DETERMINANTS AND PERFORMANCE IMPLICATIONS OF GLOBAL MINDSET: AN ATTENTION-BASED PERSPECTIVE

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ABSTRACT

We develop a novel perspective on global mindset wherein the actual behaviors of top managers, rather than their cognitive views of the world, are used to approach this construct. Our theory suggests that global mindset is best explained by micro-level attention structures – the structural positions, meetings, leadership development, and economic incentives that the firm puts in place to channel attention towards certain activities and away from others. Our conceptual framework also hypothesizes a curvilinear positive relationship between global mindset and firm performance. Using a cross-national sample of 140 medium and large multinational corporations, multivariate analyzes provides support for this conceptual framework.
DETERMINANTS AND PERFORMANCE IMPLICATIONS OF GLOBAL MINDSET: AN ATTENTION-BASED PERSPECTIVE

It is frequently argued in the global strategy literature that for a multinational company (MNC) to be successful on a global basis, it is not enough simply to build up a network of value-adding activities around the world; it is also necessary to develop a *global mindset* – a state of mind that allows individuals to understand a business or market without regard to country boundaries (Kobrin, 1994; Murtha, Lenway and Bagozzi, 1998; Perlmutter, 1969). Research has shown that there is a relationship between global mindset and the geographic scope of the firm (Calof & Beamish, 1994; Calori, Lubatkin, & Very, 1994; Kobrin, 1994; Sambharya, 1996). And a number of studies have argued that global mindset affects top managers’ understanding of the world’s diversity, their ability to integrate multiple viewpoints and sources of knowledge or expertise into the firm’s decision-making process, and, as a result, should positively influence firm performance (Bartlett and Ghoshal, 1989; Gupta and Govindarajan, 2001; Jeannet, 2000; Perlmutter, 1979). Consequently, understanding the determinants and performance implications of a global mindset is of great theoretical and practical importance.

However, there is surprisingly little agreement on the definition and measurement of the global mindset construct. A review of the literature in the next section shows that global mindset has been measured in a number of different ways, in terms of: the CEO’s cognitive map; the demographic background of top managers; the behaviours and decisions of top managers; and the practices, policies and standards of the firm. Equally, there is no consensus as to how a global mindset is developed. Some studies argue that a global mindset is a function of the MNC’s administrative heritage; some focus on the nature of the global business environment; and others argue that it can be shaped through the MNC’s structures, policies and procedures.
This diversity of perspectives on global mindset reflects the complexity of the construct, but it impedes our progress as researchers. There is currently no unifying framework on which academic research can converge, and this partly explains the relatively small and fragmented literature on what is widely recognised as an important issue.

In this paper we put forward a new conceptualisation of global mindset that goes some way towards integrating the different points of view of the prior literature. Our approach is to make use of recent advances in the theory of attention (Hansen and Haas, 2001; Ocasio, 1997) to develop the concept of Top Management Team (TMT) attention to global strategic issues. This construct is operationalised in terms of behaviours – the actual time and energy devoted by TMT members to analyze global aspects of the firm’s environment. While still recognising the importance of cognitive processes in shaping decision-making, attention theory suggests that what really matters is how individuals behave in practice (rather than what they think about). And it is this attention to global issues, we argue, that is a primary manifestation of a global mindset.

Moreover, attention theory also provides a useful way of thinking about the mechanisms through which behaviours are shaped, namely the attention structures that firms create to channel attention towards certain activities and away from others. This, again, has important implications for the global mindset literature because it highlights the different approaches firms can use to develop a global mindset. The focal construct in this paper is therefore TMT attention to global issues, and its purpose is to answer two questions: (1) what factors explain TMT attention to global issues? And (2) what is the relationship between TMT attention to global issues and firm performance?

To anticipate the findings of the paper, there are two main conclusions that have important implications for our understanding of global mindset. First, rather than being a function of the firm’s administrative heritage or business environment, or the experience base
of the individuals in question, TMT attention to global issues is actually explained primarily by the attention structures that the firm puts in place. In other words, the way top managers behave towards global issues owes very little to their prior experience or their firm’s heritage, but rather it is shaped by the specific structures, procedures and processes that channel attention. Second, we show that TMT attention to global issues is a mixed blessing. Previous research on global mindset has suggested that the more global the mindset, the better the performance (Calof and Beamish, 1994; Murtha et al, 1998; Perlmutter, 1969). Our findings our consistent with this logic up to a point, but we also show that too much attention to global issues can be detrimental to performance. In other words, the relationship between TMT attention to global issues and firm performance is curvilinear.

The rest of the paper builds on these arguments in greater detail. First we review the literatures on attention theory and global mindset. Second we put forward our research model and develop specific hypotheses around our two research questions. Third, we discuss our research methods and present summary data on the testing of the hypotheses. Finally, the implications of this research for both researchers and managers are presented.

THEORETICAL BACKGROUND

At the level of individuals, attention encompasses the allocation of information-processing capacity, time and effort to selected aspects of the environment (Dutton & Ashford, 1993; Ocasio, 1997; Sproull, 1984). In this paper, we develop the concept of TMT-level\(^1\) attention to global strategic issues, which highlights how TMT members pay attention to global aspects of their business environment to the relative exclusion of others. This includes, for example, attention to events, developments and trends that originate in geographically distant locations, where the firm may or may not maintain operations on the ground, but that have potential implications for firm performance.
**Competing for the Attention of Top Management**

The starting point for attention theory is the concept of a market for TMT attention, where information is plentiful and attention is scarce. The concept of bounded rationality, popularized by Simon (1957), suggests that human brains have impressive, yet limited, information-processing capabilities. Thus, a scarce resource for TMTs is typically not information, but the amount of attention that top managers can allocate to search, sort-out, and interpret the firm’s global environment (Hansen & Haas, 2001; Kahneman, 1973; Simon, 1982). As Simon (1982: 173-176) noted, “any fool with money” can obtain information on customers, technology, competitors, and major societal trends worldwide. But this wealth of information leads to a dearth of attention to individual data points. Hence, according to Simon, “a wealth of information creates a poverty of attention.”

To avoid information overload, top managers will often decide to ignore peripheral aspects of the entire situation to deal effectively with others. March and Simon (1958: 11) present “a picture of a choosing, decision-making, problem-solving organism that can do only one or a few things at a time and that can attend to only a small part of the information recorded in its memory and presented by the environment.” The economically rational criteria to allocate time and effort among competing issues should be to assess the present value of the net future returns that attentional processing generates under different allocation scenarios (Winter, 1987: 165). However, the world of MNCs is inherently complex and ambiguous. It is not easy to rationally assess the relevance and economic value of all opportunities and threats that emerge in various parts of the world.

As a result, top managers often follow simple heuristics to prioritise among competing issues. In the context of the MNC, top management attention is typically focused on a few lead markets where the firm is already well established (Doz, Santos, & Williamson, 2001), and on those markets with the biggest problems (cf. Radner, 1975). In contrast,
scanning remote parts of the world where the firm has limited strategic activity is likely to be perceived as an inefficient alternative, in that it would exert an immediate drain on scarce attentional resources. And yet, research has shown that important opportunities and threats often emerge at the periphery of the world’s economy. This relative neglect of global strategic issues creates blind spots, where a company “will either not see the significance of events at all, will perceive them incorrectly, or will perceive them very slowly.” (Porter, 1980: 59). Research on attention, however, suggests that firms can impact the extent to which attention is allocated to issues and tasks that are not necessarily consistent with standard optimizing principles, but nevertheless important to achieving the company’s most fundamental objectives. In particular, top managers can create a systematic infrastructure that not only influences how subordinates allocate time and effort, but that also regulates how top managers themselves allocate their own attention in the face of overwhelming options.

**Attention Structures**

Since Simon (1957), it has been often argued that firms respond to the problem of bounded rationality by adopting various structural arrangements and motivational rules that channel individual attention in terms of what aspects of the environment are to be considered and what aspects are to be ignored (Burgelman, 1983; March & Olsen, 1976; Stinchcombe, 1968). Organizational theorists introduced the term “attention structures” to discuss these mechanisms (March et al., 1976; Ocasio, 1997; Stinchcombe, 1965). For example, March (1994) explained how deadlines, strategic initiatives, well-defined options, and evidence of failure could contribute to more effectively structuring the attention of decision-makers. In addition to these factors, Ocasio (1997) and Hoffman and Ocasio (2001) argued that attention is also greatly affected by the rules of the games, structural positions, identity and resources possessed by the attending actors. A major assumption of this line of work is that attention structures influence the type of issues that decision-makers perceive to be important and
legitimate to the company’s objectives, and that serve to enhance their interests, roles and identifications within the organization. Dutton (1997) makes a similar argument when discussing how issues get placed on the strategic agenda of the firm. All of this suggests that attention, like any other scarce resource can and should be regulated by firms.

**Global Mindset**

Having reviewed the basic concepts of attention theory, we are now in a position to link it to the research on global mindset mentioned earlier. The starting point for any discussion of global mindset is Perlmutter’s (1969) well-known distinction between ethnocentric (home-country mindset), polycentric (host-country mindset), and geocentric (global mindset) MNCs. His work was picked up by Bartlett and Ghoshal (1989) who developed the global mindset concept further, though preferring the term Transnational mindset. During the 1990s there were a series of further studies, each approaching the concept of global mindset in a rather different way (Calof and Beamish, 1994; Calori et al., 1994; Kobrin, 1994; Murtha et al., 1998; Sambharya, 1996). Table 1 provides a summary of the definitions, measures, and findings of these studies.

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Two important points arise from this summary. First, there appear to be at least four different ways of operationalising global mindset. Calori et al (1994) viewed global mindset as a cognitive map, and they utilized established techniques (Huff, 1990) to tap into the complexity and comprehensiveness of the CEO’s cognitive map. Sambharya (1996) built on upper echelon theory (Hambrick and Mason, 1994) to measure the international experience of the top management team as a proxy for their international values and beliefs. Kobrin (1994) focused on the firm’s international human resource policies as the key indicator of
geocentrism. And Murtha et al (1998) and Calof and Beamish (1994) measured a combination of individual behaviours and firm policies and decisions to tap into global mindset. Second, there is only limited agreement regarding the antecedents and consequences of a global mindset. In terms of antecedents, Bartlett and Ghoshal (1989) argued that a firm’s administrative heritage is the key determinant of mindset, Calori et al (1994) focused on the complexity of the international environment, and Sumbharya (1996) assumed that individual experience was critical. In terms of consequences, it is often argued that global mindset leads to superior firm performance but without any strong empirical evidence. Several studies show that global mindset is associated with greater international scope (Calof and Beamish, 1994; Kobrin, 1994; Sumbharya, 1996), but none of them is able to indicate causality. Indeed, it is commonly acknowledged that while global mindset is likely to enhance international scope, the reverse logic is equally compelling. The relationship between the two variables is thus one of reciprocal causality.

**RESEARCH FRAMEWORK AND HYPOTHESES**

This study builds on the theory of attention to home in on TMT attention to global strategic issues as a core element of global mindset. This is a behavioural measure, meaning that it focuses on the actual time and energy that top managers devote to global issues. One might argue that the best measure of global mindset is some sort of cognitive map. However, there are two problems associated with this approach. First, cognitive mapping techniques are extremely laborious and have often resulted in inconclusive findings (Calori et al, 1994; Huff, 1990). Second, in those (frequent) cases where there is a mismatch between what individuals think and what they do, it is arguably more useful to focus on what they do, because that is what drives subsequent actions. Hence, we prefer to focus on four defining elements of behaviour: global scanning (collection and analysis of world knowledge), (2) relative time
spent by the CEO traveling outside the domestic market, (3) richness of communications with overseas managers, and (4) discussions pertaining to major globalization decisions.

Figure 1 illustrates our conceptual framework, which comprises four theoretical links. TMT attention to global issues is shaped primarily by the content of a firm’s attention structures, the micro-level processes that regulate the salience and legitimacy of issues competing for TMT attention (link \(a\)). For example, firms can modify the content of data management tools, motivation schemes, and conflict management systems to promote a clear worldwide perspective within the TMT (Prahalad & Doz, 1987). The content of such attention structures, in turn, is affected by signals from the environment of decisions (link \(b\)). These signals also impact TMT attention to global issues, but because of the oversupply of information and the scarcity of TMT attention, this link is only effective when the appropriate attention channels are in place (link \(c\)). Or stated more formally, we propose that attention structures will partially mediate the relationship between the environment of decisions and TMT attention to global strategic issues. Finally, TMT attention to global strategic issues is expected to have an effect on firm performance, for theoretical reasons that will be elaborated below (link \(d\)).

It may be useful to emphasize the important differences that exist between this framework and prior research on global mindset. First, some of the previously used measures of global mindset (e.g. international human resource policies, Kobrin, 1994; MNC rules and procedures, Murtha et al, 1998) are best understood with this framing as attention structures that influence the subsequent behaviours of top managers, rather than as measures of global mindset \textit{per se}. Second, in this framing the cognitive elements of attention are unobserved. Our approach measures the structures that channel information, and the things that top managers subsequently focus their attention on, but it does not attempt to map the cognitive
processes that link them together. Finally, it should be noted that the prior experience of top managers and the administrative heritage of the firm are not explicitly mentioned. While we control for these factors in our statistical analysis, they are not an important part of this theoretical framework.

Link a: Attention Structures and TMT Attention to Global Strategic Issues

We build on Ocasio (1997) and Prahalad and Doz (1987) to conceptualize attention structures in terms of four critical dimensions, structural positions, meetings, economic incentives, and leadership development, whose attention-focusing roles are examined below.

**Structural Positions.** According to March and Olsen (1976), attention allocation is a rational choice driven by the sense of duty and obligation that stems from an individual’s official role in an organization. Top managers, in other words, commit their time and emotional energy to certain tasks because they are part of their job. This becomes a form of cognitive filter, which results in managers paying greater attention to issues germane to their job. Thus, when asked to identify and explain the key issues present in a complex situation, managers are largely bounded by their field of specialization (Deaborne & Simon, 1958). In the context of this study, some companies are using formal structural positions – such as global job titles and responsibilities, globalization champions, and dedicated teams or committees, to reinforce the sense of obligation to global issues. These positions can be understood as resources that make TMT attention to global strategic issues a duty accepted by virtue of top managers’ roles and identities.

**Meetings.** Meetings, scheduled or unscheduled, constitute another important regulator of top management’s attention (Mintzberg, 1973). Indeed, top managers interact with various social actors to debate, clarify, and enact their environments, i.e. collectively construct their understandings of social reality (Weick, 1979). How the meetings to which TMT members participate are structured in time and space affects what issues are seen as
salient items on the team’s agenda. With respect to this study, the relative salience of global strategic issues can be increased by rotating meetings across diverse foreign locations, and also, inviting speakers or clients from multinational locations.

**Economic Incentives.** A theory of attention allocation also needs to consider the economic trade-offs associated with competing attention claims (March et al., 1976; Prahalad & Bettis, 1986). Burgelman (1983: 64) argued that top managers evaluate strategic proposals “in the light of the reward and measurement systems that determine whether it is in their economic interest to provide impetus for a particular project.” This argument suggests that TMT members will allocate attention to global strategic issues provided they can gain material rewards in this process. Holding top managers accountable for global, rather than local, performance is one way of achieving this objective, which may translate in the use of compensation systems that weigh contributions to global results more heavily than contributions to single country bottom line (Bartlett & Ghoshal, 1998; Prahalad et al., 1987) and of performance evaluation schemes that tie the contribution of top executives to the company’s profits and performance (Murtha, Lenway, & Bagozzi, 1998):

**Leadership Development.** Global issues often originate in distant, relative obscure locations, thus being inherently sticky, and difficult to comprehend without prior relevant exposure (Doz et al., 2001). They might never enter the radar screen of insufficiently trained MNC managers (Adler & Bartholomew, 1992). Psychologists have shown that attention is improved with practice (James, 1890), and thus involvement in relevant leadership development activities: In the case of routine or well-learned activities, people commit their time and effort quasi automatically, without consciously thinking about it (Shiffrin & Schneider, 1977). In the context of this study, a number of studies have highlighted the role of international assignments in inculcating the skills that routinize TMT attention to global issues (Black, Gregersen, Mendenhall, & Stroh, 1999a; Carpenter, Sanders, & Gregersen,
2000, 2001b; Daily, Certo, & Dalton, 2000). Other leadership development activities include job rotations, foreign travel, and various kind of executive training programs (Adler et al., 1992; Black, Morrison, & Gregersen, 1999b; Pucik, Tichy, & Barnett, 1992).

**Hypothesis 1:** The greater the global content of the firm’s attention structures, the greater the level of top management team attention to global strategic issues in their decision-making activities.

**Link b: Environment of Decisions and Attention Structures**

The environment of decision refers to the myriad of issues that impinge upon the decision-making activities of the firm. In this paper, we focus on three key variables, which have received considerable attention in the international management literature. The first two measures relate to firm strategy: the firm’s global strategic posture (Carpenter, 2002; Carpenter & Fredrickson, 2001a), and the level of international interdependence of its operations (Roth, 1995). The third one is concerned with the level of global competition in the firm’s industry (Birkinshaw et al. 1995; Hout et al., 1982). It is suggested here that all three variables are sending signals that reinforce the importance and legitimacy of adopting the type of attention structures discussed above.

**Global Strategic Posture.** The structuring of attentional practices is likely to reflect the firm’s current concept of strategy (Burgelman, 1983). One element of this is what we refer to as a firm’s global strategic posture (GSP): the degree to which the firm depends on foreign sales and foreign-placed resources (assets and employees), and the geographical dispersion of these sales and resources (Carpenter et al., 2001a). Motivating managers to spread attention across multiple country locations is of limited value in companies whose strategic activity is concentrated in a single country market. Attention structures are then better used to encourage other types of attentional behaviors, such as increasing production quality, or becoming more attuned to demands for corporate social responsibility. Other things being equal, the greater the importance of overseas sales and resources in a firm’s total
activities, the greater the benefits that are derived from adopting attention structures that increase TMT attention to global strategic issues.

**International Interdependence.** While the configuration of worldwide activities (as measured by global strategic posture) is a key dimension of a firm’s global strategy, it is equally important to consider the level of coordination or interdependence between them (Porter, 1986). International interdependence is the degree to which a firm’s value-added activities are coordinated across geographically dispersed country locations (Roth, 1995). When firms confine their global strategies to a country-by-country response, with each country location reacting somewhat autonomously to specific industry conditions, TMTs are well advised to focus on domestic issues. When international interdependence is low (as in multi-domestic strategies), the need for the type of structural positions, meetings, economic incentives and leadership development that was discussed earlier is limited. Conversely, this need increases substantially when the firm’s competitive advantage is based on the firm’s capacity to function as an integrated whole, with extensive coordination/integration of value-added activities across country locations (Black et al., 1999b; Roth, 1995).

**Global Competition.** Notwithstanding the importance of strategy considerations, industry dynamics also matter in explaining the selection of attention structures. It has been shown that globalization often reflects the efforts of MNCs to achieve legitimacy with other industry participants (Birkinshaw et al., 1995; Hamel & Prahalad, 1985; Westney, 1993). Thus, specific categories of attention structures are likely to be selected when considered appropriate in a given industry context (March et al., 1976: 44). This condition is referred to as “structural equivalence” or “isomorphism” (DiMaggio & Powell, 1983). In particular, because the presence of global competitors within the firm’s industry requires top managers to “pit one multinational’s entire worldwide system of product and market positions against another’s” (Hout et al., 1982), increasing levels of global competition should, all things being
equal, motivate the adoption of attention structures that facilitate the emergence of global attentional behaviors in the firm’s TMT.

**Hypothesis 2:** Attention structures are affected by the firm’s environment of decisions. Specifically, the greater the firm’s global strategic posture, international interdependence, and level of global competition, the greater the global content of a firm’s attention structures.

**Link c: Environment of Decisions and TMT Attention to Global Strategic Issues**

Finally, and following Weick (1979), we argue that because of the oversupply of information and the scarcity of TMT attention, a firm’s global strategic posture, the international interdependence of its operations, and the degree of global competition prevailing within its industry have only a limited direct effect on TMT attention to global strategic issues. We argue that these variables constitute mental constructs that are enacted through a series of sense-making episodes, which, in turn, is affected by the particular social context in which TMT members interact. In other word, the firm’s environment of decisions drives attentional processing not in and by itself, but through its impact on the structuring of organizational practices (Ocasio, 1997).

To state the argument slightly differently, indicators of globalization activity in the firm’s environment of decisions are likely to exert an impact on TMT attention to global strategic issues. However, this relationship is largely imperfect, and highly dependent upon the presence or absence of appropriate attention channels. This explains why organizations that belong to similar industries, or that pursue relatively comparable types of global strategies, may or may not pay attention to the same things. According to the attention perspective, small differences in terms of what attention structures get selected by the firm are likely to provoke significant variance in terms of what issues secure the attention of top management. Stated more formally, we suggest a partial mediation hypothesis as follows:
**Hypothesis 3:** The content of a firm’s attention structures will mediate the relationship between the firm’s environment of decisions and TMT attention to global strategic issues.

**Link d: TMT Attention to Global Strategic Issues and Firm Performance**

The effective management of MNCs requires that TMT members allocate attention to a number of important issues located throughout the world (Bartlett et al., 1998; Govindarajan & Gupta, 2001). This may allow them to increase their collective understanding of how operations, activities, and asset stocks located in multiple national settings can and/or should contribute to the overall multinational network (Athanassiou & Nigh, 2000). In a related vein, TMT attention to global strategic issues is critical to identifying and leveraging the global knowledge (ideas and best practices) that MNCs need to acquire, which is often tacit, or seldom available in prepackaged form (Doz, et al. 2001). TMT members are likely to accumulate tacit knowledge only through personal contact and attention over time (Winter, 1987). Finally, TMT attention to global issues also contributes to effective strategy execution by signaling to subsidiary managers that the corporate center is competent and sincere in its attempt to reach informed strategic decisions that maximize the interests of all participating actors within the firm’s network (Kim & Mauborgne, 1993, 1998).

Maintaining this global mindset, however, always comes at an opportunity cost in terms of foregone uses of scarce attention resources. Potentially more important concerns can be overlooked or subordinated to the interests of the global “whole”; and time may be invested in looking at issues that are simply not that important. Moreover, as cultures are crossed and as geographical distances increase, the ability to effectively understand customers, governments, and markets is hampered (Gomes-Mejia & Palich, 1997; Hofstede, 1980). Thus, while the apparent fragmentation of TMT attention resources across multiple country locations suggests that the world is under constant review, the depth of understanding may suffer, and traditional sources of competitive advantage be put at risk. Finally, excessive
levels of TMT attention to global issues may bring in “hesitation, and awkwardness” (Nelson & Winter, 1982) into the firm’s global operations. When too much time and effort are spent thinking about worldwide developments, decision-making is often subject to inertia, or paralysis by extinction. Thus we suggest:

**Hypothesis 4:** There will be an inverted U relationship between TMT attention to global strategic issues and firm performance.

**METHODS**

**Industry Selection and Sample**

13 industries (building products, chemicals, communications equipment, computers, containers and packaging, food products, industrial machinery, metals, motor vehicles and parts, pharmaceuticals, scientific instruments, semiconductors, and software) and 6 countries (USA, Canada, France, Germany, U.K. and Japan) were selected. These contexts were considered appropriate in that research has verified important levels of globalization activity in these industries and countries (Bartlett et al., 1998; Birkinshaw et al., 1995; Roth, 1995).

A random sample of 900 MNCs defined as those public enterprises that control and manage production assets located in at least two countries (Caves, 1996), and that realize at least $25 million in sales, was then identified through Compustat and Global Vantage. Contact information was obtained from Hoover’s Online, the Directory of American firms Operating in Foreign Countries, and the Japanese Company Handbook, a publication of Toyo Keizei. Questionnaires were subsequently mailed to the CEOs or Presidents of the companies selected. 140 completed questionnaires were received, of which 4 were deemed not usable because of excessive missing data. Thus the effective response rate was 15% (136/900). This response rate compares favorably with other cross-national mail surveys of senior executives in diversified firms (Harzing, 2000).

**Validity Assessment**
An analysis to assess non-response bias indicated that the responding firms did not differ significantly from the non-responding firms in number of employees, total assets, total sales, proportion of foreign sales, 5-year average sales growth, and 5-year average returns on assets and equity. There were also no significant differences between early and late respondents. Furthermore, additional analysis revealed that the proportional breakdown of respondents by industry and country paralleled that of the initial group. In our sample, about half of the responding companies are located in North America (USA and Canada), 20% in Japan, and the remaining in Western Europe. Thus, no serious problems of sample selection bias were evident.

Several initiatives were also employed to reduce the problems associated with measurement error. We asked six academics to carefully review the survey instrument, and pre-tested the survey in the course of preliminary interviews with a group of 15 senior executives. Average time spent in each interview was approximately one hour. Based on the feedback and suggestions received from both academics and senior managers, some of the initial items were eliminated or modified, while others were added to the initial questionnaire. Moreover, we attempted to minimize informant response bias by targeting TMT members who are very familiar with the global strategy of the firm. Of the respondents, 53% held the title of CEO/CFO/COO; 17% held the title of Senior Vice-President or President; and 30% held the title of General Manager or Director (e.g. International Operations/Corporate Development). The correlation between the ratio of foreign sales to total sales reported by the respondent and figures available from secondary sources was 0.92 (p<0.001), suggesting the respondents were indeed providing accurate information.

Finally, archival data was obtained for all performance measures, thus reducing common method bias in the investigation of the first three hypotheses (CYRIL – CHECK THIS – SURELY COMMON METHOD BIAS IS ELIMINATED FOR H4, BUT NOT FOR
H1-3). For Hypothesis 4, Harmon onefactor test was used (Podsakoff & Organ, 1986). Responses to survey items for all independent and dependent variables were pooled and subjected to a principal component analysis. This analysis yielded 14 factors with eigenvalues greater than 1.0. Furthermore, no general factor was apparent in the unrotated factor structure, with factor 1 accounting for only 19 percent of the variance. This indicates that common method bias is not a major problem in this database. Moreover, additional techniques were employed to further deal with this issue. In designing the survey the independent variables were placed before the dependent variables to diminish the effects of consistency artifacts. Also, while the attention structures variables are factual (structural positions, and meetings) or attitudinal (economic incentives, and leadership development), the measures of TMT attention to global strategic issues are behavioural.

Measurement

*TMT Attention to Global Strategic Issues* was measured as an additive of four separate indicators: (1) global scanning, (2) CEO foreign travel, (3) richness of communications with overseas managers, and (4) discussions pertaining to major globalization decisions\(^3\). These four behaviors collectively *determine* how TMT members allocate time and energy. For instance, if the richness of communications with overseas managers increases, TMT attention to global strategic issues increases even if the other three behaviors stay the same. In addition, we do not expect changes in TMT attention to require a simultaneous change in all four behaviors. Thus, it makes substantive sense to model TMT attention to global strategic issues as a formative construct that is formed by the selected four indicators (Bollen & Lennox, 1991). To create the additive index of TMT attention to global strategic issues, all four indicator variables were transformed to z-scores, and the scores obtained on each variable were summed. The overall index was standardized so that it mean equals zero and standard deviation equals 1.
Global Attention Structures. Although the four categories of attention structures discussed in this study are analytically distinct, an empirical distinction between them can be quite difficult to achieve because they reflect the same macro phenomenon, i.e. a systemic attempt by the organization to increase TMT attention to global strategic issues. As a result, a principal component factor analysis was performed on a 14-item scale that included measures of global attention structures. This analysis yielded four factors explaining 61 percent of the variance. Table 2 shows the rotated factor structure of the individual items associated with these four factors. Regarding loadings greater than 0.5 as salient, it may be seen that the analysis produces a clean factor structure with items loading on the appropriate factors: (1) leadership development, (2) incentives, (3) structural positions and (4) meetings. This analysis established the conceptual separation between the four categories of global attention structures. In addition, internal reliability tests on the first two factors showed adequate Cronbach alphas of 0.82. Structural positions and meetings are formative constructs, in that the various indicators pertaining to both constructs can be substituted for one another. The next step was to form composite, equally weighted measures for each these four variables so as to develop scores for each case. In addition, a mean composite index of the attention structure variables was created and standardized to test the possibility of a mediation effect (Hypothesis 3). Hypotheses 1 and 2 were tested using both the overall attention structures index and the four separate attention structures measures.

Global Competition was measured with a 4-item scale measuring the presence of global competitive pressures (Birkinshaw et al., 1995; Roth, 1995). We measured a firm’s Global Strategic Posture using a well-established composite measure of internationalization (Sanders & Carpenter, 1998). Following Roth (1995), we measured a firm’s International Interdependence by decomposing the firm’s value-chain and assessing the extent of
integration/coordination across geographically dispersed locations⁶.

*Firm performance* was measured using five-year averages of 5 profitability indicators: return on assets, return on equity, return on investment, and net profit margins, adjusted for risk by dividing each variable by its standard deviation. All performance measures were obtained through Compustat and Global Vantage. Correlations between the five performance indicators ranged from .5 to .8. A principal component factor analysis yielded a single overarching factor, and a weighted composite index was calculated.

Data on the *control variables*⁷ was obtained through a combination of archival sources, including Compustat, Global Vantage, and Hoovers online, and company web sites. Past research on global mindset has shown that MNCs from different geographical regions frequently have very different mindsets (Bartlett, 1986; Chandler, 1970). Therefore, we used a dummy variable to control for locational effects (coded 1 if the diversified firm was headquartered in the United States). TMT characteristics (TMT size, TMT cultural heterogeneity, and TMT international experience) were included in the models because prior research on global mindset has suggested that top managers’ backgrounds are an important predictor of mindset (Hambrick et al., 1984; Sambharya, 1996). Finally, firm size, diversification and proprietary assets have been shown to affect various organizational outcomes, thus we controlled for these variables.

RESULTS

For all models involving continuous dependent variables, multivariate regression techniques were used. Precautionary analyses (Cook & Weisberg, 1982) indicated that outliers were not present in the dataset, and therefore did not exert any influential impact on the results obtained. Table 3 shows descriptive statistics for all variables. It can be see that global
attention structures are more likely to be present in MNCs that have a broad global strategic posture, and substantial levels of international interdependence, and that operate in global industries. Hierarchical analysis was used to ensure the coefficients associated with each of the independent variables were stable. Moreover, variance inflation factors (VIF) and tolerances for individual variables were all within adequate parameters. Therefore, multicollinearity did not seem to threaten the estimates.

Hypothesis 1 predicted that TMT attention to global strategic issues is shaped by the content of a firm’s attention structures. We tested this hypothesis by regressing the additive index of TMT attention to global strategic issues on the attention structures variables (Table 4). The standardized coefficients for the control variables are shown in model 1. The controls for firm size and TMT international experience were positively related to TMT attention to global strategic issues (p < .05). The results presented in the following models are consistent with Hypothesis 1. In model 2, the inclusion of the overall attention structures index accounts for significant and unique variance (i.e. 31 percent) in TMT attention to global strategic issues. Similar results are obtained in Model 2 to 6, where the attention structures variables are entered separately into the regression analysis. Economic incentives and leadership development appeared to be the categories of attention structures variables that account for the greatest proportion of variance in the dependent variable.

Insert Table 4 about here

Hypothesis 2 predicted that the content of attention structures is affected by environmental signals. Again, we used ordinary least square regression analysis to examine this hypothesis, and found that a firm’s global strategic posture, the international interdependence of its operations, and the amount of global competition prevailing within the firm’s industry accounted for significant and unique variance (17 percent) in the overall attention structures
index. We simply report here the results of a general linear model (GLM) multivariate procedure that examines the adoption of attention structures when taken as a multiple set of dependent variables (Table 5, models 7 to 11). A positive association was found between global strategic posture and the variables pertaining to meetings and economic incentives (p < .05). International interdependence was positively related to structural positions, meetings and leadership development (p < .05). Finally, global competition was positively related to leadership development (p < .05), but not to the other variables. Therefore, and consistent with the principle of equifinality, firms appear to adapt to environmental contingencies by combining and substituting between different types of organizational practices (structural positions, meetings, economic incentives and leadership development).

Hypothesis 3 predicted that attention structures partially mediate the relationship between characteristics of the firm’s environment of decision, and TMT attention to global strategic issues. Following the procedures described by Baron and Kenny (1986), we regressed TMT attention to global strategic issues on the three variables pertaining to the firm’s environment of decisions, without (step 1) and with (step 2) controlling for the overall attention structures index (Table 4). Controlling for this index rendered the effect of global competition and international interdependence non-significant, and the effect of global strategic posture less significant (standardized beta drops from b=.39 to b=.24). This procedure, along with the earlier tests that established the validity of links 1 and 2 in Figure 1, suggest that link 3 is largely imperfect and mediated by the content of attention structures. Taken together, the results provide support for Hypothesis 3. Global strategic posture, international interdependence, and global competition impact the content of the firm’s attention structures, which in turn, influences TMT attention to global strategic issues.
Hypothesis 4 was tested using OLS regression analysis (Table 6). Model 12 includes all control variables. The next two models examine the performance impact of global competition, global strategic posture, international interdependence and TMT attention to global strategic issues. These four variables are not significant. Model 14 tests the hypothesis that the effect of TMT attention to global strategic issues is curvilinear with respect to firm performance, by adding a square term to the TMT attention variable. This term was significant and negatively signed (p < 0.05). The TMT attention variable term was marginally significant (p < 0.10) and negatively signed. Keeping in mind that the GA index is a standardized variable taking both positive and negative values, this test reveals an inverted U relationship (Aiken & West, 1991: 66).

To shed additional light on the form of this relationship, Figure 2 is a graphic display of the association between TMT attention to global issues and firm performance. We evaluated firm performance at the mean values of each variable entered into the regression, when the US dummy was coded 1, for varying levels of TMT attention to global issues. Figure 2 indicates that TMT attention to global issues has a concave relationship with firm performance. This relationship is initially positive at lower levels of the TMT attention index, but as the value of this index increases beyond sample mean, however, firms start experiencing diminishing returns, after which negative returns set in. Taken together, these results suggest that Hypothesis 4 is supported.

**DISCUSSION**

We found that micro-level attention structures mediate the relationship between certain characteristics of the firm’s environment of decisions and the allocation of attention by top
Managers. Specifically, the results indicate that global strategic posture, international interdependence, and global competition impact what structural positions, meetings, economic incentives, and leadership development approaches are selected within the organization. In turn, the resulting configuration explains how top managers spend a great deal of their time and energy. The link between environmental variables and TMT attention to global issues appeared to be largely imperfect, and dependent upon the presence of specific attention structures. For example, while we found a strong relationship between a firm’s international interdependence and the use of attention structures, no such relationship was found between international interdependence and TMT attention to global strategic issues. In addition, and consistent with our prediction, a curvilinear relationship was found between TMT attention to global strategic issues and firm performance. Firms occupying the middle ground in terms of TMT attention to global issues were found to experience superior performance compared to firms located at either extreme. Insufficient and/or excessive amounts of TMT attention to global strategic issues appear to have a detrimental effect on firm performance.

Links With Extant Literature

Prior work on global mindset reflects a widely held consensus in the international management literature that a key challenge for MNCs is the ability of top managers to step out their comfort zones, and adapt to the reality of increasingly diverse, globally integrated environments (Hedlund, 1986; Kanter, 1994; Perlmutter, 1969). In this study, we attempted to reconcile the different perspectives used to define and operationalize global mindset by advancing a novel framework that makes use of recent advances in the theory of attention (Hansen et al., 2001; Ocasio, 1997). Specifically, and consistent with the observation that studies of top managers’ behaviors are notably absent from the strategic management and international management literatures (Lohrke & Burton, 1997; Pettigrew, 1992), we
investigated how and why top managers allocate time, effort and energy to analyzing global
aspects of the firm’s environment. TMT’s attention focus, we argued, constitutes a “theory in
use” that can be seen as a critical manifestation of global mindset. Moreover, our conceptual
framework described the attention focusing roles of several important categories of variables,
drawn from different levels of analysis. In doing so, we attempted to explain how the micro-
level attention structures that the firm puts in place channel the allocation of attention towards
certain activities and tasks, and away from others. As such, our study provides a useful way
of thinking about the different approaches that firms can use to shape global leadership
competencies.

Two particular insights from this study are contrary to the traditional wisdom in the global
mindset literature and thus worth highlighting. First, rather than being a function of the firm’s
administrative heritage or business environment, or the experience base of the individuals in
question, TMT attention to global issues is actually explained primarily by the attention
structures that the firm puts in place. All these other variables have some direct or indirect
effect on the way top managers behave towards global issues, but significantly less than the
specific structures and processes that are developed to channel attention. Second, we show
that TMT attention to global issues is in reality a mixed blessing. Previous research on global
mindset has suggested that the more global the mindset, the better the performance. Our
findings our consistent with this logic up to a point, but we also show that too much attention
to global issues can be detrimental to performance.

Finally, this research sheds new light on what successful global organizations may
look like. In the early 1990s, the University of Michigan organized a symposium to tackle
this important topic (Barnett, 1991). Our study extends this dialogue and debate on the
international scope–firm performance relationship (Contractor, Kundu, & Hsu, 2003; Delios
& Beamish, 1999). The results indicate that despite the lure of foreign markets, globalization
is often expensive, not only in terms of duplicating and maintaining activities throughout the world, but also because it demands important amounts of managerial attention. While previous research converged on the assumption that the more global the mindsets of top managers, the better the performance (Daily et al., 2000), our research shows that either too little or too much attention to global issues can have detrimental effects on firm performance.

**Limitations and Suggestions for Future Research**

The results can also be assessed in the context of the study’s limitations, which simultaneously suggest directions for future research. A general limitation is related to the use of survey questionnaires, which have inherent weaknesses. For example, and given the difficulty associated with collecting primary data at the top management level, especially via a cross-national survey of MNCs, we opted to have only a single respondent per firm to report data on the variables whose relationships are examined. While our validity checks are useful, other avenues, such as surveying multiple respondents within the TMT and measuring top managers’ attentional behaviors via interviews, observations or content analysis would also be fruitful. In a related vein, our cross-sectional data does not allow us to rule out the possibility of reverse causality among the variables in our conceptual framework. We assumed, following Ocasio (1997) and other social theorists, that environmental signals influence the content of attention structures, thereby impacting attention focus, and ultimately the performance of the firm. Future research should integrate longitudinal designs to more definitely establish the causal paths depicted in Figure 1.

Another limitation is related to the threat of alternative specifications due for example to the influence of unmeasured variables. We explored this possibility by adding relevant controls to our statistical tests. In particular, we explored the possible effects of board characteristics (tenure, size, and international experience) but no such effects were found. We used industry dummies to control for industry-level effects and obtained consistent results.
We examined whether the interaction between TMT attention and environmental variables modified the curvilinear relationship that TMT attention exerts on firm performance, but detected no significant effect.

A third limitation is related to our selective focus on TMT-level attention practices in medium and large MNCs of major world economies. While the theoretical links articulated in our framework may apply to other types of issues than those related to globalization, the focus of our study necessarily limits the external validity of our conclusions. For example, the relevant categories of attention structures may be different in smaller firms, or firms that operate in emerging economies. Future studies should investigate the applicability of an attention-based framework to other research settings.

The final limitation has to do with our formative scale of TMT attention to global strategic issues, which measures the extent to which the firm’s top managers engage in four defining elements of behaviour. Collapsing items pertaining to such behaviours produces a measure that captures “configural unit properties” (Kozlowski & Klein, 2000) that derive from the behaviors of individual team members while not coalescing into highly consensual, shared group characteristics. For example, while the CEO may travel internationally more or less than other TMT members, together the four behavioural indicators determine the amount of time, and effort that the firm’s TMT devotes to global strategic issues. This composite approach, however, raises the question of whether the findings can be generalized across behaviours. We examined this possibility by estimating Hypothesis 3 for each of the four behaviors. In each case, the mediating hypothesis was supported. Controlling for the overall attention structures index reduced the standardized beta of the environmental variables that had a significant impact on specific TMT’s attentional behaviors. This consistency in the findings attests to the attention structures mediating effects’ robustness. No relationship, however, was found between the TMT-level attentional variables, taken separately, and firm
performance. This justifies the use of a formative approach in operationalizing the construct of TMT attention.

CYRIL – I SUGGEST WE DROP THIS FINAL PARAGRAPH. IT IS A NICE ANECDOTE, BUT I JUST KNOW THE REVIEWERS WILL NOT LIKE IT!!!

Concluding Comments

According to most observers, globalization will likely continue to escalate in importance over the next decade or longer, with considerable implications for companies and their decision-makers (Lyles, 1990). A CEO we interviewed thought one member of his TMT was paying huge attention to the Japanese market as evidenced by his frequent trips to Japan. But our research revealed that while he was traveling to Japan every eight weeks, he watched US movies on the airplane trip, stayed at a US hotel chain in Tokyo, and had few interactions with local customers or suppliers. His typical day in Tokyo consisted of an 8:30am trip from the hotel to the company’s local office, meetings with American expatriate managers, some office work which included frequent phone calls back to the US and work on home-office email, and then a return trip to the hotel at about 5:30pm. How much attention was he really paying to important Japanese issues? As this example suggests, for MNCs getting the appropriate amount of TMT attention focused on global issues constitutes a vital challenge, and one that is likely growing larger everyday.
Figure 1
Conceptual Framework

Environment of Decisions
- Global Strategic Posture
- International Interdependence
- Global Competition

Global Attention Structures
- Structural Positions
- Meetings
- Economic Incentives
- Leadership Development

TMT Attention to Global Strategic Issues
- Global scanning
- CEO foreign travel
- Richness of communications with overseas managers
- Discussions pertaining to major globalization decisions

Firm Performance
- Return on assets
- Return on equity
- Return on investment
- Net profit margins

Figure 2
TMT Attention to Global Strategic Issues and Firm Performance

TMT Attention to Global Strategic Issues

Firm Performance

Sample minimum
-2 Std. Dev. -1 Std. Dev. Sample Mean. +1 Std. Dev. +2 Std. Dev. Sample maximum

-4.00 -3.00 -2.00 -1.00 0.00 +1.00 +2.00

-4.00 -3.00 -2.00 -1.00 0.00 +1.00 +2.00

Positive returns
Optimal returns
Diminishing returns
Negative returns

Sample mean performance
<table>
<thead>
<tr>
<th>Study</th>
<th>Definition and operationalisation of global mindset</th>
<th>Major findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perlmutter (1969), Heenan and Perlmutter (1979)</td>
<td>Geocentrism is a global systems approach to decision making, where “HQ and subsidiaries see themselves as part of an organic worldwide entity…good ideas come from any country and go to any country within the firm” (1979:21)</td>
<td>Geocentrism hypothesized to lead to “a more powerful total company, a better quality of products and services, worldwide utilization of best resources, improvement of local company management, and last but not least, more profit (1969:16)</td>
</tr>
<tr>
<td>Bartlett and Ghoshal (1989)</td>
<td>A Transnational mindset is the capacity to deliver global integration, national responsiveness and worldwide learning simultaneously</td>
<td>Mindset is rooted in a firm’s administrative heritage and evolves according to changes in firm structure, systems and culture. A Transnational mindset is hypothesized to lead to superior long-run performance</td>
</tr>
<tr>
<td>Calof (1991), Calof and Beamish (1994)</td>
<td>Centricity is defined as a person’s attitude towards foreign cultures. Geocentrism characterized as “all major decisions are made centrally…substantial coordination exists between offices …focus is on global systems”. Respondents selected geocentrism, ethnocentrism or polycentrism as their primary orientation</td>
<td>On a sample of 38 Canadian firms, those that characterized themselves as geocentric had significantly greater international sales and export intensity than those that characterized themselves as ethnocentric or polycentric.</td>
</tr>
<tr>
<td>Koblirin (1994)</td>
<td>Geocentrism defined using Heenan and Perlmutter (1979) above. Five-item geocentrism index consists of questions relating to international human resource policies, e.g. “In the next decade I expect to see a non-US CEO in my firm”</td>
<td>On a sample of 68 US manufacturing firms, a significant correlation is found between geocentrism and geographic scope (sales, employees overseas), but there is no relationship between geocentrism and global strategy.</td>
</tr>
<tr>
<td>Calori, Johnson and Sarnin (1994)</td>
<td>Cognitive complexity of CEO is defined in terms of the number of constructs, and density of links between constructs, for his/her cognitive map.</td>
<td>On a sample of 26 companies, there is a significant correlation between the geographic scope of the firm and the CEO’s cognitive complexity.</td>
</tr>
<tr>
<td>Sambharya (1996)</td>
<td>Study taps into the “cognitive state” or “beliefs and values” of the TMT by measuring their international work experience.</td>
<td>On a sample of 54 US manufacturing, a significant correlation is found between international experience of TMT and international diversification.</td>
</tr>
<tr>
<td>Murtha, Lenway, Bagozzi (1998)</td>
<td>Global mindset is measured using a multi-item questionnaire, with sub-constructs relating to integration, responsiveness, coordination, career opportunities, global accountability and meaning of globalisation.</td>
<td>On a sample of 370 individuals taken from a single MNC, mindsets evolve over a three-year period in line with an overall strategic change process.</td>
</tr>
<tr>
<td>Jeannet (2000)</td>
<td>Global mindset is a state of mind able to understand a business or a particular market on a global basis.</td>
<td>Global mindset is hypothesized to lead to superior overall global performance.</td>
</tr>
</tbody>
</table>
### Table 2
Exploratory Factor Analysis Showing Distinct Global Attention Structures

<table>
<thead>
<tr>
<th>Items</th>
<th>Leadership Develop.</th>
<th>Economic Incentives</th>
<th>Structural Positions</th>
<th>Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your company uses … [seminars and training programs] to globalize its senior managers…</td>
<td>.656</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. [foreign travel]</td>
<td>.535</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. [international assignments]</td>
<td>.805</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. [cross-border business teams]</td>
<td>.606</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. [job rotations across countries]</td>
<td>.815</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. [mentoring programs]</td>
<td>.702</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Top executives’ performance evaluation is tied to their contribution the company’s global profits</td>
<td>.863</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Top executives’ compensation is linked to their contribution the company’s global performance</td>
<td>.897</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Top executives rely on … [permanent teams and committees] to lead and coordinate your company’s globalization efforts …</td>
<td>.502</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. [a dedicated organization within the company itself]</td>
<td>.775</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11. One or several senior executives have been asked to champion the company’s globalization efforts</td>
<td>.807</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12. Extensive use is made of global job titles and responsibilities</td>
<td>.573</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Top management meetings … are rotated across foreign locations</td>
<td></td>
<td>.716</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. … involve speakers or clients from multinational locations</td>
<td></td>
<td>.737</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Eigenvalues

<table>
<thead>
<tr>
<th></th>
<th>Leadership Develop.</th>
<th>Economic Incentives</th>
<th>Structural Positions</th>
<th>Meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.257</td>
<td>1.874</td>
<td>1.339</td>
<td>1.121</td>
<td></td>
</tr>
<tr>
<td>% Variance explained</td>
<td>30.409</td>
<td>13.383</td>
<td>9.566</td>
<td>8.009</td>
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<tr>
<td>% Cumulative variance</td>
<td>30.409</td>
<td>43.792</td>
<td>53.358</td>
<td>61.367</td>
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<tr>
<td>Cronbach Alpha</td>
<td>0.82</td>
<td>0.82</td>
<td>Formative scale</td>
<td>Formative scale</td>
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</tbody>
</table>

*Only factor loadings greater than or equal to 0.4 are included in the table.*
Table 3
Descriptive Statistics

<table>
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<tr>
<th></th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>US dummy</td>
<td>.34</td>
<td>.47</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>Firm age</td>
<td>56.00</td>
<td>39.80</td>
<td>-.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>Firm size</td>
<td>1.56</td>
<td>1.79</td>
<td>-.17</td>
<td>.39</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>4</td>
<td>R&amp;D intensity</td>
<td>7.49</td>
<td>19.33</td>
<td>-.02</td>
<td>-.22</td>
<td>-.21</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Diversification</td>
<td>.78</td>
<td>.43</td>
<td>-.02</td>
<td>.16</td>
<td>.33</td>
<td>.02</td>
<td></td>
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<tr>
<td>6</td>
<td>TMT size</td>
<td>5.54</td>
<td>3.87</td>
<td>-.02</td>
<td>.05</td>
<td>.52</td>
<td>-.03</td>
<td>.17</td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>TMT international experience</td>
<td>1.69</td>
<td>2.45</td>
<td>.03</td>
<td>.02</td>
<td>.30</td>
<td>.23</td>
<td>.19</td>
<td>.25</td>
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<tr>
<td>8</td>
<td>TMT cultural heterogeneity</td>
<td>2.68</td>
<td>2.10</td>
<td>-.20</td>
<td>.03</td>
<td>.15</td>
<td>.05</td>
<td>.03</td>
<td>-.02</td>
<td>.27</td>
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<tr>
<td>9</td>
<td>Global strategic posture</td>
<td>1.37</td>
<td>.68</td>
<td>-.21</td>
<td>.10</td>
<td>.28</td>
<td>.10</td>
<td>.17</td>
<td>.07</td>
<td>.34</td>
<td>.37</td>
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</tr>
<tr>
<td>10</td>
<td>International interdependence</td>
<td>25.84</td>
<td>5.89</td>
<td>.09</td>
<td>.20</td>
<td>.39</td>
<td>.02</td>
<td>.24</td>
<td>.29</td>
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<tr>
<td>11</td>
<td>Global competition</td>
<td>4.65</td>
<td>1.16</td>
<td>-.16</td>
<td>-.03</td>
<td>.04</td>
<td>.06</td>
<td>.13</td>
<td>.01</td>
<td>.08</td>
<td>-.05</td>
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<tr>
<td>12</td>
<td>Structural positions</td>
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*a n = 136. Correlations greater than 0.168 are significant at p < .05, and those greater than 0.22 are significant at p < 0.01.
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<sup>a</sup>n = 136. Standardized coefficients are shown. All Variance Inflation Factors values are less than 3.

<sup>b</sup>Step 1: Without controlling for the attention structures index; Step 2: With controlling for the attention structures index

† p<0.10; * p<0.05; ** p<0.01; *** p<0.001
Table 5
Multivariate Regression Analysis
Attention Structures (Separate Composite Measures)

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\*n = 136. Unstandardized coefficients and standardized errors are shown. All Variance Inflation Factors values are less than 2.  p<0.10;  p<0.05;  p<0.01;  p<0.001
### Table 6
OLS Regression
Firm Performance<sup>a</sup>

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<sup>a</sup> <i>n</i> = 136. Unstandardized coefficients and standardized errors are shown. All Variance Inflation Factors values are less than 2.

<sup>†</sup> <i>p</i> < 0.10; <sup>*</sup> <i>p</i> < 0.05; <sup>**</sup> <i>p</i> < 0.01; <sup>***</sup> <i>p</i> < 0.001
REFERENCES


ENDNOTES

1 Attention is discussed at the level of the TMT for three main reasons. First, most strategic decisions in MNCs are taken by a TMT, and not by single “heroic” entrepreneurs (Burgelman, 1983). Second, the TMT is the information-processing center of the organization where the need to accommodate complexity is highest and where the value of attention is greatest. Third, TMT members constitute the most important players in the regulation of organizational attention (Hambrick & Mason, 1984; Ocasio, 1997) Through their individual and structural sources of power, they influence how middle-level managers allocate attention among competing activities and tasks.

2 For example, in 2001 there were nine executives in Compaq’s top management team. Two had global job titles (VP Global Business Solutions, VP Global Business Units). Of the remaining seven executives, five had job descriptions that explicitly mentioned worldwide responsibilities (e.g. “global alliances,” “worldwide sales,” or “worldwide operations.”) Similarly, an increasing number of companies have appointed some of the company’s most capable and respected senior executives to lead and champion the firm’s globalization efforts. This includes the use of a VP corporate Development that is given the explicit responsibility to look at growth opportunities across the firm’s divisions. Other firms have created special teams, committees or operating groups at the highest levels of the organization to identify, track and analyze competitive developments in markets other than North America and Europe.

3 TMT Attention to Global Strategic Issues. The collection and analysis of world knowledge was measured as the straight average of responses to a four item reflective scale (Cronbach Alpha = 0.71), developed from the global expert systems literature (Ghoshal & Kim, 1986; Ghoshal & Westney, 1991; Keegan, 1974). To measure the time spent by the CEO traveling outside the domestic market, respondents were asked to indicate how much time (in percentage) the CEO spends working at the company headquarters, traveling throughout the domestic market, and traveling outside the domestic market. In our sample, responses to the third item averaged 25% (s.d. = 16) with a range of 0 to 80%. This indicates that 95% of the CEOs in the set of responding companies spend between 9 and 41% of their time traveling around the world every year. The richness of communications with overseas managers was measured as the weighted average of responses to a 4-item formative scale. Based on previous research (Daft & Lengel, 1986; Weick & Van Orden, 1990), respondents were asked to indicate how often they use email, letters and memo (weight of 1), telephone (weight of 2), videoconference (weight of 3), and/or face-to-face meetings (weight of 4) to discuss non-routine decisions with overseas managers. The weights reflect increasing intensities of attention in assessing media richness (Weick et al., 1990:60). Finally, Conversations about major globalization decisions were measured by asking respondents to indicate the extent to which “major globalization decisions are made after intensive discussions between top managers.” This question used a 1-5 Likert scale format where, where 1 is “very rarely” and 5 is “very frequently.”

4 Global competition. We asked respondents to indicate how characteristic each statement was to the most prominent industry segment in which their company competed: ‘International competition is intense’; ‘Competitors exist that have a presence in all global markets’; ‘New product introductions tend to occur in all major international markets simultaneously’; and ‘Competitors market a standardized product worldwide.’ A principal component factor analysis on the four items yielded a single construct (eigenvalue of 2.743; Cronbach Alpha = 0.74). We created an index of global competition by calculating the mean value of the four variables. In our sample, global competition averaged 4.6 (s.d. = 1.16), with a range of 1.75 to 6.5.

5 Global Strategic Posture. The first item gauges a firm’s dependence on sales to foreign markets and was calculated as the ratio of foreign sales to total sales. The second and third items were measured by foreign assets and foreign employees as a percentage to total assets and total employees respectively. They reflect a firm’s reliance on foreign-placed resources. The fourth item
estimates the number of countries in which the firm operates as a percentage of the highest number of countries represented among the firms in our sample. It provides an indication of the cultural variety associated with the previous three dimensions. We summed the indicators of foreign sales, foreign production, foreign employees and cultural variety to create a composite index of global strategic posture. A principal component factor analysis showed that these four indicators loaded on one factor (eigenvalue = 2.4; Cronbach alpha = 0.76). Since each of the four indicators is a ratio variable ranging from 0 to 1, the composite measure can theoretically range from 0 (no international activity), to 4 (very extensive global strategic posture). In our sample, global strategic posture averaged 1.37 (s.d. = 0.68), with a range of 0.16 to 3.35.

International Interdependence. We listed nine activities of the value-chain, raw materials/parts procurement, manufacturing, process design/improvement, marketing/sales activities, product design/improvement, finance, accounting/legal functions, and employee development. Then we asked respondents whether each activity was ‘performed in one country,’ ‘performed in multiple countries and managed nationally,’ ‘performed in multiple countries and coordinated within regions,’ and ‘performed in multiple countries and coordinated globally.’ We summed the responses obtained for each activity to obtain a proxy of international interdependence. A firm’s international interdependence can range from 9 (the activities are performed in a single country) to 36 (the activities are performed in multiple country locations and coordinated globally). In our sample, international interdependence averaged 25.8 (s.d. = 5.89), with a range of 9 to 36.

Control variables. Firm size was measured as the logarithm of firm employees. Other measures of size such as total sales and total assets yielded similar results. Firm diversification was measured using an entropy measure (Palepu, 1985): diversification = Σi [ (Pi * ln (1/ Pi )], where Pi is the sales attributed to segment i and ln (1/ Pi) is the weight given to that segment over all of a firm’s businesses. Similar results were obtained with other measures of diversification such as the number of 2-digit or 4-digit sic codes. Proprietary assets were measured as the ratio of R&D expenses to firm sales. TMT size was measured as the number of company officers that operate at one or two levels below the CEO (Hambrick, Seung Cho, & Chen, 1996). TMT cultural heterogeneity was measured by the mix of nationalities within the top team (Earley, 2000). TMT international experience was calculated as the number of company officers who have spent at least a year in a single foreign assignment.