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**MANAGERIAL COGNITIVE ORIENTATION AND DEMOGRAPHIC
CHARACTERISTICS: A STUDY OF THE RELATIONSHIPS BETWEEN GLOBAL
MINDSET, TEAM HETEROGENEITY, AND GLOBAL STRATEGIC POSTURE**

by

Orly Levy

**A dissertation submitted in partial fulfillment of
the requirements for the degree of**

Doctor of Philosophy

(Sociology)

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A dissertation entitled

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ABSTRACT

MANAGERIAL COGNITIVE ORIENTATION AND DEMOGRAPHIC CHARACTERISTICS: A STUDY OF THE RELATIONSHIPS BETWEEN GLOBAL MINDSET, TEAM HETEROGENEITY, AND GLOBAL STRATEGIC POSTURE

Orly Levy

Recent developments in the global economy have instigated a “cognitive revolution” in the field of strategic and international management. Rapid globalization processes have changed the boundaries, competitive landscapes, and organizational structures and strategies of firms. As global competition continues to intensify, top management teams face increasingly complex managerial and strategic challenges. In fact, these complex and diverse competitive and organizational realities place cognitive demands on senior executives that exceed the requirements of any previous organizational form. Consequently, the cognitive orientations and capabilities of top management have come to be viewed as *the* critical infrastructure of firms.

As top management faces increasingly complex intellectual challenges, researchers are faced with the challenge of identifying the properties of managerial mindset most likely to affect important strategic decisions such as global expansion. In an effort to identify and explicate these properties, this dissertation develops a model of global mindset and tests its effects on global strategic posture of firms. Additionally, this study examines the relationship between team heterogeneity, in tenure and age, and global strategic posture. Drawing upon the managerial cognition and the upper echelons perspectives, this study proposes that global

mindset and demographic heterogeneity of top management significantly shape globalization-related strategies of firms.

Based on a longitudinal sample of 69 firms operating in technologically intensive industries, six hypotheses are tested. The results indicate that top management teams that have developed and adopted a global mindset are more disposed to pursue expansive global strategic posture. These results also contribute greater understanding of the properties of global mindset and have implications for the theoretical model of this construct. Additionally, the results indicate that team heterogeneity is positively related to global strategic posture.

This study is the first to offer substantial empirical support to the oft-stated suggestion that global mindset shapes organizational outcomes of considerable importance. Additionally, this work significantly extends the theoretical foundations of the concept of global mindset beyond its current basis in international management. It also extends prior observations that top management cognitive orientation is reflected in strategic choices regarding the global arena.

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CHAPTER 1

INTRODUCTION AND OVERVIEW

As the global competitive landscape becomes increasingly diverse and volatile, the development of sustainable competitive advantage is of growing concern to managers and academics alike. However, few organizations are able to develop and nurture long-term capabilities and competencies that extend over diverse geographies and cultures. While a number of competing perspectives on the sources of long-term competitiveness exist, the growing importance of knowledge and knowledge-management as the critical assets in creating and sustaining competitive advantage has recently focused attention on the cognitive orientations and capacities of employees, particularly those in key decision making positions (Hedlund 1994; Spender 1996).

If you pick up nearly any business periodical or recently published book it seems clear that many writers believe that global mindset is the competitive advantage of the new millennium, significantly affecting a variety of organizational outcomes. For example, in their recent *Financial Times* article, Govindarajan and Gupta (1998) argue that the success of companies in exploiting opportunities in the global marketplace and tackling emerging challenges depends crucially on how intelligent they are at observing and interpreting the dynamic world in which they operate. A global mindset, they assert, "is one of the main ingredients of such intelligence." According to Evans and Doz (1992:97), "It is the mind-sets of the key managers in the firm that shape the strategy of the firm...." Similarly, Kanter (1994:232) suggests that "global thinking is what's important for companies today, not international

operations." Indeed, globalization, global competition, and global strategy have come to be viewed as involving not only international operations, but also a cognitive orientation, a managerial mindset, and an integrated way of thinking about "doing business around the world" (Perlmutter, 1969:11).

The notion that the cognitive orientation of senior managers in multinational firms is important dates back to the early works on foreign direct investment of Aharoni (1966) and Kindleberg (1969). However, it was Perlmutter (1969) who, nearly thirty years ago, offered a formal typology of multinational corporations (MNCs) that explicitly incorporated the prevailing orientations of senior executives into the definitional schema and highlighted the wide organizational implications of these orientations. Following Perlmutter's work, academic and pragmatic interest in the cognitive dimension of MNCs and the cognitive orientations of managers increased markedly. Researchers from disciplines as diverse as economics and social psychology shared a conviction that the cognitive orientations of senior managers exert significant influence over the strategic capabilities of MNCs. At the same time, the cognitive structures of MNC managers did not enter into the mainstream debate on international competitiveness until the recent "cognitive revolution," which is based on the premise that cognition is a key factor underlying social action (Prahalad and Bettis 1986; Thomas, Clark, and Gioia 1993) and performance of multinational organizations (Doz and Prahalad 1991).

Recent developments in the global economy and in multinational corporations have reinforced this "cognitive revolution." Rapid globalization processes have changed the boundaries, competitive landscapes, and organizational structures and strategies of multinational firms. As global competition continues to intensify, senior managers of multinational

corporations face increasingly complex intellectual and managerial challenges. In fact, the multinational firm has come to represent the most complex managerial decision-making environment (Prahalad 1990), placing cognitive demands on senior executives that exceed the requirements of any previous organizational form (Doz and Prahalad 1991). Consequently, many authors have argued that the cognitive orientation of managers has become *the* critical infrastructure of MNCs.

Despite the growing recognition of the significance of the cognitive dimension of MNCs, there are multiple and conflicting definitions and perspectives in use and very little empirical work in this area. On the conceptual side, concepts such as “global mindset” (Rhinesmith 1992), “transnational mentality” (Bartlett and Ghoshal, 1989) and “multinational mindset” (Caproni, Lenway and Murtha 1992) have gained increasing cachet in both the academic and popular presses in recent years. Apart from the diverse terminology, however, the properties of these constructs remained relatively opaque. Moreover, the concept of global mindset has come to stand for everything which is supposedly global or transnational, from individual attitudes to organizational orientations, from structures and strategies to policies and practices, losing in the process any potential explanatory power and analytical properties. In short, the pervasive and all-encompassing use of the concept “global mindset” has stripped it of any distinctively cognitive meaning.

On the empirical side, the picture is even dimmer. Empirical research has been mainly confined to case studies. A few scholars have specifically and systematically examined the mindsets and cognitive maps of managers in MNCs (e.g., Kobrin 1994; Calori, Johnson, and Sarnin 1994; Murtha, Lenway and Bagozzi 1998), but the research efforts have utilized different

terminology and methodologies. In addition, while global mindset has come to be associated with successful management of transnational and global corporations, no empirical studies have tested the popular rhetoric regarding the presumed link between global mindset and organizational outcomes.

In light of the significance of managerial cognition in MNCs, considerable conceptual disarray, and limited empirical research, this dissertation is set to accomplish three main objectives: substantive, methodological, and empirical. Substantively, I take a first step at reducing the current confusion in the literature by categorizing the different approaches to “global mindset” and synthesizing the current thinking about managerial cognition in multinational firms. In addition, I further develop the concept of global mindset by identifying its underlying theoretical foundations. In general, I propose that the concept of global mindset is characterized by two underlying dimensions: cosmopolitan orientation and cognitive diversity. Cosmopolitan orientation is conceptualized as an orientation toward the external environment coupled with a pronounced emphasis on foreign operations and markets. Cognitive diversity reflects the capacity of top management to scan the world from a broad perspective and to take notice of diverse elements, trends and opportunities in the environment. These two dimensions represent distinct challenges faced by top management in today’s global economy.

Methodologically, I attempt to develop an approach to studying global mindset in a systematic, comparable way. Building on the theoretical foundation established, I measure global mindset along the two distinct dimensions mentioned above, which taken together constitute a complete model of global mindset. In this project, I use content analysis of a large number of letters to shareholders to gauge global mindset—a methodology particularly suitable

for large-scale longitudinal studies. However, this methodological approach can be extended beyond the current focus and serve as a guideline for future research on global mindset.

Finally, I seek to expand the empirical support for the idea that global mindset affects organizational outcomes by examining the relationship between global mindset and global strategic posture of US companies operating in technologically intensive industries. Global strategic posture represents the degree to which firms depend on foreign operations and markets for creating and sustaining competitive advantage (Sullivan 1994). In general, I suggest that top management teams that developed and adopted a global mindset are more disposed to develop expansive global operations and to further venture into international markets.

In addition, this study examines the effects of top management demographic heterogeneity on global strategic posture, thus addressing a notable gap in the literature on globalization (Lohrke and Bruton 1997). In this context, demographic diversity may help top management teams to mitigate information overabundance and overcome domestic myopia that typically impede globalization efforts (Ohmae 1989). In general, I propose that demographically-diverse top management teams are more likely to pursue expansive global strategic posture.

The full model investigated in this study is outlined in Figure 1. Two main research questions are addressed in this study:

(1) Does the cognitive orientation of top management teams, conceptualized in terms of a global mindset, affect global strategic posture of firms?

Within this broad question, the relationships between cosmopolitan orientation, cognitive diversity, and global strategic posture are examined:

- a. ***Does cosmopolitan orientation, defined along the external-internal dimension, affect global strategic posture? Are externally-oriented top***

management teams as opposed to internally-oriented more likely to pursue expansive global strategic posture?

- b. *Does cosmopolitan orientation, defined along the local-global dimension, affect global strategic posture?* Are transnationally-oriented top management teams more disposed to expand globally?
- c. *Does cognitive diversity affect global strategic posture?* Are top management teams that attend to diverse elements in the external and international environments more likely to enact an expansive global strategic posture?

(2) Does demographic heterogeneity of top management team influence the magnitude global strategic posture? Are demographically heterogeneous top management teams along the tenure and age dimensions more amenable to global expansion?

This study draws on several related theoretical and empirical traditions, most notably on the managerial cognition perspective, the upper echelons approach, and strategic and international management. In the next sections, I briefly outline the theoretical framework of the study and point out contributions to research.

Theoretical Framework of the Study

The managerial cognition perspective as well as the upper echelons research tradition provide this study with a theoretical framework, linking top management team's cognitive orientation and demographic characteristics to global strategic posture. The managerial cognition perspective suggests that the cognitive structures and orientations of senior managers exert significant influence over a variety of organizational phenomena, including strategic decisions and resource allocation, and thus impact organizational outcomes (Ginsberg 1989; Stubbart 1989; Barr, Stimpert, and Huff 1992 Clapham and Schwenk 1991). Similarly, the

upper echelons perspective views the organization as a reflection of its top managers:

"organizational outcomes--both strategies and effectiveness--are viewed as reflections of the values and cognitive bases of powerful actors in the organization" (Hambrick and Mason 1984:193). These assertions are rooted in the observation that senior managers interpret issues relevant to strategic decision-making and possess the power necessary for implementing choices derived from those interpretations (Hambrick and Mason 1984). In addition, these propositions are predicated on the recognition that the concept of strategy consists not merely of a chosen position, but of an integrated way of interpreting and "enacting" the business environment (Daft and Weick 1984; Smircich and Stubbart 1985). Therefore, this study draws on the managerial cognition perspective and the upper echelons literature and attempts to assess the relationship between global mindset, top management team demographic heterogeneity, and global strategic posture.

Contribution to Research

This study considerably expands the theoretical foundations of global mindset by conceptualizing it as a cognitive structure and by identifying its underlying properties. While many researchers have pointed to the significance of managerial cognition in MNCs, with a few exceptions, no systematic effort was made to specify the conceptual properties of global mindset. Moreover, the discussion about global mindset most often remains within the confines of the international management framework. Thus, by identifying the properties of global mindset and by situating the discussion in a broader theoretical perspective, I provide a more solid conceptual foundation for future research on managerial cognition in MNCs. Furthermore, by

extending the literature on managerial cognition, upper echelons, and strategic choice into the global arena, we can begin to examine the relationship between top management team characteristics, broadly defined, and organizational outcomes in a global context.

A second contribution of this study is expanding the empirical support for the idea that global mindset significantly affects organizational outcomes of substantial importance. By examining a large number of companies over an eight-year period, this study provides more than anecdotal support for the proposition that global mindset of top management affects strategic choice and organizational competitiveness of multinational firms.

Organization of the Dissertation

Chapter 2 reviews the literature on managerial cognition in MNCs and on top management characteristics and explores the relationship between global mindset, top management demographic heterogeneity, and global strategic posture. A review of the empirical research on global mindset and top management demographic heterogeneity is also presented. Chapter 3 develops in depth the model tested in this research, which examines the effects of global mindset and top management demographic heterogeneity on the propensity of firms to pursue expansive global strategic posture. Specific hypotheses are also presented in this chapter. Chapter 4 presents the methodology employed in this research. The findings of this study are reported in Chapter 5. Chapter 6 examines the implications of the empirical findings and further discusses the theoretical and methodological implications of this study.

CHAPTER 2

THEORY DEVELOPMENT AND LITERATURE REVIEW

As the processes of globalization continue to transform the competitive landscape and structure of business opportunities, firms are encouraged to expand their operations and markets globally (Bartlett and Ghoshal 1989; Sanders and Carpenter 1998; Porter 1986; Prahalad and Hamel 1994). Both international management scholars and senior executives have indicated that an expansive global strategic posture is crucial to creating and sustaining competitive advantage. Through extensive global operations, firms can leverage R&D costs and tap into critical knowledge sources, which are globally dispersed (Bartlett and Ghoshal 1989; Chiesa 1996; Nohria and Ghoshal 1997). These advantages are especially critical for firms operating in technologically intensive industries given the mounting costs of R&D activities and the significance of innovation to organizational competitiveness (Vernon 1966; Ghoshal and Bartlett 1988; Wolfe 1994).

American companies, however, vary considerably in their response to the globalization challenge. While research has pointed to a host of factors affecting firm-level variation in the propensity to expand globally, it largely overlooked the role of top management teams in shaping global strategies of firms (Schendel 1991; Bartlett and Ghoshal 1991). Furthermore, as globalization has grown to be one of the defining characteristics of corporate strategy, examining the role of top management team in influencing this important strategic decision is well overdue.

Therefore, this study addresses globalization strategies from a managerial perspective by developing and examining the idea that top management team cognitive orientation and

demographic characteristics play a key role in shaping global strategic posture of firms. Specifically, it examines the relationship between top management global mindset as well as demographic heterogeneity along tenure and age and global strategic posture.

The incorporation of a managerial perspective is also warranted by recent developments in the global economy and in multinational corporations, which have given rise to tremendous managerial complexity and diversity. As global competition continues to intensify, transforming the competitive landscape in an increasingly rapid pace, both business opportunities and threats emerge worldwide. Consequently, top management has to develop considerable cognitive capabilities and scan the business environment from a broad perspective. Additionally, top management has to overcome not only domestic myopia but also an international and a multidomestic mentality. It has to develop a transnational mentality, a cognitive orientation that spans the globe (Bartlett and Ghoshal 1992; Ohmae 1989).

In addition, multinational firms face multi-point competition and are subjected to simultaneous and often conflicting pressures to globally integrate their operations and to respond to local demands (Prahalad and Doz 1987). Moreover, multinational corporations are embedded in heterogeneous cultural, political, institutional, and competitive environments and need to manage diverse interorganizational relationships with host governments, strategic partners, customers, and suppliers (Rosenzweig and Singh 1991). This external complexity is coupled with internal diversity and the need to coordinate and integrate geographically dispersed resources and operations (Bartlett and Ghoshal 1990). In light of these complex and diverse competitive and organizational realities, top management teams need to balance cognitively between competing country, business, and functional concerns (Murtha, Lenway, and Bagozzi

1998:97). In this context, diversity of skills and networks ties may significantly enhance the capabilities of top management to deal with multiple organizational environments, structural indeterminacy, and cultural heterogeneity, all of which characterize contemporary MNCs (Doz and Prahalad 1991; Hedlund 1986; Bartlett and Ghoshal 1990).

Thus, the increasing diversity and complexity of the global arena has given rise to the recent emphasis on top management cognitive orientations and capabilities as well as diversity of skills and network ties. These competencies have been signaled out as *the* critical building blocks of present-day multinational corporations, and they may significantly affect the globalization-related efforts. In fact, Doz and Prahalad (1991) have argued that the newly emerging multinational corporation mandates nothing less than a paradigmatic shift where the mindsets or cognitive orientations of managers constitute the basic unit of analysis. In their call for a new paradigm, Doz and Prahalad's (1991) echo numerous recent conceptualizations of the multinational firm, all of which have emphasized the intricate and complex nature of the "hypermodern" multinational corporation¹ (e.g., Hedlund 1986; Porter 1986; Ghoshal and Bartlett 1990; White and Poynter 1990).

As top management teams face increasingly complex managerial and intellectual challenges, researchers are faced with the challenge of identifying the properties of top management cognitive orientation and demographic characteristics most likely to affect

¹ Doz and Prahalad's (1991) call for a new paradigm echoes several authors (e.g., Perlmutter 1965; Hedlund 1986; Porter 1986; Ghoshal and Bartlett 1990; White and Poynter 1990; Doz and Prahalad 1991) who have argued that the newly emerging MNCs can no longer be described by some variation on the concepts of "hierarchy" or "centralization-decentralization." The new MNC has been given a variety of labels such as *interorganizational network* (Ghoshal and Bartlett 1990), *heterarchy* (Hedlund 1986), a *geocentric organization* (Perlmutter 1965), and *horizontal organization* (Porter 1986). The "hypermodern" MNCs, however, share some common characteristics, most notably multiple organizational environments, structural indeterminacy, and cultural heterogeneity.

important strategic decisions such as global expansion. Therefore, in the discussion below, I first seek to identify the properties of global mindset, which has been identified as the most important managerial cognitive orientation in MNCs. A review of the limited empirical literature explicitly focusing on global mindset follows. The second section presents the upper echelons perspective, focusing on the relationship between top management team demographic heterogeneity and global strategic posture.

Managerial Cognition In MNCs: Global Mindset

This section is devoted to explicating the properties of global mindset by identifying its underlying theoretical foundation. In general, I suggest that top management teams that have developed and adopted a global mindset are more disposed to pursue an expansive global strategic posture. This proposition is predicated on the assumption that top management teams that are both externally and globally oriented, as well as scan the environment through a broad perceptual lens, are more likely to identify business opportunities that emerge worldwide and thus to venture into the global arena.

In the discussion below, I conceptualize global mindset as a cognitive structure, or more generally, as a knowledge structure.² Managerial cognitive structures and orientations have been variously named, for example, *frame of reference* (March and Simon 1958), *cognitive maps* (Axelrod 1968), *rationalities* (Whitely 1987), and *dominant logic* (Prahalad and Bettis 1986). This diversity of labels notwithstanding, managerial cognitive structures share a set of important

² It is worth noting here that although I conceptualize global mindset as a cognitive structure, other researchers have used global mindset and similar concepts to describe anything from individual cognitive orientations to managerial *footnote continues...*

structural and functional properties: cognitive structures order an information environment, subsequently affecting further interpretation and future action. Furthermore, while each of the writers has a unique version of the construct, a common assumption runs through all of them: that managerial mindsets affect organizational-level outcomes (Gunz and Jalland 1996).

The review of the literature on global mindset is structured by distinguishing between two main approaches to global mindset: *content-based* and *structure-based* approaches. Conceptually, a cognitive structure, which represents a specific information domain, can be analyzed in terms of its *content* (i.e., specific information units) and/or its *structure* (i.e., the internal diversity and ordering of information units). Although these two aspects of cognitive structures are conceptually entwined, content and structure can be investigated separately (Walsh 1995). While the distinction between content and structure occupies a central theoretical and empirical place in cognitive research, I use it rather loosely as a heuristic device for mapping the various renditions of global mindset. I argue that the various conceptualizations of global mindset vary in their relative emphasis on specific content domain versus structural properties.

Global mindset has been conceptualized by several researchers in terms of a specific content domain or orientation, most often by using some variation of the concept of cosmopolitanism. The cosmopolitan approach usually emphasizes aspects of cultural diversity and cultural distance associated with MNCs and worldwide operations and markets. Crossing cultural boundaries, interacting with employees from many countries, and managing culturally diverse interorganizational relationships with customers, suppliers, and regulators are prominent themes in the cosmopolitan approach. The cosmopolitan approach highlights a pervasive need of

competencies to personal attributes. At times, definitions of global mindset have amounted to an exhaustive list of
footnote continues...

MNCs to be responsive to diverse and multiple local environments (Bartlett and Ghoshal 1989; Prahalad and Doz 1987).

Other researchers, on the other hand, have taken a more content-free approach to global mindset, focusing on structural attributes of managerial mindset rather than on a specific attitudinal content, most frequently on cognitive diversity and complexity. The cognitive diversity approach focuses on aspects of environmental complexity and strategic variety stemming from the globalization of operations and markets. This approach highlights an additional demand placed on MNCs: the need to integrate geographically distance and strategically diverse operations and markets (Prahalad and Doz 1987).

Managing Cultural Diversity: Content-Based Approaches

In this section, I will present content-based approaches to global mindset (and equivalent constructs). Before I turn to these approaches to global mindset, however, I briefly review the literature on cosmopolitanism, as this construct is central to the discussion of global mindset but has not previously been integrated with the work in international business.

The concept of cosmopolitanism and the distinction between cosmopolitans and locals has been part of the social sciences vocabulary since Robert Merton's (1957) study of "patterns of influence" in a small town on the eastern seaboard of the United States during World War II. Merton conceptualized cosmopolitans as individuals who are oriented toward the outside world and locals as those who are narrowly concerned with the affairs of the community to the exclusion of world affairs. Alvin Gouldner (1957:290) introduced the cosmopolitans-locals

managerial and organizational characteristics.

distinction into research on formal organizations in his classical study of university faculty. Cosmopolitans were characterized as “those lower on loyalty to the employing organization, higher in commitment to their specialized role skills, and more likely to use outer reference group orientation.” Locals, on the other hand, were defined as those with the opposite characteristics. Gouldner’s (1957; 1958) study of Co-op College triggered much subsequent work on the cosmopolitan construct, which acquired organization-related attributes and came to be associated with professionalism and low organizational commitment. However, subsequent research (e.g., Flango and Brumbaugh 1974; Glaser 1963; Goldberg, Beker, and Rubenstein 1965; Glodberg 1976) has distinguished between cosmopolitanism and professionalism, reestablishing the internal-external dimension as the central dimension of cosmopolitan orientation. (Goldberg 1976; Kimberly and Evanisko 1981).

In the 1990s, with the new focus on globalization processes, the concept of cosmopolitanism has returned to the spotlight and was redefined along the local-global distinction. Hannerz (1996) argues that the recent growth and proliferation of global systems and transnational cultures has generated more cosmopolitans now than ever before. In his article “Cosmopolitans and Locals in World Culture,” Hannerz (1996:102) defines cosmopolitanism as “... a perspective, a state of mind, or—to take a more process-oriented view—a mode of managing meaning.” Hannerz (1996:103) states:

A more genuine cosmopolitanism is first of all an orientation, a willingness to engage with the Other. It entails an intellectual and esthetic openness toward divergent cultural experiences, a search for contrasts rather than uniformity. To become acquainted with more cultures is to turn into an *aficionado*, to view them as artworks. At the same time, however, cosmopolitanism can be a matter of competence, and competence of both a generalized and more specialized kind. There is the aspect of a state of readiness, a personal ability to make one’s way into other cultures, through listening, looking, intuiting, and reflecting. And there is cultural competence in the stricter sense of the term, a built-up skill in maneuvering more or less expertly with a particular system of meanings.

In its concern for the Other, Hannerz argues, cosmopolitanism can thus be thought of as a characteristic that exists in degrees and varieties, a constantly evolving competence, which involves a paradoxical interplay between mastery of foreign cultures and surrender to these cultures.

Cosmopolitans, Hannerz observes, are usually footloose, on the move around the world, and often involved with transnational cultures that are carried by transnational occupational networks rather than by territory. He is quick, however, to remind us that being on the move is not enough to turn one into a cosmopolitan, evoking the main character in Anne Tyler's novel *The Accidental Tourist* (1985), who makes a living writing travel guides for anti-cosmopolitans, most of whom are business travelers. Cosmopolitans, according to Hannerz (1996:108) are the "new class," people with credentials, special knowledge, and decontextualized cultural capital that transcend national boundaries. In addition to this special knowledge, cosmopolitans also carry a critical, reflexive orientation toward structures of meaning. This orientation is reflexive and critical in its analysis of the order of ideas, constantly examining the taken-for-granted, the tacit, the ambiguous, and the contradictory. Thus, cosmopolitanism is characterized not only by a specific body of cultural knowledge, but also by reflexivity, openness, and drive toward greater competence.

With this as a backdrop, I now return to take a closer look at the concept of global mindset in the context of multinational corporations. Perlmutter (1969) was the first to offer a typology of multinational corporations, which was explicitly based on the prevailing attitudes of senior executives. He argued that quantitative measures, such as geographic scope of operations, are insufficient to define multinationality of a firm. He thereby introduced a cognitive dimension

to the research and categorization of multinational corporations: "The more one penetrates into the living reality of an international firm, the more one finds it is necessary to give serious weight to the way executives think about doing business around the world" (Perlmutter, 1969: 11).

Perlmutter distinguished among three primary attitudes or state of minds toward managing a multinational enterprise, which he labeled *ethnocentric* (home-country orientation), *polycentric* (host-country orientation), and *geocentric* (world-orientation). These orientations, Perlmutter proposed, influence and shape diverse aspects of the multinational enterprise, including structural design, strategy and resource allocation, and management processes.

Perlmutter's descriptive typology is clearly content-based as he defines the ethnocentric, polycentric, and geocentric orientations in terms of specific attitudes. An ethnocentric orientation is expressed in terms of headquarters and national superiority attitudes: "we, the home nationals of X company, are superior to, more trustworthy and more reliable than any foreigner in headquarters or subsidiaries." A polycentric orientation takes the form of a respectful disengagement from foreign cultures: "Let the Romans do it their way. We really don't understand what is going on there, but we have to have confidence in them. As long as they earn a profit, we want to remain in the background." Managers with a global mindset, or those with a geocentric orientation in Perlmutter's terms, manifest universalistic, supra-national attitudes, downplaying the significance of nationality and cultural differences: "Within legal and political limits, they seek the best men, regardless of nationality, to solve the company's problems anywhere in the world" (Perlmutter 1969:13). Perlmutter's rendition of the geocentric

or global mindset is similar to the concept of cosmopolitanism and his typology can be expressed, to a large degree, in terms of the cosmopolitans-locals distinction.

Perlmutter's taxonomy mainly revolves around the outer-inner reference group dimension. Perlmutter's geocentric orientation, however, goes beyond an outer reference group, to assume an almost boundaryless orientation. In this respect, Perlmutter's definition of the geocentric orientation comes full circle to the first entry under "cosmopolitan" in the *Oxford English Dictionary*, which is taken from John Stuart Mill's *Political Economy* (1848): "Capital is becoming more and more cosmopolitan." Within Perlmutter's framework, globally minded managers follow in the footsteps of capital, seizing for themselves the privilege of "knowing no boundaries" (Robbins 1992).

Cosmopolitans and the cognitive orientations associated with cosmopolitanism also permeate recent writings on globally competent managers, serving as an underlying theme of many of the contemporary content-driven definitions of global mindset (Adler and Bartholomew 1992; Rhinesmith 1992; Kanter 1995; Govindarajan and Gupta 1998). In their discussion of globally competent managers, Adler and Bartholomew (1992a), for example, argue that transnational managers are characterized by a "global perspective," a broad range of skills, and knowledge of "many foreign cultures' perspectives, tastes, trends, technologies, and approaches to conducting business." In order to be effective, Adler and Bartholomew assert, transnational managers need both the culturally specific knowledge and adaptation skills, as well as a worldwide, integrated perspective. All in all, Adler and Bartholomew's (1992a) transnational manager appears to be a "cultural citizen" of many countries or alternatively, a "citizen of the world" -- in other words, a cosmopolitan. Much like the cosmopolitan, the transnational

manager is defined by his or her knowledge and appreciation of many cultures and ability to tread smoothly and expertly within and between cultures and countries on a daily basis throughout his or her career.

In a recent article, Govindarajan and Gupta (1998) discuss global mindset and its relationship to organizational performance explicitly, suggesting that for MNCs “success is all in the mindset.” Applying the construct at both the individual and organizational levels of analysis, they view “mindset” as the cognitive filter through which individuals and organizations observe and make sense of the world. Mindset, argue Govindarajan and Gupta, shapes perceptions in virtually every area, and thus has a direct and determining effect at both the individual and firm level. If a firm wants to acquire a global presence and to recognize and capitalize upon opportunities for expanding its market, it must develop a global mindset (Govindarajan and Gupta 1998). Govindarajan and Gupta suggest that global mindset rests on a foundation of openness: a firm with a global mindset “... operates on the premise that cultures can be different without being better or worse than one another. Such an organization dedicates itself to becoming well-informed about different value systems, different norms, and different assumptions about reality. It accepts diversity and heterogeneity as a source of opportunity and strength rather than necessary evil” (Govindarajan and Gupta 1998:2). The meaning of global mindset as an individual-level construct is revealed through a series of diagnostic questions Gupta and Govindarajan (1998) present to managers “to assess the extent to which their mindsets are currently global.”³ Upon reading these questions, one cannot but notice that once

³ Govindarajan and Gupta, (1998:3) present the following five questions:

1. When you interact with others do you assign them equal status regardless of national origin?
footnote continues...

again, Gupta and Govindarajan define global mindset in terms similar to cosmopolitanism.

Accordingly, global mindset entails downplaying national and cultural origin, appreciation and selective incorporation of foreign cultural values, and cross-cultural interaction skill.

Cosmopolitanism is in fact the major conceptual axis that runs through these questions.

Cosmopolitans also figure prominently in Rosabeth Moss Kanter's (1995) recent book, *World Class: Thriving Locally in the Global Economy*. According to Kanter (1995:23) cosmopolitans possess portable skills and a broad outlook and are "comfortable in many places and able to understand and bridge the differences among them... But it is not travel that defines cosmopolitans—some widely-traveled people remain hopelessly parochial—it is mind-set." Cosmopolitans, argues Kanter, are the bearers of a more universal culture that transcends the particularism of place; they are familiar with many places and aware of distinctively local characteristics, but see beyond the interests of any one place because they are linked to a wider world and can move between and among places. Cosmopolitans have a career and financial stake in bringing alternatives from one place to another, in finding commonalities or creating a more universal way, which transcends the particularism of place (Kanter 1995).

In summary, the figure of the cosmopolitan and the mindset associated with a cosmopolitan orientation underlie much of the recent discussions on global mindset.

Conceptually, cosmopolitan orientation can be defined along two central dimensions: external-internal and local-global. These dimensions also serve to define global mindset.

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2. Do you regard your values to be a hybrid of values acquired from multiple cultures, as opposed to just one culture?
 3. Do you consider yourself as open to ideas from other countries and cultures as you are to ideas from your country and culture of origin?
 4. Does finding yourself in a new cultural setting cause excitement rather than fear and anxiety?

footnote continues ...

Managing Environmental Diversity: Structural Approaches

In contrast to the content-based approaches reviewed above, some researchers have taken a more structural approach to global mindset. Instead of emphasizing specific underlying content domain, they suggest that the hallmark of global mindset is its diversity and complexity—a structural attribute of cognitive structures. This distinction between content and structural approaches, however, is a broad categorization device reflecting emphasis, and should not be taken to the extreme. For example, although I may categorize a particular approach as a structure-driven approach, it may also contain references to properties surfaced in the so-called “content-driven” definitions. Before proceeding with the review of structure-based approaches to global mindset, I will briefly introduce the notions of cognitive diversity and its significance in the context of multinational corporations.

The diversity and complexity of managerial cognitive structures has long been recognized as a significant factor affecting decision making, strategic choice and organizational performance (Weick 1979; Kiesler and Sproull 1982; Bartunek, Gordon, and Weathersby 1983; Schwenk 1984; Duhaime and Schwenk 1985; Ginsberg 1990; Miller 1993). The premise behind this recognition is that in a diverse and complex world, the levels of managerial cognitive diversity must reflect or exceed this of the environment: “The variety within a system must be at least as great as the environmental variety against which it is attempting to regulate itself. Put more succinctly, only variety can regulate variety” (Buckley 1968:495). In other words, managers operating in a complex environment and confronted with high levels of strategic

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5. When visiting or living in another culture, are you sensitive to the cultural differences without becoming a prisoner of those differences?

variety (Prahalad and Bettis 1986) need to develop diverse and complex cognition in order to be effective.⁴

Several researchers have further developed these notions, arguing that in a complex information environment a narrow interpretative framework can often lead to ineffective managerial behavior (e.g., Bartunek 1983; Kiesler and Sproull 1982; Miller 1993; Schwenk 1984; Duhaime and Schwenk 1985). A narrow, simple, and inertial managerial mindset has been associated with ineffective problem sensing (Kiesler and Sproull 1982), lower organizational performance (Miller 1993), and even collective failure of industries (Abrahamson and Fombrun 1994). In addition, researchers have suggested that cognitive simplification processes such as biases and heuristics may lead to low quality decisions (Schwenk 1984; Duhaime and Schwenk 1985).

Kiesler and Sproull (1982), in a discussion of managerial problem-sensing in changing environments, argue that a “narrow vision” can reduce the range of information managers attend to. In his review of the “consequence of simplicity,” Miller (1993) proposes that over long periods of time a narrow, simple, and inertial managerial worldview eventually leads to lower organizational performance. Similarly, at the industry level, Abrahamson and Fombrun (1994) suggest that homogeneous and widely shared managerial beliefs are to blame for the collective failure of entire American industries. Taken together, these articles attest to the significance of

⁴ The logic of this argument lies in the “law of requisite variety” that maintains that if a system is to survive, its internal complexity should match the complexity of its environment (Ashby 1956). This logic has been applied to both organizational structure and management processes (Nohria and Ghoshal 1997:173-192) as well as to managerial cognitive structures.

cognitive diversity and complexity, or alternatively, to the detrimental effects of cognitive simplicity in a rapidly changing world.

The question of how multinational firms deal effectively with the complexity and diversity stemming from the globalization of their operations and markets has become a critical and persisting issue in the field of international strategic management (Prahalad 1990; Kim and Mauborgne 1996; Sanders and Carpenter 1998). While researchers (e.g., Chandler 1962) have suggested in the past that structural means and adequate administrative mechanisms could mitigate environmental and organizational complexity, such solutions appear insufficient and inefficient in the context of the present-day MNC. For example, Prahalad and Bettis (1986:496) have argued that: “Organizational structure can attenuate the intensity of strategic variety that corporate management must deal with, but it cannot substitute for the need to handle strategic variety at the corporate level.” Considering the diversity, complexity, and multidimensionality of internationalized firms, no single stable unidimensional structure is likely to be useful (Doz and Prahalad 1991). On the other hand, complex structural solutions, such as the matrix form of organization, have proven all but unmanageable (Bartlett and Ghoshal 1990; Ghoshal and Bartlett 1995).

In view of the shortcomings and limitations of structural and administrative solutions, researchers (e.g., Prahalad and Doz, 1987; Bartlett and Ghoshal, 1989, 1990) have maintained that a critical determinant of the success of multinational firms lies in the cognitive orientations and capabilities of senior managers. Scholars have suggested that managerial cognitions play a key role in the strategic capabilities of multinational firms, arguing that the ways in which managers make sense of their organizational and global environments enhance or inhibit

competitive advantage (Caproni, Lenway and Murtha 1992). Bartlett and Ghoshal (1989:212), for example, contend that managing a 'transnational' company has more to do with developing managerial mindset than with designing sophisticated structures and procedures:

Diverse roles and dispersed operations must be held together by management mindset that understands the need for multiple strategic capabilities, views problems and opportunities from both local and global perspectives, and is willing to interact with others openly and flexibly. The task is not to build a sophisticated structure, but to create a matrix in the minds of managers.

In summary, the diversity, complexity, and indeterminacy of MNCs have given rise to the structural approaches to global mindset.

Accordingly, a few researchers have outlined the properties of global mindset along the diversity and complexity dimensions. Tichy, Brimm, Charan, and Takeuchi (1992), for example, identify a new group of managers critical to MNC success, which they label "true globalists." According to these authors, the "true globalists" are identified by a number of characteristics, including the ability to conceptualize complex geopolitical and cultural forces as they impact business, an ability the authors describe as a global mindset (Tichy, Brimm, Charan, and Takeuchi 1992: 48). According to these authors, global mindset is a necessary (but not sufficient) ingredient in managerial and organizational success in MNCs. Ashkenas, Ulrich, Jick and Kerr (1995) use a similar term, the "true global manager," as someone with a sizable knowledge of and sincere appreciation for international issues, both geopolitical and cultural, and their impact on business.

Similarly, Rhinesmith (1992: 64) suggested that "people with global mindsets drive for the bigger, broader picture. People with global mindsets are constantly looking for context. They are concerned about the backdrop against which current events are happening. A global mindset is never content with one explanation of an event, never satisfied with one task... People with

global mindsets are constantly scanning the geographical horizon to learn more about potential markets and competitors, new technology, and new suppliers.” In essence, global mindset implies scanning the world from a broad perspective, always looking for unexpected trends and opportunities.

In addition, Rhinesmith (1992:64) suggests that global mindsets entails balancing of contradictory forces that must be appreciated, pondered, and managed: “A global manager must learn to live with conflict rather than resolution...global mind does not coerce resolution from opposite forces in life. Priorities may be set, but the concept of balance requires continued nurturing even for the interests that are not chosen. This is central to global mindset, because it entails the simultaneous appreciation of contradictory ideas in a way that energize rather than paralyzes.” Thus, the global manager must possess high levels of cognitive capabilities and the ability to balance competing realities and demands. In his conceptualization of global mindset, Rhinesmith (1992; 1993), like other researchers, emphasized the importance of cognitive diversity and complexity, in addition to cosmopolitan values.

Empirical Research

While there have been a number of books and articles devoted to the topic, there are still relatively few empirical studies of global mindset. In a tangentially relevant study, Kanter (1991) conducted a World Leadership Survey of 11,678 managers worldwide that examined how managers view various issues associated with globalization. The study found that the only area in which “cosmopolitans” differed from their “local” counterparts: “These cosmopolitan respondents often work for cosmopolitan companies - those doing business in many countries - and therefore reflect the interest of their companies in eliminating barriers to operating anywhere

in the world” (Kanter 1991:155). Other than the Kanter study, at the individual level of analysis the only empirical studies of global mindset are the few recent studies in global leadership (e.g., Yeung and Ready, 1995; Wills and Barham 1994). Work in this area has focused on identifying global leadership competencies, of which global mindset is often listed as one of many possibly significant individual competencies. Yeung and Ready (1995), for example, attempted to identify core leadership capabilities relevant for global corporations. Based on a survey conducted in 10 multinational corporations from eight countries, they identified six leadership capabilities that are globally valued. Yeung and Ready included in their list of 45 core leadership capabilities six capabilities that can be viewed as specifically global, including “having a global mindset” (a phrase that was not defined for respondents in the study) and “understand global, economic, political, cultural, [and] social issues.” Interestingly, none of the six specifically global capabilities made it to the final, cross-country list of the six most valued core global leadership capabilities. “Having a global mindset,” however, was included among the six most valued capabilities on the Japanese and Korean lists, ranking fourth on both.

In a more inductive approach, Wills and Barham (1994), in an interview study of 60 highly successful international managers across a wide range of global organizations, found that in addition to learned behaviors and skills, there was a consistent and relatively unchangeable “core” that characterized successful international managers. Successful international managers were characterized by cognitive complexity, including cultural empathy, active listening and a sense of humility; emotional energy, consisting of emotional self-awareness, emotional resilience, risk acceptance and emotional support of the family; and psychological maturity, featuring the curiosity to learn and a present-day orientation to time (Wills and Barham, 1994).

In another study specifically focused on the cognitive complexity of the CEOs of 26 French and British companies, Calori, Johnson and Sarnin (1994) conducted an empirical investigation of the propositions concerning the requisite complexity of the CEOs' cognitive maps in diversified firms and in multinational corporations (Prahalad and Bettis 1986; Prahalad and Doz 1987; Bartlett and Ghoshal 1989). While the data did not support the hypotheses that CEOs' of firms with a high diversity of businesses would have more comprehensive and less connected maps of the environment than CEOs of focused firms, two other hypotheses were partially supported. First, the authors found that the CEOs of firms with an international scope have more complex cognitive maps of the structure of their industry than other CEOs. Second, the authors reported that top managers of firms related to foreign parents have more complex cognitive maps of the dynamics of the environment than managers of independent firms. Cognitive complexity of CEOs' is therefore positively associated with the firm's geographic scope and inter-organizational links, generally supporting the notion of "requisite variety," although the direction of causality between these variables is not clear from the data.

Two studies examined global mindset at the organizational level of analysis (e.g., Kobrin 1994; Murtha, Lenway and Bagozzi 1998) and offer important insights as to the intricate, multifaceted nature of global mindset. Kobrin (1994) conducted a unique study of the relationship between firm strategy and mindset. Breaking with convention in the international strategy literature by arguing against a single, external quantitative measure to operationalize multinationality, he returned to Perlmutter's (1969) notion of geocentric mindset. Kobrin (1994) explicitly tested the oft-stated assumption that firms with a global, integrated strategy and/or global organization structure would have a geocentric mindset. In his study, Kobrin

(1994) did not attempt to elicit the mindsets of individual respondents but their judgments, attitudes and expectations about policies and managerial mindsets in their firms. He operationalized this construct with a five-item index of geocentrism. The items comprising the index are aspects of a geocentric managerial mindset reflected in international HR management policy, specifically, the impact of nationality on the selection and careers of managers. Using questionnaire data drawn from a sample of human resource managers from 68 large American manufacturing firms, Kobrin found no significant relationship between geocentric mindset and firm size, length of international experience, organization structure, strategy, or globalization of the firm's industry. At the same time, geocentric mindset correlated significantly with geographic scope of the MNC and various aspects of international human resource policies and practices.

Taking the results together, Kobrin (1994) concluded that (1) there is a relationship between a geocentric mindset and geographic scope of the firm's operations, although the direction of causality is not clear; and (2) a geocentric mindset is not synonymous with Bartlett and Ghoshal's (1989) idea of a transnational firm that is both globally integrated and locally responsive. Kobrin's findings suggest that global mindset should be viewed as an independent, multidimensional construct that does not necessarily reflect firm-level characteristics.

Using a very different approach, Murtha, Lenway and Bagozzi (1998) examined the relationship between global mindset and cognitive shift in a US-based diversified MNC. Murtha, Lenway and Bagozzi (1998:97) defined global mindset as the "cognitive processes that balance competing country, business, and functional concerns." These authors examined the relationships between managers' mindsets and perceived personal impact of corporate policies.

Murtha, Lenway and Bagozzi (1998) operationalized global mindset as individual expectations regarding the impact of globalization and strategic change along three dimensions: integration, responsiveness and coordination at the affiliate level. Using longitudinal data from 370 managers in 13 country affiliates and the head office gathered in 1992 and 1995, Murtha, Lenway and Bagozzi (1998) found that in 1992, when the firm was pursuing an “international” strategy, there was a low consensus between the corporate and operating groups regarding the strength between mindset and policy variables, as predicted. In addition, the hypothesis that the corporate group would recognize the relationships, while the operating group would not, was confirmed by the 1992 data. However, by 1995, the gaps between the groups closed significantly as the change to a global strategy resulted in a cognitive shift toward a more global mindset across all managers in the organization. In 1995, the data showed a clear attachment of the mindset dimensions to policy variables across the corporate and operating groups.

Although there have been only a few empirical studies of global mindset to date, the above review indicates the potentially significant impact of global mindset on organizational outcomes. Particularly, Kobrin’s (1994) and Calori, Johnson and Sarnin’s (1994) findings regarding the association between organizational scope and cognitive dimensions substantiate this link. However, in these two studies the direction of causality is not entirely clear. In fact, in the absence of any longitudinal aspect, the direction of causality cannot be established.

The Upper Echelons Perspective: Top Management Team Demographic Heterogeneity

The upper echelons and the managerial cognition perspectives are conceptually interrelated and grounded in the assumption that managers make decisions consistent with their

cognitive base. Empirically, however, they pursued different courses of investigation.

Research within the upper echelons tradition has focused on observable dimensions as indicators of underlying cognitive, normative, and psychological structures and processes. Research within the managerial cognitions tradition, on the other hand, has attempted to measure cognitive orientation more “directly” and to relate these cognitions to organizational phenomena.

First suggested by Hambrick and Mason (1984), the upper-echelons perspective is grounded in the behavioral theory of the firm (March and Simon 1958; Cyert and March 1963). The upper echelons perspective views the organization as a reflection of its top managers: "organizational outcomes--both strategies and effectiveness--are viewed as reflections of the values and cognitive bases of powerful actors in the organization" (Hambrick and Mason 1984:193). According to the upper echelons theory, top management has an important impact on organizational outcomes because they possess the power necessary for both making strategic decisions and implementing those decisions. Moreover, complex decisions by top managers are made on the basis of behavioral and cognitive factors rather than economic optimization and are a function of managerial perceptions of the business environment, sociocognitive processes of interpretation, personal experiences, and values. Thus, the upper echelons perspective represents a theoretical shift from both economic and supra-organizational explanations to firm behavior, advancing instead an interpretative view of the environment and a sociocognitive approach to the practice of management. It also represents an interpretative view of the concept of strategy according to which strategy does not merely consist of a chosen position, but reflects an integrated way of interpreting and “enacting” the business environment (Daft and Weick 1984; Smircich and Stubbart 1985).

Hambrick and Mason (1984) have set out a research agenda, suggesting that the primary focus should be on observable dimensions as indicators of underlying cognitive, normative, and psychological structures and processes. These observable managerial characteristics are demographic characteristics such as age, tenure in the organization, functional and occupational background, and education, which serve as proxies for both individual-level cognitive structures, skills, and network ties as well as for group-level processes and dynamics.

Subsequent research within the upper echelons tradition has largely used cross-sectional data, seeking to link between demographic characteristics of top management teams and a variety of important organizational outcomes. Hambrick and colleagues have explored links between top management team characteristics and performance (Finkelstein and Hambrick 1990), strategies persistence (Hambrick, Geletkanycz, and Fredrickson 1993), diversification posture (Michel and Hambrick 1992), and competitive moves (Hambrick, Cho, and Chen 1996). Other illustrative studies within this tradition have focused on corporate strategic change (Wiersema and Bantel 1992) and organizational innovation (Bantel and Jackson 1989).

Top management demographic heterogeneity along such dimensions as functional and educational background, tenure and age, is said to reflect diversity of cognitions, skills, and professional and social ties. Presumably, background heterogeneity exposes top management to a variety of information sources, improves its capacity process information, and fosters multiple interpretative frameworks and perspectives. Consequently, these sociocognitive capabilities significantly enhance the effectiveness of top management teams operating in an ever-changing and increasingly complex environment (Bantel and Jackson 1989; Ginsberg 1989; Wiersema and Bantel 1992). Not surprisingly, demographic heterogeneity received considerable attention in the

context of strategic change and organizational innovations. It has been suggested that demographically diverse top management teams are more responsive to the business environment and more disposed to initiate strategic change and adopt innovations (Bantel and Jackson 1989; Hambrick, Cho, and Chen 1996; Wiersema and Bantel 1992). By implication, demographically diverse top management is more likely to venture in the global arena and pursue expansive global strategic posture.

In the context of globalization processes, the advantages of top management demographic heterogeneity are similar to those ascribed to global mindset. As top management teams face increasingly complex and diverse external and internal environments, demographic heterogeneity can facilitate effective information processing and curb domestic myopia that typically impedes globalization efforts (Carpenter and Fredrickson 1999; Ohmae 1989). Moreover, diversity of skills and experiences may help top management manage geographically disperse and culturally diverse operations and markets, thus reducing the inherent risk associated with global expansion. In essence, the upper echelons perspective advances similar arguments to the ones put forward by the managerial cognition perspective, suggesting that top management heterogeneity can mitigate the complexity and diversity associated with globalization efforts and will be therefore positively related to the expansiveness of global strategic posture.

It should be noted, however, that researchers are in disagreement as to the effects of demographic heterogeneity on organizational outcomes. Some researchers have argued that executive demographic heterogeneity promotes broad information gathering, multiple perspectives, and creative-innovative decision making, leading to more positive organizational outcomes (Bantel and Jackson 1989). Other researchers, on the other hand, have argued that

higher levels of executive diversity result in ineffective decision making processes and poor execution (Hambrick, Cho, and Chen 1996; Wagner, Pfeffer, and O'Reilly 1984). Empirical findings regarding the effects of demographic heterogeneity on processes and outcomes produced mixed results, providing no consistent support for either of the positions stated above. One possible explanation for the inconsistent findings is that demographic heterogeneity, while promoting cognitive diversity among executives, impedes group cohesion and communication, and lead to ineffective implementation. Another possible explanation is that demographic heterogeneity does not affect or reflect cognitive diversity, and therefore may not have any significant effects on processes and outcomes (Miller, Burke, and Glick 1997). Thus, by examining both cognitive and demographic diversity, as done in this study, researchers may be able to better understand the relationships between cognitive and demographic variables.

Empirical Research

While global strategies have not attracted much interest from behavioral researchers (Schendel 1991; Bartlett and Ghoshal 1991), a few studies examined globalization-related strategies from a managerial perspective. Sambharya (1989), who studied the relationships between certain demographic characteristics of top management teams and performance of 54 American multinational firms, initiated the application of the upper echelons perspective to the global arena. Subsequent studies examined the relationships between demographic characteristics specifically pertaining to the international orientation of top management (i.e., international work experience, foreign education, and nationality) and globalization-related strategies and outcomes (e.g., Carpenter and Fredrickson 1999; Carpenter, Sanders, and

Gregersen *forthcoming*; Reuber and Fischer 1997; Roth 1997; Sambharya 1996; Sloan-Black 1997). The majority of these studies focused on international work experience to gauge international orientation of top management. In general, these studies reported a positive relationship between international orientation of top management and various aspects of globalization-related strategies and outcomes.⁵ It is worth noting here that the measures used to gauge international orientation of top management are similar to the ones typically used to assess cosmopolitan orientation of managers.

Particularly germane to our discussion are two studies that examined top management heterogeneity in a global context (e.g., Carpenter and Fredrickson 1999; Sambharya 1996). Sambharya (1996) reported that in addition to a higher level of international work experience, a greater heterogeneity of international experience was positively related to international diversification strategies of US MNCs. Carpenter and Fredrickson (1999) conducted the most comprehensive study on the relationship between top management characteristics and global strategic posture. They examined international work experience as well as educational, functional and tenure heterogeneity of top management. Carpenter and Fredrickson (1999) found that international work experience and educational and tenure heterogeneity were positively related to global strategic posture whereas functional heterogeneity was significantly negatively related. In subsequent analysis, however, Carpenter and Fredrickson (1999) recoded the functional background categories to reflect top management team degree of output specialization (i.e., percentage of team members specializing in either marketing, sales, R&D, or

⁵ A more detailed review of these studies is presented in Chapter 3.

distribution). They found that a moderate level of heterogeneity of certain types of work experience ,rather than heterogeneity as such, promoted an expansive global strategic posture.

Although there have been only a few studies that examined the relationship between top management team characteristics and globalization-related strategies, the results of these studies are encouraging. Taken together, these studies suggest that top management heterogeneity is likely to affect global strategic posture.

CHAPTER 3

MODEL DEVELOPMENT AND HYPOTHESES

While strategic behavior of firms is shaped by a multitude of factors, a substantial body of research suggests that top management cognitive orientation and demographic characteristics significantly affect strategic choice. Specifically, researchers have suggested that managerial cognitive orientation serves as a perceptual lens, affecting the range of information to which top management attend, interpretative processes, and eventually strategic choice. The significance of managerial cognitive orientation is especially pronounced under conditions of rapid change, uncertainty, and crisis. Additionally, strategic choices that entail venturing into an unfamiliar, uncertain, and dynamic territory also bring to the fore the cognitive capabilities of top management. Thus, the cognitive orientation of top management may play an especially significant role when examining global expansion of firms operating in technologically intensive industries, given the diversity, complexity, and dynamism of the global and technological environments.

Therefore, it has been suggested that firms pursuing an expansive global strategic posture are more likely to be led by demographically diverse top management that have developed and adopted a global mindset. Global mindset facilitates exposure to diverse informational environment and promotes balancing between competing country, business, and functional demands. Similarly, demographically diverse top management teams are more likely to have diverse network ties, diverse skills, and multiple perspectives (Carpenter and Fredrickson 1999).

Thus, I hypothesize that global mindset and demographic heterogeneity of top management team significantly affect global expansion of firms.

The theoretical model that follows specifically addresses the properties of global mindset and top management team demographic characteristics proposed to be related to global strategic posture and outlines the conceptual foundation of each of the hypotheses. The full theoretical model is presented in Figure 1.

Top Management Team Cognitive Orientation: Global Mindset

The recent developments in the global economy and in multinational corporations have placed significant emphasis on the cognitive orientation of top management, giving rise to the suggestion that global mindset significantly affects strategic capabilities and performance of multinational firms. In the theoretical chapter of this dissertation, I suggested that the concept of global mindset is characterized by two underlying constructs: *cosmopolitan orientation* and *cognitive diversity*. *Cosmopolitan orientation* is defined as an orientation toward the external environment, as opposed to the internal environment, coupled with a pronounced emphasis on foreign operations and markets. *Cognitive diversity* is defined in terms of range of elements in the external and international environments to which top management attend. In the following sections, I discuss cosmopolitan orientation and cognitive diversity and elaborate the potential informational, interpretative, and strategic consequences of these two concepts. In general, I propose that global mindset is positively related the expansiveness of global strategic of the firm.

Cosmopolitan Orientation

Between the External and Internal Environment. Cosmopolitan orientation has been defined as an orientation toward external reference groups as opposed to internal reference groups. It was suggested that cosmopolitan orientation shapes cognitive structures and processes of individuals by promoting exposure to the external environment and to diverse sources of information, thus influencing informational and interpretative patterns. In a similar manner, externally-oriented top management is more likely to vigorously scan the external environment, seek diverse sources of information, and incorporate diverse interpretative frameworks into the decision making process (Aguilar 1967; Hambrick 1982; D'Aveni and MacMillan 1990).

However, the effects of external orientation go beyond informational and interpretative patterns to influence organizational-level outcomes. Externally-oriented top management teams are more likely to better respond to crisis situations than internally-oriented top management (D'Aveni and MacMillan 1990; Zammuto and Cameron 1985) and to adopt organizational and strategic innovations (Kimberly and Evanisko 1981; Hambrick and Geletkanycz 1997). By implication, externally-oriented top management is more likely to venture into an unfamiliar strategic arena and expand international activities than internally-oriented top management.

Empirical research that defined cosmopolitanism along the internal-external dimension documented the effects of cosmopolitan orientation on scanning and information-seeking behavior. Defining cosmopolitanism as an "assertion of an external set of standards," Goldberg (1976:340) showed that cosmopolitan orientation motivated professionals to keep up with new developments in their field and thereby increase their professional expertise. Specifically, Goldberg demonstrated that cosmopolitan orientation was significantly related to four expertise-

seeking behaviors (1) belonging to a professional association; (2) taking an advanced degree; (3) attending professional conferences; and (4) reading professional literature.

As noted above, external orientation affects organizational-level outcomes. D'Aveni and MacMillan (1990) found that firms led by top management teams that paid more attention to the external environment were more likely to survive crisis situations than firms led by internally-oriented teams. Particularly germane to our discussion are studies by Kimberly and Evanisko (1981) and Hambrick and Geletkanycz (1997) that examined the relationships between external orientation and innovativeness. Kimberly and colleagues (1978; Kimberly and Evanisko 1981) found that a cosmopolitan orientation, measured as interorganizational ties of executives, was positively related to the adoption of innovations. Hambrick and Geletkanycz (1997) also focused on external ties, suggesting that boundary spanning activities of top executives were important conduits of information about the environment, competitors, strategies, and competitive practices. Hambrick and Geletkanycz (1997) found that senior managers' extra-industry ties were associated with the adoption of 'deviant' strategies whereas intra-industry ties were significantly related to strategic conformity.⁶

Taken together these studies suggest that cosmopolitan orientation, defined along the external-internal dimension, influences scanning behavior and information acquisition as well as strategic behavior. Externally-oriented top management is more likely to engage in strategically innovative behavior than internally-oriented top management. By extension, I suggest that

⁶ It should be noted, however, that empirical findings regarding the effects of inter-organizational ties of executives on strategic choice are mixed with some evidence suggesting that external ties of members of the Board lead to conformist strategic behavior (e.g., Davis 1991; Haunschild 1993; Palmer et al. 1996).

externally-oriented top management is more likely to pursue expansive global activities than internally-oriented top management. More formally:

Hypothesis 1(a): External cognitive orientation of top management team will be positively related to the expansiveness of global strategic posture of the firm.

Hypothesis 1(b): Internal cognitive orientation of top management team will be negatively related to the expansiveness of global strategic posture of the firm.

Foreign Operations and Markets. Cosmopolitan orientation has also been defined as an orientation toward the outside world as opposed to a narrow concern with the affairs of the local community to the exclusion of world affairs (Merton 1956). In recent managerial studies, cosmopolitan orientation was indeed examined in an international context and was operationalized using demographic characteristics of senior managers such as foreign language proficiency, foreign education, international travel, and international work experience. It has been suggested that foreign education, traveling, and international work experience expose executives to diverse values and cultural systems, expand their social and professional networks, thereby shaping their worldview and perspectives.

Limited empirical research that focused specifically on cosmopolitan orientation (e.g., Birnbaum and Wong 1985; Carlson and Widaman 1988; Kanter 1991) provides partial support for the proposition stated above. In a non-managerial study, Carlson and Widaman (1988) found that undergraduates who spent a year abroad developed an increased concern with international political issues, cross-cultural interest and understanding, and respect for other cultures. Two

managerial studies reported mixed results on the effects of cosmopolitan orientation on worldviews and perspectives. Kanter (1991) conducted a World Leadership Survey of 11,678 managers worldwide that examined how managers view various issues associated with globalization. The study found only one area in which “cosmopolitans” (individuals who spoke more than one language and were born or held citizenship in a country other than the one in which they worked) differed from their “local” counterparts. Cosmopolitan managers were somewhat more likely to advocate free trade and reject government favoritism or assistance for domestic companies. Birnbaum and Wong (1985), on the other hand, found no relationships between cosmopolitan orientation (defined in terms of foreign education and travel) of Chinese Hong Kong managers working in multinational banks in Hong Kong and work satisfaction.

At the top management team level, a few studies have examined the relationships between international orientation of top management and globalization-related strategies (e.g., Carpenter and Fredrickson 1999; Reuber and Fischer 1997; Sambharya 1996; Sloan-Black 1997). These studies focused predominantly on international work experience of senior executives, a measure similar to the one used to gauge cosmopolitan orientation. Sloan-Black (1997), for example, examined the relationships between international orientation of top management of 65 US multinationals and the magnitude of international operations. International orientation was defined in terms of international work experience, foreign nationality, and foreign education. Sloan-Black (1996) found that international orientation of top management was positively related to the magnitude of international operation when measured as foreign sales. Carpenter and Fredrickson (1999), Reuber and Fischer (1997), and Sambharya (1996)

who examined the relationships between international work experience of top management and globalization-related strategies reported similar findings.

Taken together, the studies reviewed above suggest that internationally-oriented top management is more likely to consider globalization as a viable strategic option and to expand the international activities of their firms. I suggest, moreover, that a cosmopolitan orientation of top management, manifested as a pronounced focus on foreign operations and markets, is likely to be an indicator of global strategic posture of their firms. It is therefore hypothesized that:

Hypothesis 1(c): Top management team orientation toward foreign operations and markets will be positively related to the expansiveness of global strategic posture of the firm.

Cognitive Diversity

In addition to a cosmopolitan orientation, global mindset is characterized by cognitive diversity—by the capacity of top management to scan the world from a broad perspective and to attend to diverse elements, trends and opportunities in the external environment. The distinction between cosmopolitan orientation and cognitive diversity is based on the assumption that while top management may be externally-oriented, it still may scan the environment through a narrow and simple perceptual lens, focusing exclusively on salient facets of the external environment to the exclusion of others. Similarly, top management may be highly internationally-oriented, but focus predominantly on one or two foreign regions, often on culturally and psychically familiar ones. However, globalization challenges top management teams to break away not only from

their domestic orientation, but also from an international or multidomestic perspective and to adopt a mindset that spans the globe (Bartlett and Ghoshal 1992; Perlmutter 1969). Thus, top management teams that attend to diverse elements in the external and international environment are more likely to adopt an expansive global strategic posture that capitalizes on emerging market opportunities around the globe. On the other hand, top management that utilizes a narrow perceptual lens is more likely to overlook changing dynamics in the external and international environment and consequently remain within the narrow confines of the strategic status quo.

Empirical studies that focused on managerial cognitive diversity vary in their approaches, definitions, and operationalizations of this constructs. The majority of studies focused on demographic heterogeneity of top management, assuming that demographic heterogeneity along such dimensions as functional, educational, and tenure, reflects cognitive diversity. These studies will be discussed in the following section that focuses more specifically on demographic heterogeneity. A few empirical studies, however, have focused more directly on the relationships between various aspects of cognitive diversity and organizational outcomes (e.g., Barr, Stimpert, and Huff 1992; Lant, Milliken and Batra 1992; Miller, Burke, and Glick 1997). Within this research tradition, cognitive diversity is often conceptualized in terms of diversity of environmental changes and contingencies to which top management pay attention.

Barr, Stimpert, and Huff (1992) investigated the link between changes in managerial cognitive models and strategic action and organizational renewal. They suggested that strategic action and organizational renewal hinge upon managerial cognitive processes of noticing diverse environmental changes and constructing multiple meanings of changing circumstances.

Specifically, they argued that managers' cognitive models both facilitate and limit attention to salient information about changes in organizational environments. At times, these cognitive models may be too narrow and inertial to cope with information overabundance, leading to strategic persistence when reorientation is needed. Barr, Stimpert, and Huff (1992) found that while noticing new conditions is an important step, organizational renewal requires creating a link between environmental changes and corporate strategy.

In a conceptually similar study, Lant, Milliken and Batra (1992) tested a model of decision making process that leads to strategic persistence and reorientation in two different environmental contexts. They found that that in addition to poor past performance, top management heterogeneity, and CEO turnover, managerial interpretation of the environment—the number of environmental contingencies of which top management were aware—significantly increased the likelihood of strategic reorientation. Interestingly, this study reported no significant correlations between top management environmental awareness and demographic diversity.

Taking a different approach, Miller, Burke, and Glick (1997) defined cognitive diversity in terms of differences in beliefs and references held by a top management team within a firm. They examined the impact of executive cognitive diversity on comprehensiveness of strategic decision-making processes and extensiveness of strategic planning. Miller, Burke, and Glick (1997) found that contrary to the common assumption, executive cognitive diversity inhibited rather than promoted comprehensive examination of current opportunities and threats and hindered extensive long-range planning. Miller, Burke, and Glick (1997) argued that in light of the cumulative research suggesting that firm performance is related to both comprehensiveness

and extensiveness of strategic planning, the impact of cognitive diversity on firm performance may be less than constructive.

Findings of empirical studies within the cognitive diversity research tradition paint a rather inconsistent picture, partly due to the exploratory nature of these studies and diversity of methodological approaches. Nevertheless, these studies suggest that the capacity of managers to capture and represent diverse environmental changes and to reevaluate and update their cognitive models is a significant if intermediate step toward strategic innovation and organizational adaptation. Therefore, I advance the following hypothesis:

Hypothesis 1(d): Top management team cognitive diversity will be positively related to the expansiveness of global strategic posture of the firm.

Top Management Team Demographic Heterogeneity: Tenure And Age

As noted above, demographic heterogeneity of top management teams is assumed to reflect diversity of cognitions, skills, and network ties. This heterogeneity is said to help top management deal with the abundance of information, strategic variety, and environmental complexity associated with globalization processes. As top management teams face increasingly complex managerial tasks, diversity of perspectives and skills can facilitate effective information processing and curb domestic myopia that typically impedes globalization efforts (Carpenter and Fredrickson 1999; Ohmae 1989).

While a few studies have examined the relationships between top management demographic characteristics and globalization-related strategies (e.g., Carpenter and Fredrickson

1999; Reuber and Fischer 1997; Sambharya 1996; Sloan-Black 1997), some recent upper echelon research is instructive. Research with this tradition has explored the relationships between demographic heterogeneity of top management and various organizational outcomes, including strategic change (Wiersema and Bantel 1992), diversification posture (Michel and Hambrick 1992), innovation (Bantel and Jackson 1989), and competitive moves (Hambrick, Cho, and Chen 1996).

The following two sections discuss two aspects of top management team demographic heterogeneity: tenure and age. In general, these two characteristics are proposed to be positively related to the expansiveness of global strategic posture.

Top Management Team Tenure Heterogeneity

Tenure reflects the length of time an executive has spent in a particular setting or context. In essence, any context structures interaction and exposure opportunities, which in turn shape cognitive structures and processes of individuals. Executives who “reside” within a narrow and stable structure of exposure opportunities are more likely to mistake the strategic status quo for a necessary reality. Therefore, a top management team that is homogeneous on the tenure dimension may develop over time homogeneous perspectives and establish accepted patterns of behavior. On the other hand, top management composed of executives who vary on the tenure dimension may have access to more diverse sources of information, develop multiple interpretative modes, and possess a more diverse set of skills and network ties.

In general, the upper echelon perspective suggests that top management team tenure heterogeneity, through its effects on cognitions and skills, is related to organizational and strategic innovativeness. Empirical findings, however, do not provide consistent support for this

proposition. Wiersema and Bantel (1992) and Jackson and Bantel (1989) found no significant relationships between tenure heterogeneity and strategic change and organizational innovation respectively. Hambrick and his associates (1996), on the other hand, found a positive relationship between top management team tenure heterogeneity and firms' responsiveness to environmental change.

However, some recent research focused specifically on demographic diversity in a global context produced more consistent results. Carpenter and Fredrickson (1999), for example, argued that for firms to develop and sustain an expansive global strategic posture, top management needs to break out of an entrenched domestic mindset and to adopt a responsive, creative approach to global arena. Carpenter and Fredrickson (1999) found a significant positive relationship between various top management heterogeneity dimensions, including tenure heterogeneity, and the expansiveness of global strategic posture. Similarly, Sambharya (1996) found that international experience heterogeneity was significantly associated with international involvement of US multinational firms. Drawing on this recent research on demographic heterogeneity in global context, I develop the following hypothesis:

Hypothesis 2(a): Top management team tenure heterogeneity will be positively related to the expansiveness of global strategic posture of the firm.

Top Management Team Age Heterogeneity

The age of an individual is expected to affect perspectives and orientations as it reflects different life-stages and cohort effects. In this respect, age is an important demographic variable

that can help predict work-related expectations, experiences, and skills. People of similar age may share common experiences that shape their worldview and structure the universe of choices and alternatives they may consider and pursue. They are also more likely to possess a similar set of skills. Thus, age heterogeneity of top management is expected to increase the diversity of perspectives on strategic issues facing the firm and may thereby instigate the consideration of strategic change (Wiersema and Bantel 1992). It should be noted, however, that empirical research provides virtually no support for the significance of age. Wiersema and Bantel (1992) and Jackson and Bantel (1989), for example, found no significant association between age heterogeneity and organizational outcomes

While no empirical research examined the effects of age heterogeneity in a global context, it has been suggested that top management pursuing a global expansion strategy need not only consider strategic change, but also to manage an inherently novel and risk-fraught strategic course. Heterogeneity along the age variable may increase the likelihood that top management will possess a diverse enough set of skills to effectively manage this strategic change. This diversity of skills may reduce the risk associated with global expansion. Therefore, the following hypothesis is advanced:

Hypothesis 2(b): Top management team age heterogeneity will be positively related to the expansiveness of global strategic posture of the firm.

Control Variables

Technological Intensity of the Firm

The technological environment constitutes one of the most significant environments to which top management teams are exposed. Exposure to technological environment and access to technologically-related sources of information may considerably shape the perceptions and orientations of top management. This holds especially true for firms pursuing innovation-based strategies and operating in technologically-intensive industries where the rate of technological change and discontinuity is rapid, profound and pervasive. Top management of such firms are forced to fiercely and frequently scan the environment through a broad perceptual lens. Therefore, the degree of technological intensity may shape the cognitive orientation of top management. Support for this proposition is offered by Kobrin (1994). He found that while there were no significant relationship between organizational-level geocentric mindset and host of firm and industry characteristics, including firm strategy and industry degree of globalization, firms operating in technologically-intensive industries were more likely to exhibit geocentric orientation. Kobrin (1994) concluded that information intensity characterizing such industries is likely to affect geocentric attitudes.

Additionally, technological intensity of the firms also may affect globalization strategies. Firms spending a considerable percentage of their sales on R&D activities are often forced to expand globally in order to disperse product and process R&D costs across countries, tap into global sources of knowledge, and monitor the global environment with respect to knowledge production sources and innovation (Bartlett and Ghoshal 1989).

Therefore, in order to control for the potential impact of technological intensity on managerial cognition and on globalization strategies, the degree of technological intensity of the firm was included as a control.

Organizational Slack

Organizational slack is defined as “that cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for change in policy, as well as to initiate change in strategy with respect to the external environment” (Bourgeois 1981:30). Researchers have suggested that one of the strategic functions of organizational slack is to provide resources for creative and innovative strategic experimentations (Bourgeois 1981).

Additionally, firms with expendable resources may look for investment opportunities in order to efficiently use these resources. Consequently, the availability of slack resources may affect the propensity of firms to expand globally. Therefore, I included a measure of organizational slack as a control variable.

Organizational Size

Extensive international activities are often considered a large-firms phenomenon, which in turn will be reflected in more expansive global strategic posture (Carpenter and Fredrickson 1999). In addition, it has been suggested that organizational size affects the relationship between top management team characteristics and organizational outcomes (Miller 1991). Therefore, organizational size was included as a control variable.

Prior Magnitude of Global Strategic Posture

Firms committed to a strategic course are often more likely to persist rather than change course. Similarly, firms already pursuing global diversification strategies may be more likely to

further expand their global operations. Hence, the propensity to further expand global strategic posture may be influenced by prior strategic commitments. Therefore, magnitude of global strategic posture at time t was included as control.

Top Management Team Size

Top management team size may directly affect interaction and cohesion patterns (Finkelstein and Hambrick 1996) as well as the diversity of cognitive capabilities and skills of top management. In addition, global strategic posture has been associated with team size in prior studies (Sanders and Carpenter 1998). Consequently, top management team size was included as a control variable.

CHAPTER 4

METHODOLOGY

Sample

This study focuses on top management teams of firms operating in technologically-intensive industries. These industries are marked by a staggering rate of technological change and discontinuity, a factor most likely to heighten the effects of managerial cognitive orientation and demographic diversity on strategic choice. Strategic management in such industries requires considerable cognitive capabilities on the part of top management to cope with the increasing rate of globalization and complexity associated with both the technological and business environments.

A sample of 69 firms was drawn from the US computer, pharmaceutical, and semiconductor industries for 1987-1994. All three industries are technologically intensive, comparable in terms of their research and development (R&D) expenditures. Data on industry-level R&D expenditures for 1988 show that the computer, pharmaceutical, and semiconductor industries spent 8.2, 10.0, and 8.9 percentage of their sales on R&D, respectively (Business Week 1989). Additionally, each of these industries is highly internationalized, generating more than 20 percent of their sales abroad (Bureau of Economic Analysis 1985).

These particular industries were selected for two other reasons. First, each industry is a widely-recognized industry grouping among both managerial and financial communities. Thus, information specifically pertaining to these industries is readily available, facilitating collection of archival data necessary for this study. Second, a sufficient number of publicly held

companies in each of these industries during the appropriate time period allowed for a statistically adequate sample of firms.

Potential sample firms were identified using the Compact Disclosure database, per SIC code. Consistent with the observations that Standard Industry Classification (SIC) codes are helpful in resolving the problem of industry boundaries (e.g., Scott and Meyer 1991), industry classification was confirmed throughout the period of the study by examining primary SIC codes at the 4-digit level for semiconductor (SIC 3674) and pharmaceutical (SIC 2834) firms and at three-digit level for computer (SIC 357) firms.⁷ Additionally, a firm included in the sample must have existed as an independent entity (i.e., the firm was not a division or subsidiary of a parent company) throughout the period under study. The sample consists of 69 firms, including 30 computer, 16 pharmaceutical, and 23 semiconductor firms, and was examined over a baseline eight-year period (fiscal 1987-1994). With pooling (discussed below), I examined a total of 552 firm-year observations.

Due to the data required on letters to shareholders, global activities, and top management team members, the sample of this study is skewed toward larger firms in each industry. While focusing on large firms limits the generalizability of the findings, expansive global operations tends to be a large firm phenomenon.

⁷ The use of broader SIC grouping for computer firms was necessary in order to account for the new Standard Industrial Classification system established in 1987. It should be noted, however, that all computer firms included in the sample have shared the same SIC code (3573) until 1987 when the Standard Industrial Classification system has changed. In fact, most firms have continued to use the 3573 SIC code until 1990.

Data Sources

Letters to shareholders of the sample firms were drawn from several sources, including Compact Disclosure Database, Laser Disclosure Database, Lexis-Nexis Database, and online filing with the Security Exchange Commission (SEC). The letters were formatted and standardized in order to achieve a uniform format across letters.⁸ Additionally, the letters and the financial data were carefully matched in order to ensure that both data sources were compatible, i.e., reflecting the same fiscal year.⁹ Top management team members were identified through annual reports. Data on top management characteristics were drawn from Dun and Bradstreet's *Reference Book of Corporate Management*, as well as from corporate proxy statements and 10-K statements. Financial and geographic segment data were extracted from Standard & Poor's COMPUSTAT and supplemented as needed from 10-K statements. Data on foreign subsidiaries were collected from Dun's *Directory of American Corporate Families and International Affiliations* as well as from annual reports and Exhibit 21 (Subsidiaries of the Registrant) of 10-K statements.

⁸ Letters to shareholders published by different databases do not adhere to a uniform format. Additionally, the format of the letters also changed over time. In order to achieve a uniform format, the letters were all processed using Perl, a computer language with strong textual capabilities. The specific Perl program that was used to process the letters can be obtained from the author.

⁹ The financial data was drawn from Standard & Poor's COMPUSTAT, which reports data on a calendar year basis, regardless of whether firms operate on a fiscal or calendar year basis. Letters to shareholder, on the other hand, are indexed on an annual basis. It took a great deal of effort to match the financial and letters to shareholders data—a process that required a careful examination of the financial data against annual reports data.

Measures

Dependent Variable

Global Strategic Posture

Global strategic posture (GSP) is considered a multidimensional construct, reflecting the relative significance of foreign markets and operations in sustaining the firm, as well as their geographic dispersion (Sullivan 1994). This definition is consistent with prior research on internationalization and provides a sound basis for comparative examination (Carpenter, Sanders and Gregersen *forthcoming*; Sullivan 1994).

Several measures of global strategic posture have been used in previous research. The most common form has been a unidimensional measure of foreign sales as a percentage of total sales (or sometime foreign assets as a percentage of total assets; e.g., Geringer, Beamish and daCosta 1989). Other researchers, however, criticized the use of a unidimensional measure, suggesting instead a multidimensional measure (Sullivan 1994). Specifically, Sullivan (1994) suggested that the degree of internationalization of the firm is characterized by three attributes: performance, structural, and attitudinal. He thereby created a comprehensive measure of internationalization that reflected these three broad dimensions. Ramaswamy, Kreoek, and Renforth (1996), while recognizing that a multiple-item measure is more reliable than a single-item measure, caution that an aggregate measure can mask the effects of individual components.

In this study, global strategic posture is measured by a variation on the composite measure first developed by Sullivan (1994) and followed by other researchers (e.g., Carpenter, Sanders and Gregersen *forthcoming*; Reuber and Fischer 1997). Specifically, global strategic

posture was measured using a multidimensional measure, composed of the three following dimensions:

1. *Foreign sales* reflect the relative significance of foreign market. The foreign sales measure was calculated as a ratio of foreign sales to total sales. The foreign sales dimension included revenues generated both from export sales and foreign sales (i.e., sales to unaffiliated customers in geographic segments other than the US).
2. *Foreign production* reflects the degree to which a firm depends on foreign-owned assets and resources and was measured as a ratio of foreign assets to total assets.
3. *Geographic dispersion* roughly reflects the cultural and psychic diversity associated with globalization of operations and markets as indicated by the other two dimensions (O'Grady and Lane 1996; Ronen and Shenkar 1985). Geographic dispersion was measured using the number of foreign countries in which a firm maintains a subsidiary office as a percentage of the highest number of countries represented among the sample firms.

Indicators of the three dimensions discussed above were combined to form a composite measure of global strategic posture. Specifically, each of the three indicators was converted to a ratio and standardized, as suggested by Ramaswamy, Kroeck, and Renforth (1996). These three z-values were summed to create a single score measure, GSP. Higher GSP score indicates a more expansive the global strategic posture (Carpenter and Fredrickson 1999). GSP has a Cronbach's alpha of 0.83, indicating acceptable reliability. Principal Component Analysis indicated that a single unambiguous factor comprises GSP with eigenvalue of 2.224 and loadings of 0.865 (foreign sales), 0.924 (foreign production), and 0.789 (geographic dispersion).

Independent Variables

Top Management Team Cognitive Orientation: Global Mindset

Measuring the cognitive orientation of top management team has always presented a methodological challenge since cognition can never be accessed directly. Furthermore, the scope of this study requires extensive, longitudinal, and comparable sets of data on managerial cognitive orientation, which are not available. Therefore, to determine the cognitive orientation of top management, I have treated letters to shareholders as manifestations of the cognitive orientation of top management, defined in this study in terms of global mindset, and analyzed their content. Both qualitative and quantitative content analysis methods were used in order to gain both in-depth familiarity with the letters and to assure reliability of the content analysis procedure.

A total of 526 out of the 552 shareholders' letters potentially available for the 69 sample firms over an eight-year period were analyzed, an average of 7.6 letters per firm. It should be noted that a great deal of effort went into maximizing the number of letters coded, including searching several archives and purchasing letters from a commercial database of annual reports.

Letters to Shareholders as a Data Source

There are several reasons that make content analysis of letters of shareholders a particularly suitable method for studying managerial cognitive orientation. First, content analysis of written and oral communication has been used effectively by organizational researchers to examine a wide range of issues, including leadership and decision-making issues

(Insch, Moore, and Murphy 1997). Content analysis of texts is considered a useful method for constructing perceptions and cognitions of their authors (Holsti 1968), reflecting “traces of an author’s world view at a point in time and immune to retrospective construction” (Barley, Meyer, and Gash 1988:27). Furthermore, the analysis of language provides an unobtrusive access to the cognitive structures through which individuals perceive and construct the world, since language reflects mental structure and processes (Sapir 1944; Whorf 1956; Berger and Luckmann 1967). At the organizational level, the analysis of language provides “evidence on the origination and diffusion of various concerns and organizational responses to these concerns” (Pfeffer 1981:26). While not without its shortcomings, content analysis possesses some advantages generally associated with qualitative research methods such as “thick” and contextual information and grounded theory development. Additionally, content analysis is amenable to both qualitative and quantitative analysis.

Second, letters to shareholders provide fairly comparable sets of data for a large sample of firms (Bettman and Wietz 1983). Additionally, while other corporate statements such 10-K are structured and address required topics, letters to shareholders offer a fairly open stage for top management to express its concerns and views. Thus, letters to shareholders provide both the advantage of being structured enough to be comparable across firms and the advantage of being sufficiently unstructured to constitute a window into top management worldviews and perspectives. In essence, these methodological advantages are similar to the ones ascribed to semi-structured interviews.

Finally, content analysis specifically of letters to shareholders have been used successfully in many past studies (e.g., Abrahamson and Hambrick 1997; Bettman and Wietz

1983; Bowman 1978; Bowman 1984; Clapham and Schwenk 1991; D'Aveni and MacMillan 1991; Fiol 1989; Fiol 1995) and increased use of such data has been advocated by Pfeffer (1981). Letters to shareholders are particularly good indicators of the major topics that senior executives attend to, revealing how much attention is paid to various aspects of the environment, relative to others (D'Aveni and MacMillan 1991). Additionally, letters to shareholders are closely reviewed by top managers and thus provide access to the cognitive orientation of top management as a team.

Nevertheless, several researchers have raised concerns whether letters to shareholders constitute an adequate and valid data source for studying managerial cognition (e.g., Abrahamson and Hambrick 1997; Huff 1990; Stubbard and Ramaprasad 1990). Since this study uses letters to shareholders in order to measure top management cognitive orientation, I will first address the criticism of letters to shareholders as a data source. Second, I will describe the methodology developed and used in this study to assess top management cognitive orientation.

One shortcoming of using letters to shareholders is that their authors are unknown. Abrahamson and Hambrick (1997), however, argue that anecdotal evidence suggests that letters to shareholders are the products of a collaborative effort by top managers. The letter is edited and reviewed until it is acceptable to firm's top management, suggesting, therefore, that the letter is a product of consensual processes at the upper echelons of the organization.

Even if letters to shareholders were written by top management, the question whether they reflect the cognitive orientation of top management remains valid. Thus, it is necessary to examine studies that specifically analyzed letters to shareholders in order to assess whether data drawn from these letters constitute valid measure of top management cognitive orientation

(Abrahamson and Hambrick 1997). Several studies (e.g., Bettman and Weitz 1983; Bowman 1984; Clapham and Schwenk 1991; Huff and Schwenk 1990; Fiol 1995) have been designed explicitly to test the validity of cognitive orientation measures derived from letters to shareholders. Three of these studies, which examined patterns of casual attribution in annual reports, provide considerable evidence that casual attribution processes are better explained by cognitive theories than by impression management theories (Bettman and Weitz 1983; Clapham and Schwenk 1991; Huff and Schwenk 1990). These studies support the conclusion that letters to shareholders constitute valid measures of top management casual reasoning. A third study by Fiol (1995), while qualifying this conclusion, offers unique additional support. Fiol compared public and private documents generated by executives in the forest products industry. She found that non-evaluative cognitive orientation—*attribution of control*—were significantly correlated across these two types of documents, supporting the conclusion of the previous three studies. She also found, however, that the positive/negative orientations of the two sets of documents were not significantly correlated. Fiol concluded that non-evaluative statements tend to reflect managerial cognitions, whereas evaluative statements in public documents more likely reflect impression management.

Several other studies provide evidence for the construct validity of managerial cognition measures derived from letters to shareholders by testing theoretical relationships between these measures and other variables (DeVellis 1991). Studies indicating that measures of other constructs relate in a theoretically predicated way to the measure being validated provide some evidence for the construct validity of the measure. Three studies (e.g., Bowman 1978, D'Aveni and MacMillan 1991; Fiol 1989) have related measures of top management cognitive orientation

derived from letters to shareholders to measures of other constructs. The hypotheses in all these studies were strongly supported, providing additional construct validity evidence for measures of top management cognitive orientation derived from letters to shareholders.

More generally, it should be noted that criticism of managerial cognition measures derived from letters to shareholders also pertains to other attempts at quantifying cognition (Abrahamson and Hambrick 1997). Thus, any critique must consider the relative advantages this method provides over other methods for studying top management cognitive orientation. Clearly, using letters to shareholders provides an unobtrusive access to managerial cognition and allows to test theoretical propositions containing longitudinal aspects.

Measuring Global Mindset

In this study the cognitive orientation of top management was defined in terms of global mindset. Two theoretical concepts — *cosmopolitan orientation* and *cognitive diversity* have been identified as underlying the construct of global mindset. Thus, letters to shareholders were coded for manifestations of these two underlying concepts and indexes were developed and computed in order to measure cosmopolitan orientation and cognitive diversity.

Measuring Cosmopolitanism. In previous research, cosmopolitan orientation was measured at the individual level, usually by using survey instruments. In early research the concept acquired organization-related attributes and has been associated with professionalism and low organizational commitment. In operationalizing cosmopolitan orientation, Gouldner (1957), for example, used three variables: 1) reference group orientations; (2) loyalty to an organization, and (3) commitment to specialized or professional skills. Similarly, Blau and Scott

(1962) also associated cosmopolitan orientation with professionalism. However, subsequent research (e.g., Flango and Brumbaugh 1974; Glaser 1963; Goldberg, Beker, and Rubenstein 1965; Glodberg 1976) have distinguished between cosmopolitanism and professionalism, reestablishing the external-internal dimension as the central dimension in operationalizing cosmopolitanism (Goldberg 1976).¹⁰ Kimberly (1978; Kimberly and Evanisko 1981), for example, operationalized cosmopolitan orientation in terms of interorganizational ties of executives. In more recent studies, cosmopolitan orientation was examined in an international context and was operationalized in terms of international orientation of executives (Birnbbaum and Wong 1985) and international exposure (Carlson and Widaman 1988).

Thus, in operationalizing cosmopolitan orientation at the top management level, measures were constructed around the two most salient dimensions of cosmopolitanism: (1) external versus internal orientation, and (2) international orientation (Perlmutter 1969). Following the stakeholders' approach to organizations (Freeman 1984), external orientation was measured as an orientation toward external constituencies whereas internal orientation was measured as an orientation toward internal constituencies. Four classes of external constituencies were identified: competitors, customers, dealers, and strategic partners, representing different aspects of the external environment. Similarly, four of classes internal constituencies were identified: Board of Directors, employees, owner, and top management (D'Aveni and MacMillan 1990). In addition, managerial orientation toward foreign operations and markets was measured. Thus, each letter to shareholders was coded for references to external and internal constituencies and to foreign operations and markets, a total of nine first-order orientation variables. In developing

¹⁰ In fact, this conceptualization represents a return to Merton's (1957) original definition of cosmopolitanism.

the specific measures used to assess cosmopolitan orientation, I have followed the lead of D'Aveni and MacMillan (1990) who measured managerial attention pattern by content analyzing letters to shareholders.

In order to measure cosmopolitan orientation, three main orientation indexes were constructed as follows:

1. *External Orientation*—the number of sentences referring to competitors, customers, dealers, and strategic partners.
2. *Internal Orientation*—the number of sentences referring to the Board of Directors, employees, owners, and top management.
3. *International Orientation*—the number of sentences referring to foreign operations and markets.

In general, these three orientation indexes are independent constructs. A partial correlation analysis indicated that when controlling for the number of words in each letter, the international and external orientation indexes were significantly positively correlated (.12); the international and internal orientation indexes were also significantly positively correlated (.11); and the external and internal orientation indexes were significantly negatively correlated (-.13). The low correlation between the external and international orientation indexes suggests that cosmopolitanism is a multidimensional construct and that external and international orientations do not necessarily co-vary. This finding is less than surprising when considering the historical development of the concept of cosmopolitanism and prior empirical research. When it was first introduced by Merton (1956), cosmopolitan orientation was defined by the external-internal orientation dimension. It was only later on that the concept of cosmopolitanism acquired an

additional dimension around the domestic-international distinction. Prior empirical research did not specifically examine the relationships between these two dimensions. However, when examining the relationships between other dimensions underlying cosmopolitanism, previous research found cosmopolitanism to be a multidimensional construct (Flango and Brumbaugh 1974; Goldberg, Baker, and Rubenstein 1965).

Finally, cosmopolitan orientation was measured in three ways:

1. *Absolute Orientation* was measured by the number of sentences referring to each class of elements: external, internal, and foreign operation and markets.
2. *Proportionate Orientation* was used to control for the letter length by dividing the absolute orientation indexes by the number of words in each letter.
3. *External vs. Internal Emphasis* was measured to assess whether top management was oriented toward external constituencies versus internal constituencies. This was calculated by subtracting external orientation from internal orientation (i.e., external orientation – internal orientation). High score on external vs. internal emphasis means that top management is more oriented toward the external environment than the internal environment (D'Aveni and MacMillan 1990).

Measuring Cognitive Diversity. The various measures of cosmopolitan orientation presented above indicate the extent to which top management is oriented toward the external and international arenas. These measures of *depth*, however, do not indicate the *diversity* of elements in the external and international environments to which top management attend. Thus, an additional measure was constructed to estimate the diversity of elements in the external and international environments to which top management attend.

In measuring cognitive diversity across the external environment, I again considered the number of sentences referring to four elements in the external environment: competitors, customers, dealers, and strategic partners. In measuring cognitive diversity across the international environment, I considered the number of sentences referring to the following six foreign regions: Africa, Asia-Pacific, Europe, the Middle East, Latin America, and North America. Each foreign region is characterized by a unique “cognitive map” of principles of management (Hofstede 1993:94), presenting different challenges and obstacles. Therefore, measuring the “psychic dispersion” across these six foreign regions estimates the extent to which top management cognitive orientation spans across the globe (Sullivan 1994; O’Grady and Lane 1996). The four external elements and the six regional elements were combined, creating a ten-category index. Finally, cognitive diversity was measured in two ways:

1. *Absolute Cognitive Diversity* — a ratio measure of the number of elements to which top management attend out of the ten possible external and regional elements. This measure has a theoretical range of 0-10.
2. *Weighted Cognitive Diversity* — this measure takes into account both the number of distinct elements in each of the ten categories to which top management attend and their relative significance. It was computed by variation of the Herfindal-Hirschman index, which is suitable for categorical variables, as follows:

$$CD = 1 - \sum_{i=1}^{10} p_i^2$$

where *CD* is the cognitive diversity measure and *p* the percentage of sentences referring to each of the ten external and regional categories.

Content Analysis Procedure

In this study both manual and computer-aided content analysis procedures were used in order to generate quantitative measures of global mindset. The process involved the creation of a computer-based dictionary that contained a variety of words and phrases referring to nine orientation variables described above. In the dictionary-building process, I followed Dyer (1994) and others who have constructed content analysis dictionaries to identify frequencies of high level concepts. Concepts such as ‘customers’ and ‘foreign operations and markets’ are types of abstractions encompassing conceptually similar lexical terms of greater specificity. For example, the concept ‘customers’ in the pharmaceuticals industry subsumes such terms as ‘patients,’ ‘physicians,’ and ‘pharmacists’ — all considered customers of the pharmaceutical industry. Similarly, the concept ‘customers’ in the computer industry subsumes the term ‘end-users.’ These items are equivalent given their common membership in the category of ‘customers.’ This equivalency validates counting an instance of each lexical term as a reference of the more abstract conceptual categories.

However, establishing categorical membership of lexical terms is quite difficult because lexical items have fuzzy membership boundaries and since the meaning of any word or phrase is context dependent (Smith 1991). Resolving the issue of multiple meanings and identifying the words and phrases that carry specific meaning in a given context requires substantial domain-specific knowledge (Wade, Porac, and Pollock 1997). Consequently, generating domain-specific dictionary that allows for automated identification words and phrases within each category involves an enormous investment of time in dictionary building.

Researchers who have pursued a similar path of dictionary construction have relied on an iterative method where each term's membership is established via repeated cycles of generating potential domain-specific words and phrases, manual validation, crosstabulation, and statistical analysis (e.g., Fan 1988; Wade, Porac, and Pollock 1997). As a term membership becomes clarified, it is possible to validate its membership by using nominal statistical analysis techniques that establish and validate the association between specific lexical term and a category. These statistical techniques are also used to validate each dictionary category as a whole.

Following this method of abstraction, I constructed a total of nine dictionary categories. The final structure of the dictionary, however, is more complex and includes sub-categories, reflecting both industry-specific terms and geographic regions. A detailed discussion of the dictionary itself will be presented after the method of dictionary building is explained.

The process of dictionary building began with manual coding of 226 letters to shareholders published by firms in the three target industries between 1987-1989.¹¹ The letters were about evenly distributed across years and industries. Through this process, I was able to gain in-depth familiarity with the letters, to study their language and word usage, and to identify the unique lexical universe characteristic of each industry. Thus, contrary to the view that computer-aided text analysis is mechanical and crude because it distances the researchers from the text, in this study dictionary building involved a close scrutiny of the texts.

¹¹ Ideally, when building a dictionary, the universe of relevant documents should be sampled. This study, however, evolved gradually and after manually analyzing the first three years, the project was considerably expanded to cover eight years.

In the manual content analysis, I used ATLAS/TI, one of the two leading qualitative content analysis software packages. Prior to the manual coding, I carefully read and reviewed a set of texts and consulted both general sources on content analysis (Boayatzis 1999; Weber 1990) and other studies that used letters to shareholder as a data source. Finally, I followed a modified content analysis procedure originally developed by D'Aveni and MacMillan (1990), who analyzed letters to shareholders and developed an extensive content analysis manual, specifically designed to code shareholders letters.¹²

In the coding process, the unit of analysis, or recording unit, was a sentence. Each sentence was read carefully and was either not coded, coded as a reference to one concept, or coded with more than one concept if applicable. Through this process, I have generated 4,373 sentences that were coded exclusively with one concept. Sentences that were coded with more than one concept were excluded from further analysis. These sentences were then grouped into 11 category-specific sets. For the purpose of dictionary construction, the Customer category was broken down into three industry-specific subsets, reflecting the fact the three industries under study often refer to their customers in a very different language. Each of the sentences was treated as a separate record. These records constituted the raw data from which the dictionaries were generated. Table 4.1 provides the distribution of records per concept.

The category-specific sets of records were then uploaded into SIMSTAT in order to conduct a detailed quantitative analysis of word and phrases underlying each category. SIMSTAT is a powerful statistical package with an integrated content analysis module—WORDSTAT—which provides counts of target words and phrases, crosstabulation, and

statistical analysis. The first output of SIMSTAT is a word count list of all the words in the concept-specific sets. This list was slowly trimmed by removing non-diagnostic items to an exclusion list. Through this process, an initial inclusion list of 1,892 potentially diagnostic words was constructed. The second output of WORDSTAT is a frequency of words in the inclusion list from which orientation-specific dictionary items were generated. The third output is a crosstabulation of words in the inclusion list by dictionary category.

Through careful review of the crosstab list, category-specific items, i.e., words that concentrated around specific category and therefore potentially diagnostic, were identified. These items then became tentative members of their respective categories and were included in the dictionary for further analysis. Each of the category-specific items was subjected to a detailed analysis that included retrieving the actual record from which the items were generated and key-word-in-context (KWIC) analysis. Several high frequency domain-specific items, such as 'market,' 'management,' and 'corporate' were scattered evenly across all categories and presented a special challenge. These words were potentially significant as indicated by their high frequency, but non-diagnostic as indicated by their even distributions across categories. These words were subjected to meticulous KWIC analysis in order to identify phrases that would clarify their lexical membership. Thus, items such as 'market share' and 'market position' were generated through KWIC analysis of the word 'market' and identified as members of the Competitors category; items such as 'top management' and 'corporate management' were generated through KWIC analysis of 'management' and identified as members of the Top Management category. Items with low frequency were included only after a close examination

¹² Prof. D'Aveni provided me with a copy of the content analysis manual and codebook used developed for his 1994 footnote continues...

indicated that their categorical membership was unambiguous. In addition, I have included in the Foreign Operations and Markets category a list of countries by regions as a supplemental.

Finally, the constructed dictionary categories were subjected to statistical analyses to assess the association between items and categories at three levels of analysis: lexical item, sub-category, and category levels. Table 4.2 presents crosstabulation of the dictionary at the category level as well as the results of chi-square statistics. The final list of words and phrases included in each dictionary category is presented in Table 4.3. It should be noted that some of the words and phrases included in the dictionary such as 'people,' 'acceptance,' and 'babies' may be, in general, quite ambiguous and non-diagnostic. However, within the lexical universe of letters to shareholders, these words carry a specific meaning and are mentioned as a reference to a specific class of constituencies.

In summary, through iterative manual examination of lexical items and statistical analysis, I was able to clarify the lexical members of each of the nine categories. Category membership lists were refined by excluding non-diagnostic items and including diagnostic items. While complete accuracy in any method of text analysis, whether manual or automated, is unattainable, the process of dictionary construction described above was both methodical and comprehensive, and based on in-depth familiarity with the domain and texts.

The constructed dictionary was then used to analyze the entire dataset of letters to shareholders. The automated process identified, by company and year, all sentences referring to the nine orientation variables: Board of directors, competitors, customers, dealers, employees, foreign operations and markets, owners, strategic partners, and top management. Although the

study. This manual served to guide a group of coders and thus is both extensive and detailed.

coding process was automated, I reviewed a substantial number of sentences coded according to the dictionary in order to assess once again the validity of the coding schema. Several minor refinements in the dictionary resulted from this process and are reflected in the final list of lexical items. A total of 13,553 references to nine orientation variables were recorded in 526 letters. Table 4.4 presents descriptive statistics of these nine first-order orientation variables.

Top Management Team Demographic Heterogeneity

In this study, top management team is defined as including all individuals above the level of Vice President (e.g., Chairman, Vice Chairman, Chief Executive Officer, President, Executive Vice President, and Senior Vice President) and inside board members. This operationalization of top management team, used in previous top management team studies (e.g., Hambrick, Cho, and Chen 1996; Michel and Hambrick 1992), yields a more inclusive group than if only executives who are board members were included (e.g., Finkelstein and Hambrick 1990), but less comprehensive than if all corporate officers are included. Defining top management team in this manner captures the dominant coalition at the apex of the organization. This definition yielded a mean top management team size of 4.79 (S.D. 3.24) executives.

Two aspects of top management team demographic heterogeneity were measured: organizational tenure and age. Data on organizational tenure and age of each top management team member was collected for the years between 1987-1994 and measures were calculated for each year of the study.

Top Management Team Heterogeneity: Tenure and Age

Tenure and age heterogeneity of the top management team were measured using the coefficient of variation, defined as the standard deviation divided by the mean.¹³ The review by Allison (1978) of inequality measures indicates that the coefficient of variation is preferred to standard deviation or variance for interval-level variables. In addition, this measure of top management heterogeneity has been used extensively in previous research (e.g., Bantel and Jackson 1989; Finkelstein and Hambrick 1990; Wiersema and Bantel 1992).

In measuring tenure heterogeneity, I used organizational tenure—the number of years each team member was employed by the firm—rather than other forms of tenure such as tenure in industry and tenure in the top management. The organizational tenure measure was chosen over alternative measures because previous research indicated that the organizational tenure measure was the most highly correlated with other tenure measures, thus serving as central, parsimonious measure of the concept of tenure (e.g., Finkelstein and Hambrick 1990).

Control Variables

Technological Intensity

Firm-level technological intensity was measured by ratio of R&D expenditures to sales. This ratio is a widely accepted measure of technological intensity (Hewitt 1980; Kobrin 1991).

Organizational Slack

Organizational slack represents those resources that are readily recoverable and would be accessible for further global expansion (Bourgeois 1981). The specific measure used in this

study was suggested by Bourgeois and Singh (1983). The following components were summed to generate a measure of organizational slack (OS):

$$\text{OS} = [(\text{Net profit} - \text{dividends}) / \text{Sales}] - \text{Dividends} / \text{Net worth} + [(\text{Cash \& securities} - \text{Current liabilities}) / \text{Sales}]$$

Firm Size

Previous research indicates that firm size affects various aspects and modes of global expansion (Kimura 1989). In addition, it has been argued that firm size affects the relationship between various top management team capabilities and characteristics and organizational outcomes (Miller 1991; Finkelstein and Hambrick 1990). Therefore, firm size was included as a control and was measured as the natural log of total assets.

Magnitude of Dependent Variable at Time t

The magnitude of the dependent variable at time t , measured using the method described above, was included as a control variable.

Team Size

Previous research on top management teams suggested that team size directly affects various team processes and dynamics such as communication, interaction, and cohesion and may moderate the influence of individual executives (e.g., Finkelstein and Hambrick 1996; Smith, Smith and Olian et al 1994). In addition, team size may affect the depth and breadth of cognitive resources and capabilities of top management team. Therefore, team size was included as a control variable and was operationalized as the number of executives on the top management team as previously defined.

¹³ Since the coefficient of variation measure of heterogeneity incorporates the mean, average tenure and age will not footnote continues...

Number of Words in Documents

Since the magnitude of the orientation indexes may be influenced by the length of the letter, the number of words in each letter was included as control whenever global strategic posture was regressed on absolute orientation indexes.

Temporal Ordering Of Measures

The independent variables was observed in year t , global strategic posture in year $t+ 2$, while controlling for additional factors, including global strategic posture present at year t . The two-year lag period, as opposed to longer or shorter periods between top management team and global strategic posture observations reduced the possibility of other factors confounding the relationship between the independent and dependent variables while allowing enough time for potential top management team effects to manifest themselves (Carpenter and Fredrickson 1999). A similar lagging design has been incorporated in other top management studies (e.g., Carpenter and Fredrickson 1999; Geletkanycz and Hambrick 1997) in recognition that the effects of top management on organizational outcomes are less than immediate. With this design and the support of a relatively strong theoretical foundation, I enhanced my ability to interpret the influence of top management team cognitive orientation and demographic characteristics on global strategic posture, rather than the reverse. Nevertheless, these measures cannot rule out other causal directions or explanations.

be included in the regression model.

Data Analysis

The data contain both cross-sectional and time-series components, which are amenable to a pooled time-series methodology in which cross-sections are aggregated across years.

Employed by a growing number of organizational researchers (e.g., Finkelstein and Hambrick 1990; Haleblian and Finkelstein 1993; Hambrick, Cho, and Chen 1996), this method permits consolidated use of the full dataset. The pooled results reflect the average effect of the independent variables over the full study period, yielding more precise statistical estimates than would year-by-year sub-samples (Hannan and Young 1977).

In general, the regression equation of pooled time series data can be expressed as follows:

$$Y_{it} = b_1 X_{it,1} + b_2 X_{it,2} + \dots + b_k X_{it,k} + E_{it},$$

where i equals 1, 2, ..., N , t equals 1, 2, ..., T , and k equals 1, 2, ..., K . N equals the number of cross-section or firms included in the sample (69), T equals the number of time periods (8), and K equals the number of explanatory variables. Altogether there are $n = N \times T$ observations (552).

Since pooling violates the ordinary least squares (OLS) assumptions of independence of observations (Baltagi 1998), the hypotheses were tested using a generalized least squares model (GLS) incorporating corrections for firm-specific autocorrelation, as well as for heteroscedasticity among inter-firm residuals. I employed the Parks-Kmenta (Parks 1967; Kmenta 1986) autoregressive-heteroscedastic model for pooled time series data, which assumes a first-order autoregressive error structure with contemporaneous correlations between cross sections.

Specifically, I utilized the Parks Method (autoregressive model) option within SAS Time Series Cross Section Regression (TSCSREG) procedure. The Parks method consists of two sequential generalized least square transformations, first eliminating serial correlations of the

errors and second eliminating contemporaneous correlation of the errors. The correction for contemporaneous correlation of the errors automatically corrects for any panel heteroscedasticity. After these two transformations are completed, the regression model parameters are estimated using GLS.

The TSCSREG procedure requires a balanced dataset—the same number of time series observation for each cross section. Missing data, therefore, present an obstacle. Sixteen firms out of 69 sample firms had one or two missing letters, a total of 26 missing letters out of the 552 potentially available letters (or less than 5 percent). In order to avoid losing valuable data, the measures derived from letters to shareholders were imputed using the mean value of the variable in a given year. For example, if a specific firm had a 1988 missing letter, the measures that should have been derived from this letter were estimated using the mean value of these variables for the year 1988. This method of replacing missing values with a yearly mean is considered a more conservative method of estimation in comparison to replacing missing values with a firm-specific mean. Other than the 26 missing letters, there were no additional missing data.

Mean and correlation analyses were conducted to obtain descriptive statistics for all variables. Main effects between top management cognitive orientation, demographic heterogeneity, and global strategic posture were examined using Pearson correlation coefficients. However, pooling of the data warrants caution in interpreting the results. Nevertheless, the correlation coefficients can be used as a preliminary indication of association.

After these preliminary analyses, the hypothesized relationships were examined using unstandardized beta coefficients produced by the Time Series Cross Section Regression

procedure described above. Since corrected GLS regression models were used, R-squares cannot be reliably interpreted (Kmenta 1986) and, therefore, are not reported here.

CHAPTER 5

RESULTS

This chapter presents the results of the data analysis performed to test the hypotheses developed in Chapter 3. The first section begins with a review of the descriptive statistics, followed by a discussion of the correlation coefficients of the variables included in the study. The second section presents the results of the time series cross section regression analysis performed to examine the relationships between top management cognitive orientation and demographic heterogeneity and global strategic posture.

Descriptive Statistics And Correlation Analysis

Table 5.1 presents descriptive statistics of all the variables included in this study. The sample firms varied more noticeably on the external orientation dimension than on either the internal or international orientation dimensions. This dimension was also the most prominent in the letters to shareholders. Additionally, while no firms failed to mention internal constituencies in their letters and a small number of firms did not refer at all to external constituencies, a substantial number of letters (about 25 percent) did not include any reference to foreign operations and markets. Top management teams of the sample firms were quite homogeneous age-wise while varying more considerably on the tenure variable.

Table 5.2 presents intercorrelations among all the variables included in this study. Although the significance levels are noted, the correlation coefficients should be interpreted with caution because the data have been pooled. There are several patterns worth noting. Predictably,

the various orientation measures developed to estimate the same underlying theoretical construct were highly intercorrelated and were therefore included in separate regression models. The absolute external and international orientation measures were also substantially intercorrelated and were therefore also included in separate regression models. Additionally, the absolute orientation variables were correlated with the length of the letter. Given these correlations, the number of words in each letter was included as a control variable whenever the orientation measure itself did not take into account the length of the letter. The proportionate orientation measures, which control for the length of the letters, were not correlated. These findings further substantiate the independence of the external, internal, and international orientation constructs.

Second, all the pertinent orientation variables were correlated with global strategic posture both at time t and $t + 2$. These preliminary results are consistent with the hypotheses linking managerial cognitive orientation to organizational outcomes. Contrary to expectations, the top management heterogeneity variables were not correlated with global strategic posture at either point of time. Interestingly, only a few of the orientation variables were slightly correlated with top management heterogeneity variables. Given the upper echelon argument that demographic diversity reflects cognitive diversity, one would expect to find more substantial correlations between the cognitive diversity variables and the demographic heterogeneity variables.

Third, both firm size and organizational slack were correlated with global strategic posture, positively for size and negatively for slack. This suggests that firms with expansive global strategic posture were larger and had less slack than other firms. Team size was also

positively correlated with global strategic posture, suggesting that firms with extensive global operations were led by larger top management teams.

TSCS Regression Results

This section reports the results of a set of time series cross sectional regressions that tested the proposed relationships between top management team cognitive orientation, demographic heterogeneity, and the expansiveness of global strategic posture. Each hypothesis is reintroduced and the results are reviewed. Due to the significance of the control variables, only multivariate results are presented. Additionally, because no systematic or significant patterns emerged, the statistics for the industry dummy variables are not presented.

Top Management Team Cognitive Orientation: Global Mindset

As discussed in Chapter 3, theoretical foundations suggest that top management teams that adopted a global mindset, a cognitive orientation marked by diverse external and international orientation, should be more disposed to develop expansive global strategic posture. Two constructs were identified as underlying global mindset—cosmopolitan orientation and cognitive diversity. While these two constructs will be discussed separately, it should be noted that both components are part of a complete model of global mindset.

Cosmopolitan Orientation

Between the External and Internal Environment. Hypothesis 1(a) and Hypothesis 1(b) addressed the relationships between external and internal orientations and global strategic posture. Specifically, it was proposed that:

Hypothesis 1(a): External cognitive orientation of top management team will be positively related to the expansiveness of global strategic posture of the firm.

Hypothesis 1(b): Internal cognitive orientation of top management team will be negatively related to the expansiveness of global strategic posture of the firm.

As described in Chapter 4, external and internal orientations were measured in three ways: absolute orientation, proportionate orientation, and emphasis on the external environment. Table 5.3 reports TSCS regression results with global strategic posture regressed on absolute external and internal orientations. Tables 5.4 and 5.5 present TSCS regression results with global strategic posture regressed on proportionate external and internal orientations and emphasis on external environment, respectively. Hypotheses 1(a)-1(b) linking top management external and internal orientations with global strategic posture received substantial support. All three regression coefficients of the external orientation variables were significant ($p < .01$) and in the hypothesized direction. Consistent with expectations, external orientation was positively related to the expansiveness of global strategic posture, suggesting the externally-oriented top management teams were more likely to develop extensive global operations. Similarly, the two regression coefficients of the internal orientation variables were significantly negatively related to global strategic posture, suggesting the internal orientation hinders the development of expansive global strategic posture.

Foreign Operations and Markets. Hypothesis 1(c) addressed an additional aspect of cosmopolitan orientation—emphasis on foreign operations and markets. Specifically it was posited that top management oriented toward the international environment will develop more extensive global operations. Hypothesis 1(c) stated:

Hypothesis 1(c): Top management team orientation toward foreign operations and markets will be positively related to the expansiveness of global strategic posture of the firm.

Tables 5.6 and 5.4 present TSCS regression results with global strategic posture regressed on absolute international orientation and proportionate international orientation, respectively. The results of both regression models provide support for Hypotheses 1(c). The coefficients of both regression models indicate that international orientation of top management is significantly ($p < .01$) positively related to global strategic posture. In line with expectations, top management teams that focused on foreign operations and market were more likely to develop expansive global strategic posture.

In conclusion, TSCS regression results provide consistent support for Hypotheses 1(a)-1(c), indicating that top management cosmopolitan orientation is positively related to the expansiveness of global strategic posture. Regardless of how cosmopolitan orientation was measured and across both dimensions, the association between cosmopolitan orientation of top management team was maintained. Firms led by externally and internationally oriented top

management were more likely to develop expansive global strategic posture. Internal orientation, on the other hand, was found to hinder the development of global operations and markets.

Cognitive Diversity

As discussed in Chapter 3, top management teams, while being externally and internationally oriented, may still focus on a narrow facet of the environment. Therefore, cognitive diversity, an additional aspect of global mindset, was examined. Specifically, it was suggested that top management teams that attend to a wide range of elements in the external and international environments are more likely to develop extensive global operations. More formally, Hypothesis 1(d) stated:

Hypothesis 1(d): Top management team cognitive diversity will be positively related to the expansiveness of global strategic posture of the firm.

Tables 5.7 and 5.8 present TSCS regression results with global strategic posture regressed on absolute cognitive diversity and weighted cognitive diversity, respectively. Hypotheses 1(d) was supported across both regression models. The coefficients of both regression models indicate that cognitive diversity of top management was significantly ($p < .001$) positively related to global strategic posture. Consistent with expectations, top management teams that focused on a wider spectrum of elements in the external and international environments were more likely to develop expansive global strategic posture.

In summary, the two TSCS regression results show consistent support for the Hypothesis 1(d) positing that top management cognitive diversity is positively related to the expansiveness of global strategic posture. Top management teams that are not only externally and internationally oriented, but also attend to a diverse set of external constituencies and foreign regions, are more likely to develop expansive strategic posture.

Global Mindset: Full Model

Table 5.9 presents TSCS regression results of the full model of global mindset with global strategic posture regressed on cosmopolitan orientation and cognitive diversity variables. In this regression model, the proportionate orientation and the weighted cognitive diversity measures were used (rather than the absolute measures) in order to control more fully for the effect of the number of words in the letters. This regression model provides additional support for hypotheses linking cosmopolitan orientation and cognitive diversity with global strategic posture. The coefficients of external and international orientation indicate that cosmopolitan orientation was significantly ($p < .01$) positively related to global strategic posture. Similarly, cognitive diversity of top management team was significantly ($p < .001$) positively related to global strategic posture. However, the results of this regression model did not support Hypothesis 1(b) linking internal orientation with global strategic posture. The internal orientation coefficient did not reach significance although the relationship was in the hypothesized direction.

Overall Conclusions: Global Mindset

Hypotheses 1(a), 1(c), and 1(d) linking cosmopolitan orientation and cognitive diversity with global strategic posture received substantial support. Across both dimensions of global

mindset and regardless of which method was employed to measure global mindset, the results were similar and consistent. Top management teams that were externally and internationally oriented as well as diverse in their attention patterns were more likely to venture into new international markets, or expand existing ones. Hypothesis 1(b) linking internal orientation with global mindset received mixed support. Internal orientation was negatively related to global strategic posture only in two regression models and failed to reach significance in the full regression model.

Top Management Team Demographic Heterogeneity: Tenure and Age

As noted in Chapter 3, a rather vast body of literature suggests that top management team demographic heterogeneity is associated with creative decision making and strategic innovativeness and therefore should be positively related to global strategic posture. Specifically, two aspects of demographic heterogeneity—tenure and age—were examined and the following hypotheses were advanced:

Hypothesis 2(a): Top management team tenure heterogeneity will be positively related to the expansiveness of global strategic posture of the firm.

Hypothesis 2(b): Top management team age heterogeneity will be positively related to the expansiveness of global strategic posture of the firm.

Table 5.10 presents TSCS regression results with global strategic posture regressed on tenure and age heterogeneity. Consistent with expectations, tenure heterogeneity was significantly ($p < .001$) positively related to global strategic posture, supporting Hypothesis 2(a). In contrast, and contrary to Hypothesis 2(b), age heterogeneity exhibited a negative relationship with global strategic posture. Two additional analyses were conducted in order to further explore this unexpected result. First, I used standard deviation rather than the coefficient of variation to measure heterogeneity. The overall results did not differ. Second, I included in the standard deviation model mean age and mean tenure as control. Again, the results remained consistently similar. In the latter regression model, however, both age heterogeneity and mean age were negatively related to global strategic posture. A possible explanation for the consistently negative coefficients is that top management teams throughout the sample were relatively homogeneous age-wise with an average age of 52. Therefore, the magnitude of the age heterogeneity variables was rather small. When age heterogeneity was measured using the coefficient of variation, the mean was equal to 0.11 (S.D. .07); when measured using standard deviation, mean was equal to 6.08 (S.D. 4.37). Consequently, rather than capturing demographic diversity, the age heterogeneity variables reflected homogeneity, resulting in negative coefficients.

Overall Conclusions: Tenure and Age Heterogeneity

The analysis of the tenure and age heterogeneity measure provides only partial support to Hypotheses 2(a) – 2(b) linking top management team heterogeneity with global strategic posture. Tenure heterogeneity exhibited a positive relationship with global strategic posture whereas age heterogeneity a significantly negative relationship.

Impact of Control Variables

Several control variables also showed significant effects on global strategic posture. Predictably, global strategic posture at time t was positively related to global strategic posture at $t + 2$ across all regression models. Hence, it appears that firms already engaged in global expansion are more likely to persist in this direction and to further capitalize on past investments and on knowledge and resources acquired in previous years.

Scanning across all regression models, technological intensity was consistently negatively related to global strategic posture. These results remained consistent when industry dummy variables were included in the regression models. These findings are surprising given a host of recent evidences suggesting that R&D intensity is positively related to globalization of operations (Hitt, Hoskisson and Kim 1997; Pearce 1993). However, the negative relationship between technological intensity and global strategic posture can be explained by the composition of current sample. While prior research has examined a diverse set of firms vis-à-vis R&D expenditures, the current study focuses exclusively on firms at the very high-end of the R&D expenditures continuum. The negative relationship reported in this study denotes a potential inverted-U shaped relationship between R&D intensity and global strategic posture. This relationship suggest that up to a certain level, technological intensity operate as a centrifugal force in an attempt to achieve higher returns on R&D investments. Beyond a certain level, however, technological intensity may operate as a centripetal force, i.e., impeding global expansion. This effect is similar to the effect of R&D intensity on the globalization of R&D activities (Hewitt 1980).

The results regarding slack, firm size, and top management team size were somewhat inconsistent across the regression models. In those instances where a significant relationship was found, organizational slack was positively related to global strategic posture, indicating that availability of resources affects the magnitude of global strategic posture. Firm size was also found to be positively related to global strategic posture although the results were inconsistent. In cases where top management team size was found to be significant, it was positively associated with global strategic posture. However, an examination of Pearson correlation table indicates that team size is intercorrelated with firm size. Thus, the effects of team size may in fact reflect the effects of organizational size, further suggesting that larger firms are more likely to develop extensive global operations.

CHAPTER 6

DISCUSSION

In this study, I sought to expand the empirical support for the idea that global mindset as well as top management demographic heterogeneity influence strategic choice. An additional objective of this study was to develop a model of global mindset by establishing its theoretical foundations and explicating its underlying properties. Finally, I sought to develop a methodological approach to measuring global mindset that reflects the intricate and complex nature of this construct. In conclusion, I would like to revisit these objectives and to highlight several themes that emerged from the empirical investigation as well as from the theoretical review of the concept of global mindset.

Implications of the Results

The first major conclusion of this study is that global mindset of top management team shapes organizational strategy and is related to organizational outcomes. This conclusion is consistent with research in the managerial cognition tradition and affirms prior observations that top management cognitive orientation is reflected in strategic choices (e.g., Barr, Stimpert, and Huff 1992; Preim 1994). Extending the managerial cognition research into the global arena, however, these findings provide substantial support to the argument that global mindset significantly affects strategic behavior of firms in a rapidly changing global economy. Specifically, the results suggest that external and international orientation coupled with a broad perceptual perspective continuously shape organizational outcomes. These results also suggest

that top management teams that focus on the external environment, especially on customers, as is the case here, are driven to expand globally in search of new markets. In technologically-intensive industries, where R&D costs are considerable, the need to find additional markets for existing product lines is often a significant driving force behind globalization (Vernon 1966). Additionally, as existing customers expand globally and demand services and products on a global basis, externally-oriented top management is likely to follow in the footsteps of its customers. In this respect, external and international orientations can be viewed as complementary as these orientations work in tandem to promote global expansion. It should be noted, however, that the negative effects of technological intensity on global strategic posture also suggest that high levels of R&D spending operate as a centripetal force, thus impeding global expansion.

The results also provide some support for the proposition that internal orientation hinders global expansion. The findings partially suggest that top management teams that focus on “in-house” constituencies are less likely to consider global expansion as a viable strategic course. In the case of American firms, these results are not surprising because the majority of internal stakeholders—Board of Directors, owners, and top management—are predominantly Americans and located in the US. Therefore, internal orientation can also be understood as a domestic orientation that predictably impedes globalization efforts. However, the findings concerning internal orientation did not receive consistent support across all regression model and therefore should be interpreted with caution.

These findings also bear on several major prior research efforts. First, these findings extend previous research that has documented the consequences of external and internal

orientations in crisis situations (e.g., D'Aveni and MacMillan 1990) into the general realm of strategic choice. This study found that external orientation of top management affect strategic course also under non-crisis circumstances. Second, the findings provide a more solid support to the proposition that managerial cosmopolitan orientation affects organizational innovativeness (e.g., Kimberly and Evanisko 1981). Finally, the findings provide additional support to the argument that managerial cognitive diversity—the capacity to scan the environment from a broad perspective and to take notice of diverse environmental changes and contingencies—shapes strategic choices of firms (e.g., Barr, Stimpert, and Huff 1992; Lant, Milliken and Batra 1992).

These results also contribute greater understanding of the properties of global mindset and have implications for the theoretical model of this construct. The theoretical model of global mindset suggested that global mindset is characterized by two underlying properties—cosmopolitan orientation and cognitive diversity—and therefore should be viewed as a complex, multidimensional construct. By explicating the properties of global mindset and by relating these properties in a theoretically predicated way to globalization-related strategies, these results provide tentative support for the proposed model of global mindset.

The results also shed some light on another issue concerning the relationship between cosmopolitan orientation and cognitive diversity. As in any discussion of a multifaceted construct, the pertinent question then becomes what might be the possible relationships between cosmopolitan orientation and cognitive diversity. Are cosmopolitan orientation and cognitive diversity independent constructs? Or do cosmopolitan orientation and cognitive diversity co-vary in some manner? Can a top management be cognitively diverse, but hopelessly parochial? Or alternatively, can a top management be externally orientated, but narrow minded? The results

answer this question only to a limited degree. An examination of the correlations table indicated that the external and international orientation indexes were correlated to some degree with cognitive diversity.¹⁴ While these correlations were of moderate magnitude and may reflect the method used in this study to measure these two constructs, further research is needed in order to establish the nature of the relationship between cosmopolitan orientation and cognitive diversity.

Similarly, the findings also shed light on the relative significance of the various dimensions underlying external and international orientations. Customer orientation is by far the most dominant dimension underlying external orientation, with almost twice as many references to customers as to the second leading external category—competitors. Consistent with numerous studies, these results indicate that a pronounced emphasis on customers shapes organizational outcomes. However, these findings also tentatively suggest that globalization efforts are driven by customer orientation and to a lesser extent by competitive orientation. Similarly, consistent with prior theory that executives are more likely to focus on culturally and psychically familiar regions, this study found Europe to be the dominant regional category, eclipsing all other five regional categories. Top management teams of the sample firms paid more attention to European operations and markets than to all other regions combined.¹⁵

The second major conclusion of this study concerns the relationship between top management demographic heterogeneity and strategic choices. Consistent with a growing body

¹⁴ An examination of the Pearson correlation table indicated weighted cognitive diversity correlated with both proportionate external orientation (.29) and proportionate international orientation (.51). A partial correlation analysis, controlling for the number of words, indicated that weighted cognitive diversity correlated with the absolute international orientation (.38), but did not correlate with absolute external orientation.

of literature on the role of top management in shaping globalization-related strategies, the results indicate that demographic heterogeneity of top management is related to innovative strategic course. While the results concerning age heterogeneity did not support this conclusion at a first glance, subsequent analysis indicated that age homogeneity was negatively related to global strategic posture, thus providing tangential support for this conclusion.

The results of this study, however, indicate that while both tenure heterogeneity and cognitive diversity were positively related to global strategic posture, there were no substantial correlations between these two explanatory variables. These findings once again raise the question of whether demographic diversity indeed reflects or affects cognitive diversity (Miller, Burke, and Glick 1997), suggesting that the effects of tenure and other heterogeneity variables may be mediated by other factors than cognitive capabilities of executives.

Global Mindset in a Theoretical Perspective

In this section, I would like to revisit the proposed model of global mindset by placing global mindset on two parsimonious conceptual axes. By identifying the two most salient dimensions of cosmopolitan orientation and cognitive diversity, we can further examine the relationship between these two underlying constructs and refine our understanding of the concept of global mindset. Additionally, I would like to further reflect on two major themes that emerged from the literature review: the role of boundary spanning activities in shaping global mindset and the descriptive vs. prescriptive definitions of global mindset.

¹⁵ However, this study did not distinguish between various intra-European regions and cultures. Therefore, it cannot shed light on the relative cognitive significance of established versus emerging European markets.

Conceptual Considerations

As noted above, I suggest placing global mindset on parsimonious conceptual axes as a means of distilling the most important properties of this construct. The external-internal dimension has long served to define cosmopolitan orientation. As for cognitive diversity, I identified the broad-narrow perceptual spectrum dimension as the central conceptual axis. Accordingly, I propose that global mindset should be placed in the upper-right quadrant (broad-external) of these two conceptual dimension as shown in Figure 2. Furthermore, I suggest that the concept of global mindset should be reserved to a cognitive orientation that is characterized by *both* external orientation and broad perceptual spectrum.

The main implication of this conceptualization is that while top management may be externally oriented, it nevertheless can still scan the environment through a narrow and simple perceptual lens, focusing exclusively on salient facets of the external environment to the exclusion of others. For example, top management may focus predominantly on competitors, overlooking other external constituencies such as customers and strategic partners. Additionally, top management may construct a simple or a complex representation of any given environmental facet. Similarly, in a global context, top management may be highly internationally oriented, but focus predominantly on one or two foreign regions, often on culturally and psychically familiar ones. Globalization, however, challenges managers to break away not only from a domestic orientation, but also from an international or multidomestic one (Bartlett and Ghoshal 1992; Perlmutter 1969). Therefore, I propose that the concept of global mindset implies not only an external or international orientation, but also a broad, diverse, and complex perspective.

Boundary Spanning Activities

While there is very limited and only tangentially related empirical research on the factors affecting the development of global mindset (e.g., Kanter 1991; Calori, Johnson, and Sarnin 1994; Kobrin 1994; Murtha, Lenway, and Bagozzi 1998), I would like to draw attention to the significance of boundary spanning activities. While the cosmopolitan and the cognitive diversity approaches to global mindset vary in their relative emphasis on specific content domain versus structural properties, both are predicated on a common premise that exposure and experience with different and diverse cultural and business environments affect the cognitive capabilities of managers. Additionally, the cosmopolitan approach specifically suggests that the other way around is also true: that cosmopolitan employees seek external affiliations with professional organizations and would devote considerable attention to the external environment (Goldberg 1976). Thus, boundary spanning interactions can be viewed as both the antecedents of global mindset and its outcomes.

In modern multinational corporations, crossing cultural, functional, organizational, and interorganizational boundaries became both a cognitive challenge and a managerial necessity (Ashkenas, Ulrich, Jick, and Kerr 1995). In this context, I view boundary spanning activities as structured opportunities of interaction and exposure that can shape individual cognitive structures and processes. Cross-cultural and interorganizational interactions can facilitate the creation of global mindset by providing access to diverse sources of information and by presenting diverse modes of interpretation and models of action. The influence of boundary spanning interactions, however, goes beyond information acquisition, to affect managerial action and organizational outcomes (Geletkanycz and Hambrick 1997).

While research has mainly focused on boundary spanning ties of Board of Director members (e.g., Davis 1991; Haunschild 1993; Palmer, Barber, and Zhou et al. 1996), recently Hambrick and Geletkanycz (1997) examined the influence of external ties of top management team members on strategic choice and performance. Hambrick and Geletkanycz's (1997) study represents a departure from the traditional demographic research since it situates top management in a wider, supraorganizational context and attempts to identify possible mechanisms of exposure to a variety of informational and social influences and their effects on organizational outcomes. Boundary spanning activities of the top management team have also received extensive attention in a practitioner-oriented book devoted to the "boundaryless" multinational corporation (Ashkenas, Ulrich, Jick and Kerr 1995). These studies reflect a recent emphasis in organizational theory on interorganizational relationships and network-based model of influence and exposure (Oliver 1990). They are based on the premise that both the strategic process and executives are embedded in a social context that transcends organizational boundaries (Amburgey, Dacin, and Singh 1996).

While researchers diverge in their views whether the influence mechanisms operating in boundary spanning interactions are cognitive and/or social and whether external ties lead to conformist or innovative behavior, boundary spanning activities are perceived to be important conduits of information about the environment, competitors, strategies and competitive practices. Thus, boundary spanning interactions are believed to shape managerial views of the environment and to provide models of managerial action. Boundary spanning activities are therefore of consequence to organizational outcomes.

In fact, boundary spanning activities may serve as a better proxy of managerial cognitive orientation than demographic characteristics per se. As the results of this study challenge the notion that demographic heterogeneity reflects cognitive diversity and the results of other studies provide only mixed support to the idea that top management heterogeneity makes a difference, specifying the mechanisms of informational and social influences becomes vital. By situating executives in a broader social context than the firm and by identifying conduits of informational and social influences, we may be able to better relate top management characteristics to cognitive structures and processes and eventually organizational outcomes.

It is worth mentioning, however, that the structural characteristics of boundary spanning interactions, whether they are egalitarian or hierarchical, for example, mediate the cognitive processes instigated by these interactions and at times can have a crucial impact on their cognitive outcomes. Thus, while interorganizational interactions are potentially a promising mechanism of fostering a global mindset, research on intergroup interactions (Brewer and Kramer 1985) as well as on joint ventures management (Wang and Satow 1994) draws our attention to the effects of contextual and structural characteristics of these interactions on individual cognitive orientations.

Between Descriptive and Prescriptive Definitions

Finally, another prominent theme that emerged from the literature on global mindset revolves around the distinction between *descriptive* and *prescriptive* definitions of global mindset. As a descriptive concept, global mindset serves to define transnational firms and to describe the ways in which executives working in these corporations allegedly think. As a

prescriptive concept, global mindset serves as a normative model, representing the ways in which multinational corporations *should* be managed if they are to become truly transnational and the ways in which managers *should* think if they are to become transnational or world-class leaders. The normative approach to global mindset is especially pronounced in works that focus on the image of the cosmopolitan manager (Adler and Bartholomew 1992a; Kanter 1995; Govindarajan and Gupta 1998). While the figure of the cosmopolitan depicted by the various authors is not homogeneous, cosmopolitans are often celebrated as the new “cultural heroes” of international management, ousting expatriates and locals and other “less-evolved” breeds of managers and mindsets.

Adler and Bartholomew (1992a), for example, adopt a normative approach in their discussion of globally competent managers. The authors use the traditional international manager as a foil against which they conjure up the image of the “transnational manager,” arguing that transnational managers require a broader range of skills than expatriates. Adler and Bartholomew go on to define the transnational manager by a series of contrasts with the traditional expatriate, most notably by the contrast between the “global perspective” of the transnational manager versus the single-country focus of the expatriate, knowledge of “many foreign cultures, perspectives, tastes, trends, technologies, and approaches to conducting business” versus expertise on “one particular culture,” and simultaneous interaction with “people from many cultures” versus separate, sequential interaction with people, one country at a time. Similarly, Govindarajan and Gupta (1998) also anchor their discussion of global mindset in its opposite—ethnocentric mindset.

The normative approach figures most prominently in Rosabeth Moss Kanter's (1995) recent book. In this book, Kanter (1995:22) proclaims the rise of the world class—a “social class defined by its ability to command resources and operate beyond and across wide territories.” In the age of the information economy, she argues, the class divide is no longer between capital and labor or managers and workers, but rather between cosmopolitans and locals. Concomitant with her overwhelming endorsement of cosmopolitans, Kanter wages what amounts to a war against “locals.” According to Kanter, locals “... are defined primarily by particular places,” threatened by the allegedly universal values and “qualitocracy” agenda promulgated by cosmopolitans. “As cosmopolitans spread universal ideas and juggle the requirements of diverse places,” Kanter (1995: 61) argues, “they need to manage resistance to change from locals who see their power eroding”; and as cosmopolitans try to break through barriers, they need to overcome new barriers erected by locals. Kanter (1995:61) claims that the job of cosmopolitans, “... is to bridge differences and resolve them so that companies can operate efficiently on a global basis. Cosmopolitanism is a mind-set that finds commonalities across places.” Moreover, cosmopolitans derive power and control from establishing commonalities, in contrast to locals who gain power and influence by maintaining differences.

Kanter is aware that her conceptualization of cosmopolitans as “commonalities creators” is susceptible to the often-expressed criticism against global homogenization processes. In an attempt to rebuff this criticism, Kanter (1995:61) suggests that cosmopolitans create commonalities across the globe not through homogenization but rather by expanding and increasing the range and variety available everywhere: “Similarity of places emerges in the global economy not because of homogenization, but because the same diversity coexists

everywhere.” Given Kanter’s (1995:60) call for a “universal way that transcends the particulars of places,” her defense of cosmopolitans is not compelling. It seems that the job of cosmopolitans, more than bridging differences and finding commonalities, is to gloss over differences and to circumvent the profound ways in which countries and cultures differ from one another. This particular version of cosmopolitanism, which stands above cultural particularism and attempts to bypass local cultural codes (Clifford 1988), is contrary to ubiquitous calls by other writers for “local responsiveness,” (Prahalad and Doz 1987) and “transnational representation” (Adler and Bartholomew 1992a, 1992b).

To various degrees, all of the works that focus on the figure of the cosmopolitan present global mindset within an evolutionary framework of the multinational corporation. An evolutionary theory, however, is more than a convenient framework of exposition: it provides a powerful repertoire of images, metaphors, and connotations. Situating the discussion of global mindset in an evolutionary theory perspective has created a tight link, both in the descriptive and prescriptive sense, between global mindset and the transnationally integrated multinational corporation. This link implies that as firms gradually assume the transnational organizational form, managerial mindset will follow suit, or vice versa. As a descriptive statement, more research is needed in order to establish the relationship between a firm’s position on the multinational strategic continuum and global mindset and by no means can we expect this link to be tight. Moreover, one would expect to see significant intra-firm differences across organizational levels, business functions, and geographic regions. As a normative statement, much of the literature implies that managerial mindset needs to gradually evolve toward a prefigured end-point as a matter of “natural law,” through natural processes of selection. In this

respect, global mindset represents the more evolved orientation, which will eventually triumph over the less-evolved orientations, i.e., ethnocentrism and polycentrism. Given this imagery, it is not surprising that the cosmopolitanism-based definitions of global mindset are invariably presented by series of oppositions and contrasts (e.g., Adler and Bartholomew 1992a, 1992b; Govindarajan and Gupta 1998; Kanter 1995). In a sense, global mindset is constructed as a force that negates previous mindsets and brings about the obsolescence of other, less evolved managerial breeds. This forceful evolutionary imagery, which celebrates global mindset at the expense of a “local orientation” and announces the birth of new cultural heroes, is troubling to say the least. The idea that a certain class of people are cosmopolitans while the rest are locals appears ill-timed and ill-fated (Clifford 1990).

Although the overall evolutionary framework has not changed since it was first introduced by Perlmutter some 30 years ago, subsequent writings speak in a different voice. Recent writings use what was initially a descriptive taxonomy of MNCs in far more prescriptive and normative ways. While one can only speculate why this shift in tone and tenacity has occurred, given the scarcity of empirical research on global mindset, this prescriptive endorsement appears to be unwarranted. Moreover, the concept of global mindset is based on the premise that we live in a complex, constantly and rapidly changing world. Presenting a fixed, prefigured model of global mindset in an inherently indeterminate world runs against the very foundations of this construct. In this respect, an approach that outlines the conceptual axes of global mindset rather than fill in the details may be more adequate as it underscores its constantly evolving nature.

Methodological Implications

After reading a considerable number of letters to shareholders and analyzing many of them in detail, the question whether these letters indeed reflect top management cognitive orientation became less pertinent. Through careful and attentive reading one can gain not only an in-depth familiarity with the firm and its concerns and expectations, but also a sense of a distinct managerial presence. Beyond similarities in style and vocabulary, each letter “speaks” in a distinct voice. In fact, by reading letters of a specific company over a period of several years, one can actually get to recognize this voice. In this respect, the signatures on the letter are more than a formality; rather, they represent a “deep” signature, a distinct mark that top executives leave on their firms and on letters to shareholders. Letters to shareholders can be therefore viewed as managerial artifacts, reflecting the business, technological, and geographic worlds in which top executives operate. Moreover, as much as these letters reflect past strategic course and performance, they also reflect future expectations and thereby provide a window into strategic intent.

Obviously, a quantitative content analysis cannot capture these special voices nor can it provide a semiotic reading of deep-seated beliefs and assumptions. Nevertheless, a quantitative content analysis can delineate these worlds, whether they are internal or external to the firm, geographic or technological, and offer a systematic reading of patterns of attention, concerns, and expectations.

The results of this study provide evidence for the construct validity of managerial cognition measures derived from letters to shareholders by empirically supporting theoretically predicted relationship between these measures and global strategic posture. Moreover, the

absence of any reference to foreign operations and markets challenges the oft-stated supposition that letters to shareholder are no more than an orchestrated exercise in impression management. This study indicates that despite ubiquitous and persistent calls for top management to venture into the global arena, more than 25 percent of the letters to shareholders did not make even a single reference to the global environment. Impression management theories, however, would have predicated that since globalization has gained the status of a “strategic must,” top management would at least pay lip service to the globalization mandate. Thus, these results further validate the claim that letters to shareholder constitute a valid window into top management cognitive orientation.

While the methodology developed in this study to assess global mindset is particularly suitable for large-scale longitudinal studies based on textual data, it nevertheless can guide analysis of other types of data. For example, when attempting to assess global mindset using interview data, a similar approach can be taken in the construction of cognitive maps of executives. These maps, in turn, can be analyzed both in terms of orientation (external-internal and domestic-global), diversity, and complexity. Similarly, the construction of a survey instrument can also be guided by the external-internal and domestic-global conceptual axes. Cognitive diversity can be measured via a survey questionnaire by assessing the dispersion of attention and concerns across theoretically meaningful categories.

Finally, as mentioned earlier, the measures of orientation and dispersion utilized in this study shed only limited light on the question of the relationship between cosmopolitan orientation and cognitive diversity. The main drawback of these measures is that it is not entirely clear whether the covariation between these two classes of variables, as limited as it may be,

reflects measurement similarity or construct similarity. Therefore, researchers attempting to assess these two theoretically distinct dimensions are well-advised to consider this issue at the outset.

Limitations of the Current Study

One obvious limitation of this study concerns generalizability of the results beyond technologically intensive industries. While these industries present a considerable managerial challenge and may bring to the fore the significance of managerial cognitive orientation, examining the effects of global mindset across other industries is warranted. It should be noted, however, that when varying firms and industries on some theoretical dimension, it is important to consider the effect of this dimension on managerial cognition. In this respect, industry characteristics not only mediate the relationship between managerial cognitive orientation and organizational outcomes, but also affect managerial cognition itself.

A second limitation of the current study is that only a narrow range of top management characteristics was examined. Examining other top management characteristics such as functional and educational heterogeneity and international experience of executives could have enriched this project by providing a more complete depiction of top management teams. Moreover, by examining a wider range of top management characteristics, additional aspects of the relationship between demographic heterogeneity and cognitive orientation could have been illuminated.

Finally, this study relied solely on archival data. While I do not adhere to the notion that cognition can be accessed “directly,” other data sources and methods may provide a more

complex and detailed representation of managerial cognition. Nevertheless, measuring managerial cognition or the “black box,” as researchers in the upper echelons tradition often refer to cognition, is promising to remain an illusive task at best.

Directions for Future Research

This study is somewhat exploratory in nature and leaves ample room for future research. Obviously, more research is needed in order to identify and substantiate the properties of global mindset. Additionally, although in this study global mindset was conceptualized at the top management team level of analysis, it can be applied at both the individual and the organizational levels of analysis. Regardless of the level of analysis, however, future research needs to reflect the intricate and multifaceted nature of this construct. Moreover, future empirical research should entertain the possibility that various characteristics of MNCs may be independent from global mindset. Nevertheless, identifying the dimensions of MNCs that do vary with global mindset would significantly enhance our understanding of this seemingly elusive construct.

In addition, although global mindset has been presented as a new concept, a concept of the 1990s, both of its underlying themes—cosmopolitanism and cognitive diversity—are embedded in fairly well-developed theoretical and empirical traditions. I suggest that future empirical research on global mindset should build on previous studies within these traditions, differences in organizational form and historical context notwithstanding. For example, previous empirical research has explored the relationship between cosmopolitanism and work-related values and behaviors (Goldberg 1976), job performance (London, Cheney, and Tavis 1977), and

innovativeness (Kimberly and Evanisko 1981)—issues that are still relevant to present-day multinational corporations. Similarly, cognitive research has investigated the relationships between cognitive diversity and complexity and various aspects of decision-making (Levi 1980; Tetlock, 1984; 1985), a critical issue in MNCs.

The second research direction stems from the discussion of the antecedents of global mindset. While I have previously suggested that boundary spanning activities may shape managerial cognition, with relatively few exceptions (e.g., Walker 1985; Calori, Johnson, and Sarnin 1994), empirical research has not examined the *direct* effects of individual boundary spanning activities on cognition. Thus, identifying the cognitive outcomes of such activities may significantly enhance our understanding of the factors affecting the development of global mindset. Additionally, as organizations increasingly establish interorganizational relationships such as strategic partnerships and cross-borders alliances, future research should go beyond individual boundary spanning activities to examine the effect of interorganizational relationships on managerial cognition. In other words, organizations that engage in boundary spanning activities expose their employees to diverse informational, cultural, and social influences. These structured exposure opportunities may thereby shape individual cognition.

The third research direction is suggested by the current focus on global strategic posture. While this construct certainly captures an important aspect of globalization-related corporate strategies, it does not distinguish between various forms of multinational management. For example, global firms vary considerably in the ways in which their worldwide operations are coordinated, integrated, and respond to local demands. Thus, the question whether global

mindset affects not only the magnitude of globalization efforts, but also specific policies and practices implemented by top management obviously remained unanswered.

Finally, the fourth question is also suggested by the focus on global strategic posture. As expansive strategic posture gradually becomes the order of the day, it may lose its diagnostic qualities. In other words, as global expansion becomes an institutionalized organizational practice and is adopted by firms because of mimetic reasons, managerial cognition and top management characteristics may play only a secondary role in shaping this strategic choice (DiMaggio and Powell 1983). For instance, previous research suggests that an early adoption of an organizational practice is affected by organizational-specific characteristics, whereas a late adoption is related to institutional processes of legitimacy (Tolbert and Zucker 1983). Therefore, future research should examine whether global mindset affects less institutionalized globalization-related practices. In this respect, an area of particular diagnostic value may be organizational functions that are less often globalized such as R&D activities (Chen and Bolong 1993). Examining such functions may provide an especially lucid window into the relationship between prevailing attitudes and orientations among top executives and globalization-related strategic choices.

Concluding Remarks

This study is in fact the first to offer substantial empirical support to the often-stated suggestion that global mindset of top management shapes organizational outcomes of considerable importance. Although this study did not prove causality, it established that global mindset preceded expansive global strategic posture. Additionally, the less than obvious findings that external orientation is related to global strategic posture suggest direction of causality. It is more plausible to assume that external orientation leads to expansive global strategic posture than expansive global strategic posture leading to external orientation.

By situating the discussion on global mindset in a broader theoretical perspective, this study considerably expanded the horizon of future research beyond its current basis in international management framework. Moreover, by conceptualizing global mindset in cognitive terms rather than providing an exhaustive list of attitudes, personal characteristics, and skills, the concept of global mindset acquired more solid analytic properties. Additionally, I hope that I have demonstrated that drawing on a wide body of literature can actually enhance the explanatory power of the concept of global mindset rather than diminish it.

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Figure 1

FULL MODEL

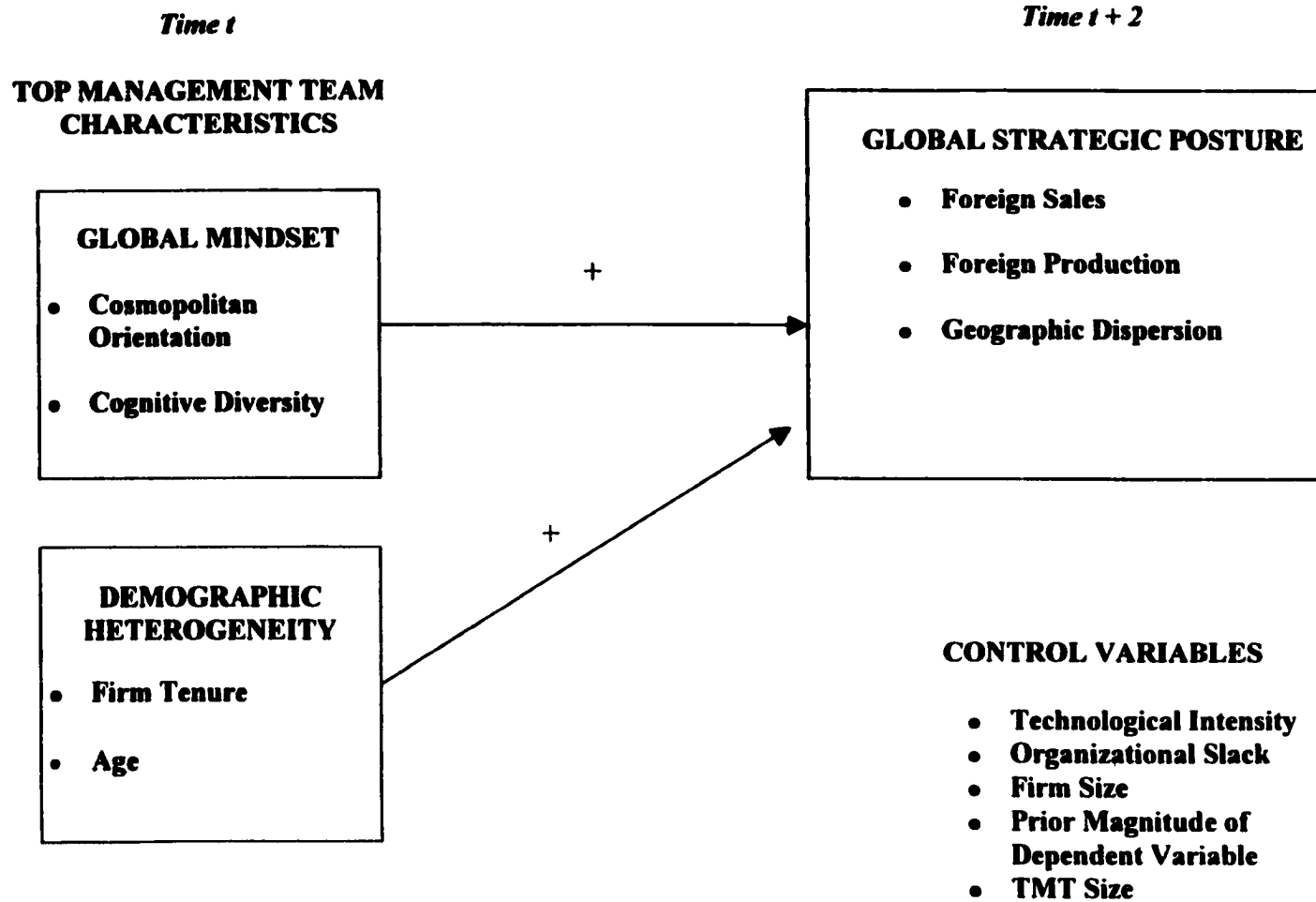


Figure 2

GLOBAL MINDSET: TWO UNDERLYING DIMENSIONS

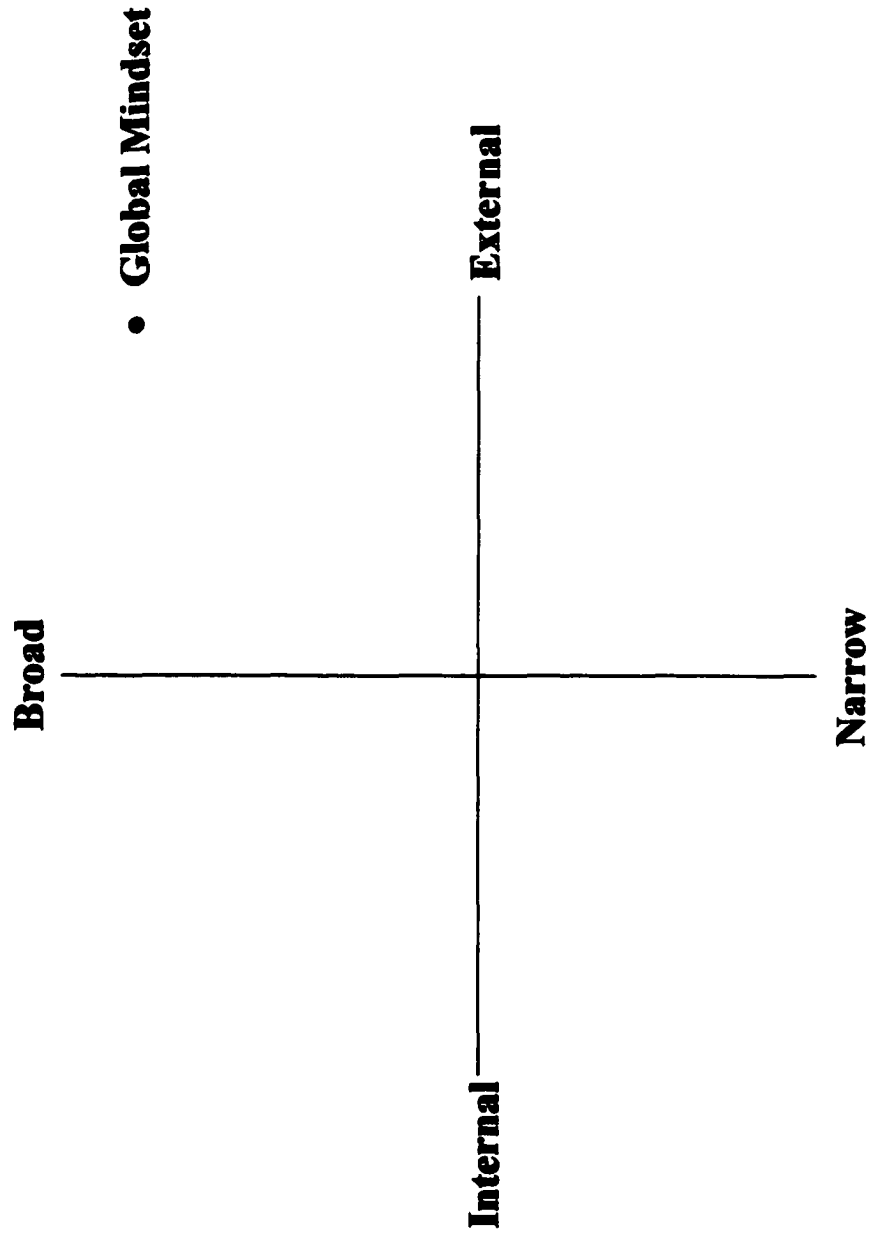


Table 4.1**Concept-Specific Records**

Concept	Number of Records Per Concept*	
External Constituencies		
Competitors	622	[847]
Customers/Computer Industry	563	[695]
Customers/Pharmaceutical	540	[686]
Customers/Semiconductors	578	[708]
Dealers	69	[136]
Strategic Partners	213	[283]
Internal Constituencies		
Board of Directors	162	[247]
Employees	338	[504]
Owners	475	[627]
Top Management	515	[652]
Foreign Operations & Markets	206	[332]
Total	4,373	[5,211]

*The figures in brackets indicate the total number of sentences within each concept prior to excluding sentences that were coded with more than one concept.

Table 4.2

Crosstabulation of Dictionary Categories

Categories	1	2	3c*	3p*	3s*	4	5	6	7	8	9	Chi2
1 Board of Directors	200	2	4		6		2	2	6		26	3079.15***
2 Competitors	1	321	4	5	6		6	1	1	4	10	1618.09***
3 Customers	2	11	409	223	233	1	5	3		6	3	1409.56***
4 Dealers			3		1	43	1	3				2198.33***
5 Employees	3	10	16	19	1	1	319	2	5	2	20	2856.62***
6 Foreign Operations & Markets	3	31	16	14	5	9		167	2	21	3	1844.84***
7 Owners	1	2	1						333	1	2	2748.94***
8 Strategic Partners	2	5	5	4	2	3			1	94	1	1407.57***
9 Top Management	29	1	2				1	1	1		415	2749.28***

*3c - Computer Industry

*3p - Pharmaceutical Industry

*3s - Semiconductor Industry

n = 3,230

***p(2-tail)<.000

Table 4.3

Dictionary: Lexical Items By Category*

I. BOARD OF DIRECTORS

- Board
- Chairman
- Chairman of the Board
- Director*
- Vice Chairman

II. COMPETITORS

- Compete
- Competition
- Competitive*
- Competitive Position
- Competitive Pressure*
- Competitor*
- Intellectual Property
- Leader
- Leaders
- Leadership
- Leadership Position
- Market Dominance

* An asterisk denotes permutations.

- **Market Share**
- **Our Position**
- **Patent Expiration***
- **Patent Protection**
- **Patent Violation***
- **Price Pressure***
- **Pricing Pressure***
- **Off Patent**
- **Bio-Equivalent**
- **Generic Equivalent***
- **Generic Version Of**
- **Generic Substitution***

III. CUSTOMERS

Customer

- **Acceptance**
- **Awareness**
- **Client***
- **Customer***
- **Customized**
- **Demand**
- **Major Account***
- **Revenue Base**
- **Satisfaction**
- **Solution***

Computer Industry

- **End User***

Pharmaceuticals Industry

- **Babies**
- **Children**
- **Consumers**
- **Healthcare Professional***
- **Healthcare Provider***
- **Health Care Professional***
- **Health Care Provider***
- **Medical Professional***
- **Patient***
- **Physician***
- **Pharmacist***

Semiconductors Industry

- **OEM***
- **Equipment Manufacturer***

IV. DEALERS

- **Dealer***
- **Distributor***
- **Value-Added Reseller***
- **Var**
- **Vars**

V. EMPLOYEE

- **Dedication**
- **Employ***
- **Layoff***
- **Loyalty**
- **People**

- **Salesforce**
- **Scientist***
- **Staff***
- **Supervisors**
- **Talent***
- **Teamwork**
- **Workers**
- **Workforce**

VI. FOREIGN OPERATIONS & MARKETS

- **Developed Countries**
- **Foreign Affiliate***
- **Foreign Business**
- **Foreign Currenc***
- **Foreign Exchange**
- **Foreign Markets**
- **Foreign Countries**
- **Foreign Operation***
- **Foreign Sales**
- **Foreign Subsidiar***
- **Global***
- **International Affiliate***
- **International Markets**
- **International Operating Units**
- **International Operation***
- **International Performance**
- **International Revenues**
- **International Sales**
- **International Units**
- **Overseas**
- **Other Countries**

Africa

- Africa
- South Africa

Asia-Pacific

- Asia
- Australia
- China
- Far East
- Hong Kong
- India
- Indonesia
- Japan*
- Korea
- Malaysia
- New Zealand
- Pacific Rim
- Philippines
- Singapore
- Taiwan
- Thailand

Europe

- Austria
- Belgium
- Britain
- British
- Bulgaria
- Czechoslovakia
- Czech Republic
- Denmark
- England

- **Europe***
- **Finland**
- **France**
- **French**
- **Germany**
- **Greece**
- **Hungary**
- **Ireland**
- **Italy**
- **Netherlands**
- **Norway**
- **Poland**
- **Russia**
- **Scandinavia***
- **Scotland**
- **Soviet Union**
- **Spain**
- **Switzerland**
- **Sweden**
- **Yugoslavia**
- **United Kingdom**

Middle East

- **Egypt**
- **Middle East**
- **Israel**

Latin America

- **Argentina**
- **Brazil**
- **Chile**
- **Colombia**

- Mexico
- Peru
- Central America
- Latin America*
- South America

North America

- Canada

VII. STRATEGIC PARTNERS

- Agreement
- Alliance*
- Corporate Partners
- Joint Development*
- Joint Effort*
- Joint Goal*
- Joint Product Development*
- Joint Venture*
- Licens*
- Strategic Partner*

VIII. OWNERS

- Dividend*
- Investor*
- Shareholder*
- Stockholder*

IX. TOP MANAGEMENT

- **CEO**
- **CFO**
- **Chief Executive Officer**
- **Chief Financial Officer**
- **Chief Operating Officer**
- **COO**
- **Corporate Officer***
- **Corporate Management**
- **Executive Vice President***
- **Management Team**
- **Officer***
- **Senior Vice President***
- **SVP**
- **President**
- **VP**
- **Vice President***

Table 4.4

Descriptive Statistics of First-Order Orientation Variables

First-Order Orientation Variables	Mean	S.D.	Minimum	Maximum	Sum
Board of Directors	2.038	2.25	.00	16.00	1072
Competitors	3.95	3.96	.00	29.00	2076
Customers	6.63	5.95	.00	41.00	3488
Dealers	0.45	1.32	.00	12.00	236
Employees	2.90	3.03	.00	21.00	1527
Foreign Operations & Markets	3.37	4.32	.00	32.00	1770
Owners	2.37	1.70	.00	12.00	1247
Strategic Partners	1.40	2.19	.00	15.00	739
Top Management	2.66	2.70	.00	24.00	1388

n = 526

Table 5.1
Descriptive Statistics

	Mean	S.D.	Min	Max
<u>Dependent Variable</u>				
Global Strategic Posture (t + 2)	.151	2.62	-3.56	6.48
<u>Independent Variables</u>				
Absolute External Orientation	12.41	9.26	.00	63.00
Absolute Internal Orientation	9.97	6.6	2.00	48.00
Absolute International Orientation	3.35	4.21	.00	32.00
Proportionate External Orientation	.015	.005	.00	.03
Proportionate Internal Orientation	.009	.005	00	.03
Proportionate International Orientation	.002	.002	00	.01
Emphasis on External Environment	2.44	9.28	-30.00	46.00
Absolute Cognitive Diversity	3.82	1.61	.00	9.00
Weighted Cognitive Diversity	.56	0.18	.00	.82
TMT Tenure Heterogeneity	0.46	0.37	.00	1.80
TMT Age Heterogeneity	0.12	0.07	.00	.12
<u>Control Variables</u>				
Technological Intensity	0.1	0.05	.01	.34
Organizational Slack	-.003	0.4	-2.62	1.37
Firm Size	5.52	2.27	-3.56	9.99
Global Strategic Posture (t)	-0.13	2.52	-3.56	6.16
TMT Size	4.79	3.24	1	16
Words	1192.53	673.29	183	5416
n=552				

Table 5.2

Pearson Correlation

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
<u>Dependent Variable</u>																			
1 Global Strategic Posture (t + 2)																			
<u>Independent Variables</u>																			
2 Absolute External Orientation	.30***																		
3 Absolute Internal Orientation	.22***	.35***																	
4 Absolute International Orientation	.32***	.54***	.44***																
5 Proportionate External Orientation	.19***	.54***	-.10*	.01															
6 Proportionate Internal Orientation	.004	-.28***	.49***	-.14***	-.08														
7 Proportionate International	.318**	.20***	.19***	.79***	.02	.09*													
8 Emphasis on External Environment	.15***	.75***	-.36**	.23***	.64***	-.63***	.07												
9 Absolute Cognitive Diversity	.27***	.51***	.23***	.66***	.22***	-.27**	.63***	.35***											
10 Weighted Cognitive Diversity	.21***	.29***	.17***	.49***	.14***	-.20**	.55***	.17***	.79***										
11 TMT Tenure Heterogeneity	.04	.02	.14***	.13**	-.02	.09*	.13**	-.07	.10*	.08									
12 TMT Age Heterogeneity	-.07	.07	.04	.12**	.13	-.05	.12**	.04	.18***	.16***	.37***								
<u>Control Variables</u>																			
13 Technological Intensity	.02	.16***	.16***	-.40	.14***	-.03	-.12**	.11*	.11*	-.09*	-.07	-.06							
14 Organizational Slack	-.25**	-.70	-.07	-.16***	-.05	.01	-.35**	.04	-.10*	-.08	.11*	-.04	.22***						
15 Firm Size	.63***	.23***	.23***	.34***	.04	.10*	.26***	-.03	.22***	.21***	.02	-.01	.08	-.16***					
16 Global Strategic Posture (t)	.97***	.29***	.24***	.31***	.19***	.26	.31***	.12**	.25***	.20***	.06	-.5	.02	-.26***	.63***				
17 TMT Size	.53***	.25***	.25***	.26***	.05	-.01	.20***	.07	.23***	.19***	.20**	.12**	-.04	-.24	.55***	.54***			
18 Words	.21***	.75***	.57***	.65***	-.03	-.03**	.24***	.34***	.50***	.33***	.04	.11**	.11**	-.10*	.29***	.20***	.25***		

n=552

*p<.05; **p<.01; ***p<0.001

Table 5.3

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on Absolute External
and Internal Orientations***

SSE	51.7262
Intercept	.234 (.284552)
Absolute External	.009*** (.000536)
Absolute Internal	-.004*** (.001108)
<u>Control Variables</u>	
Technological Intensity	-1.110*** (.261442)
Organizational Slack	.090 (.051761)
Firm Size	.048 (.041840)
Global Strategic Posture (t)	.947*** (.026852)
TMT Size	-.001 (.005763)
Words	-.004 (.000011875)

n=552

*p<.05; **p<.01; ***p<.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.4

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
Proportionate Orientation Indexes***

SSE	57.37868
Intercept	.060 (.349125)
Proportionate External Orientation	4.08** (1.469027)
Proportionate Internal Orientation	-3.221* (1.876548)
Proportionate International	21.364** (7.604374)
<u>Control Variables</u>	
Technological Intensity	-.390 (.383375)
Organizational Slack	.0171 (.076312)
Firm Size	.066 (.048426)
Global Strategic Posture (t)	.941*** (.029756)
TMT Size	-.008 (.011849)

n=552

*p<.05; **p<.01; ***p<0.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.5

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
Emphasis on External Environment***

SSE	53.18842
Intercept	.0955 (.192577)
Emphasis on External Environment	.006*** (.000389)
<u>Control Variables</u>	
Technological Intensity	-1.173*** (.204258)
Organizational Slack	.092** (.034871)
Firm Size	.067* (.029805)
Global Strategic Posture (t)	.941*** (.021494)
TMT Size	-.002 (.004001)
Words	.000 (.000013)

n=552

*p<.05; **p<.01; ***p<0.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.6

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
Absolute International Orientation***

SSE	58.40207
Intercept	.153 (.203176)
Absolute International	.011*** (.002404)
<u>Control Variables</u>	
Technological Intensity	-.844*** (.0254469)
Organizational Slack	.057 (.037272)
Firm Size	.034 (.031241)
Global Strategic Posture (t)	.947*** (.029626)
TMT Size	.003 (.003351)
Words	.000* (.000017)

n=552

*p<.05; **p<.01; ***p<0.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.7

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
Absolute Cognitive Diversity***

SSE	59.36011
Intercept	.144 (.186)
Absolute Cognitive	.035*** (.004779)
<u>Control Variables</u>	
Technological Intensity	-.506* (.205236)
Organizational Slack	.039 (.205236)
Firm Size	.036 (.021104)
Global Strategic Posture (t)	.915*** (.018032)
TMT Size	-.0002 (.003793)

n=552

*p<.05; **p<.01; ***p<.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.8

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
Weighted Cognitive Diversity***

SSE	102.5625
Intercept	-.173*** (.000000111)
Weighted Cognitive	.182*** (3.155478E-8)
<u>Control Variables</u>	
Technological Intensity	-1.056*** (.000000106)
Organizational Slack	.060*** (2.9334106E-8)
Firm Size	.086*** (1.2453232E-9)
Global Strategic Posture (t)	.911*** (1.2799711E-8)
TMT Size	.003*** (1.2453232E-9)

n=552

*p<.05; **p<.01; ***p<0.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.9

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
Global Mindset (Full Model)***

SSE	54.07775
Intercept	.002 (.348854)
Proportionate External	3.79*** (6.032235)
Proportionate Internal	-2.009 (1.545974)
Proportionate International	15.738** (6.032235)
Weighted Cognitive Diversity	.207*** (.049408)
<u>Control Variables</u>	
Technological Intensity	-.289 (.350962)
Organizational Slack	.241*** (.074319)
Firm Size	.055 (.048366)
Global Strategic Posture (t)	.955*** (.028557)
TMT Size	-.002 (.010951)

n=552

*p<.05; **p<.01; ***p<0.001

*Unstandardized regression coefficients. Standard errors are in parentheses.

Table 5.10

**TSCS Regression Results:
Global Strategic Posture (t + 2) Regressed on
TMT Tenure and Age Heterogeneity***

SSE	26.60938
Intercept	.059*** (.000000126)
TMT Tenure	.104*** (2.4215493E-8)
TMT Age Heterogeneity	-.951*** (.000000112)
 <u>Control Variables</u>	
Technological Intensity	-1.187*** (.000000191)
Organizational Slack	.047*** (1.8455652E-8)
Firm Size	.073*** (1.6327384E-8)
Global Strategic Posture	.913*** (2.924768E-9)
Team Size	.009*** (3.8657716E-9)

n=552

*p<.05; **p<.01; ***p<0.001

*Unstandardized regression coefficients. Standard errors are in parentheses.