have no single industry in common. For example, the executives of many diversified firms have adopted aspects of the General Electric management philosophy (i.e., all business units must be market share leaders in their respective industries, all business units are expected to adhere to specific financial objectives, etc.).

Second, executives' knowledge structures are also likely to be influenced by their firms' specific contexts (Karaevli, 2007; Prahalad & Bettis, 1986). Executives' understandings of how their firms' business units are related, their perceptions of their firms' competencies, and their beliefs about the effectiveness of specific controls and processes are likely to be important components of their knowledge structures. The work of Guthrie and Datta (1998) also suggests that executives need considerable time to master the administrative complexity inherent in highly diversified firms.

Finally, specific activities are likely to be very influential in shaping general management knowledge structures. Consider the executives of firms that are active acquirers. Given the complexity associated with any acquisition (Jemison & Sitkin, 1986; Wallace, 1969), these executives will necessarily develop elaborate knowledge structures containing beliefs about the factors associated with successful acquisitions. Prior functional experience in accounting or finance may also influence their beliefs, but expertise in executing acquisitions is more likely to be developed as executives gain first-hand exposure to acquisitions as general managers.

Implications for Practice

The findings suggest that there are three patterns of beliefs about the management of diversification that are commonly held by executives, and that these beliefs are not significantly associated with traditional executive demographic or career experience variables. The findings of this study offer empirical support not only for a cognitive perspective on the management of diversification, but also for a key proposition of Bettis and Prahalad, that firms are not merely a "faceless abstraction" but that their executives are an important influence on strategy and structure (Bettis & Prahalad, 1995). The results have a number of implications for human resource practices.

Specifically, the lack of a significant relationship between managers' career experiences and their beliefs about the management of diversification is probably a good outcome. It suggests that there is little evidence to support the fears of Hayes and Abernathy and Fligstein of a kind of "demographic determinism," especially with the negative consequences that Hayes and Abernathy so eloquently articulated. Instead, the research summarized here suggests that no particular pattern of career experiences is likely to shape executives' mental models in a deterministic way. This finding should suggest the broadest possible pool of potential CEOs and other top managers for large diversified firms, and not rule-out specific candidates simply because of their functional background or other specific career experiences.

On the other hand, some key human resource management issues remain, and these are likely to include, first, how to insure that future leaders of large diversified firms develop the ability to deal with the complexity that is inherent in these firms (Datta, Guthrie, & Rajagopalan, 2002; Hall, 1987; Hambrick, Finkelstein, & Mooney, 2005). Part of this challenge is to know when to maintain a focus on larger competitive and environmental trends and the overall strategic direction of the firm versus when to focus on the issues specific to any single business unit or product line. In addition, diversified firms must either recruit or develop executives with the ability to attract and to motivate other company executives as well as capable executives at the business unit level. Finally, large diversified firms must recruit or develop executives who have the ability to remain flexible in their thinking, so that their beliefs do not become ossified and their firms fail to adapt and respond to changes (Vanhaverbeke, & Peeters, 2005).

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TABLE 1
Summary of the Sources of Questionnaire Items to Assess Executive Beliefs about the Management of Diversification

Category	*Source or Reference*	*Representative Questions from the Mail Survey*
Relatedness and sharing of functional skills	Goold & Luchs (1993)	All or most of a firm’s businesses should...
	Kazanjian & Drazin (1987)	be in the same industry as the firm’s core business
	Lauenstein (1984)	sell to the same customer groups
	Porter (1985, 1987)	use the same marketing and promotion methods
	Rumelt (1974, 1982)	emphasize research and development
	Field interviews	use the same manufacturing process
		use the same distribution channel
		All or most of a firm’s acquisition candidates should...
		be in the same industry as the firm’s existing businesses
Common generic strategies	Porter (1987)	All or most of a firm’s businesses should...
	Field interviews	be cost leaders
		be market share leaders
		have strong brand name recognition
Management controls	Dundas & Richardson (1982)	All or most of a firm’s businesses should...
	Goold & Campbell (1987)	receive corporate level coordination on sales or marketing
	Teece (1982)	receive corporate level coordination on manufacturing or distribution
	Williamson (1975)	be able to miss their financial performance objectives if other strategic objectives are being met
	Field interviews	be required to always meet their financial performance objectives
		be required to meet the same financial performance objectives
		be divested if they perform poorly and do not respond to management initiatives
		be in different stages of the product life cycle
		have surplus cash flows reallocated to support other businesses
		All or most of a firm’s acquisitions should...
		be evaluated primarily on their financial performance characteristics

TABLE 1, continued
Summary of the Sources of Questionnaire Items to Assess Executive Beliefs about the Management of Diversification

Category	*Source or Reference*	*Representative Questions from the Mail Survey*
Mode of diversification	Lamont & Anderson (1985)	All or most of a firm's businesses should...
	Pitts (1980)	develop extensions of existing product lines
	Pehrsson (2006)	develop totally new products
	Piscitello (2004)	All or most of a firm's acquisitions should...
	Song (1982)	offer opportunities to strengthen the firm's existing businesses
	Field interviews	offer opportunities to move the firm in new strategic directions
Size of acquired businesses	Field interviews	All or most of a firm's acquisitions should...
		be at least some minimum size

TABLE 2

Executive Orientations or Beliefs and Understandings about the Management of Diversification

VARIABLE	*FACTOR 1*	*FACTOR 2*	*FACTOR 3*
Businesses should use the same marketing methods	**.8222**	-.0569	.0399
Businesses should use the same distribution channels	**.7953**	.1136	.0850
Marketing should be coordinated at the corporate level	**.7126**	.1435	-.0982
Businesses should sell to the same customer groups	**.7098**	-.0098	-.0751
Businesses should use the same manufacturing processes	**.6902**	-.1441	.0258
Manufacturing should be coordinated at the corporate level	**.6415**	.1794	-.1006
All businesses should be in the same industry	**.4676**	.2743	-.0003
Products and services should have strong brand name recognition	.1767	**.6335**	-.0265
Businesses should develop totally new products	.0425	**.6132**	.1133
Businesses should be market share leaders	-.0017	**.6053**	.0321
Businesses should emphasize research and development	.1986	**.5774**	-.0824
Businesses should be in different stages of the life cycle	.0914	**.5134**	.0871
Businesses should develop extensions of existing products	-.0744	**.4982**	-.0716
Cash should be reallocated to support new product development	-.0004	**.4894**	.0054
Acquisitions should offer opportunities to redirect the firm	.0394	**.3372**	.2219
Businesses should always meet financial goals	.0413	.1551	**.7629**
Businesses should be evaluated primarily by financial criteria	-.0167	.0722	**.6197**
Acquisitions should be some minimum size	-.0173	.0800	.2939
Acquisitions should be in the same industry	.2634	.1582	**-.3115**
Acquisitions should strengthen the firm's existing businesses	.1074	.1674	**-.3187**
Businesses can miss financial goals if other objectives are met	-.0858	-.0071	**-.7346**
EIGENVALUES	3.60	2.60	1.91
FACTOR NAME	Core Business Orientation	Marketing Orientation	Financial Control Orientation

TABLE 3
Correlations among Experiential and Management Beliefs Variables

VARIABLES:	*Mean*	*S.D.*	*1.*	*2.*	*3.*	*4.*	*5.*
1. Accounting or Finance Experience	0.063	0.244					
2. Central Office Experience	0.109	0.313	.515***				
3. Core Business Orientation	0	1.000	-.035	.021			
4. Marketing Orientation	0	1.000	-.060	.020	.000		
5. Financial Control Orientation	0	1.000	.119	.014	.000	.000	
6. Tenure	22.343	12.577	-.084	.049	.018	.038	.040

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

TABLE 4
Relationships between Executives' Career Experiences
and Their Beliefs about the Management of Diversification
(Standardized beta estimates are reported; t-statistics are shown in parentheses)

	DEPENDENT VARIABLES:		
INDEPENDENT VARIABLES:	*Core Business Orientation*	*Marketing Orientation*	*Financial Control Orientation*
Tenure	.010	.027	.058
	(.13)	(.33)	(.70)
Accounting or Finance Experience	-.064	-.096	.169
	(-.65)	(-.98)	(1.74)
Central Office Experience	.063	.077	-.079
	(.64)	(.79)	(-.81)
F	.20	.42	1.10
Adjusted R^2	.00	.01	.01

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