The effect of market orientation dimensions on multinational SBU’s strategic performance
An empirical study

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Abstract

Purpose – The purpose of this study is to provide new insights into the link between market orientation (MO) and strategic performance by disaggregating the MO construct. With a focus on responsiveness, a crucial element of MO, this research explores antecedents as well as outcomes in the strategic business units (SBUs) of MNCs. The decision-making structure of the firm was modeled as a moderator of the link between responsiveness and performance.

Design/methodology/approach – Survey data from upper level managers employed by 126 MNC SBUs representing 23 industries were collected.

Findings – The key findings indicate that: responsiveness mediates the link between intelligence generation and strategic performance; responsiveness also mediates the link between resource flexibility and strategic performance; and the link between responsiveness and strategic performance is moderated by the SBU’s decision-making structure (i.e. centralization).

Originality/value – This study contributes to the conceptual precision of the composite construct MO, and also illustrates an avenue to increase strategic performance. Managerially, it provides managers with prescriptive suggestions for leveraging the value of the elements of MO with respect to the firm’s decision-making structure.

Keywords International marketing, Market orientation, Centralization, Market intelligence generation, Resource flexibility, Responsiveness

Paper type Research paper

1. Introduction

Intense competition, rapid technological change, shorter product life cycles, and fast-changing customer needs are characteristics of contemporary markets, and these market traits are magnified when a firm does business globally. Market orientation (MO) has been advocated and recognized as one of the most important strategic orientations in international markets (Cadogan et al., 1999; Cadogan, 2012). Based on a review of the MO literature, it has been argued that a firms’ ability to respond quickly and effectively to fast-changing market conditions is the ultimate determinant of its competitive advantage (Chung, 2012; Murray et al., 2007; Sørensen, 2009).
Many studies (e.g. Kirca et al., 2005) have treated MO as a composite construct, and explored its relationship with other variables. However, recent studies (e.g. Cadogan, 2012; Chung, 2012) indicate that we may overlook significant relationships by simply investigating MO at the composite level. These studies call for research exploring the effects of the individual MO dimensions on performance.

Very few studies have modeled the individual components of MO and investigated their impact on performance (e.g. Chung, 2012). Interestingly, when a disaggregation of the MO components has been used, mixed findings have been reported. For example, market intelligence generation or dissemination have been found to have little or no effect on performance, while the responsiveness component has been revealed to have a strong and significant impact on firm performance (e.g. Murray et al., 2007; Sørensen, 2009). Cadogan (2012) argues that the aggregation of MO into a composite can be problematic, because the internal correlation between the dimensions and the individual effects of these dimensions on performance cannot be diagnosed. Further investigation of the relationship between these dimensions is necessary to advance the theory of MO, and practitioner level direction will be greatly enhanced by the exploration of the effects of these individual components.

Within the MO construct, responsiveness is considered to be the component most directly related to performance (e.g. Chung, 2012; Hult et al., 2005). This positive and significant association has been shown in many existing studies (see Kirca et al., 2005 for a meta-analysis). Yet the extant literature (e.g. Sousa et al., 2010; Tsai et al., 2009) has failed to address factors that may moderate the responsiveness/performance relationship, with the presumption that increased responsiveness is always better.

Few studies have addressed the impact of a multinational SBU’s (strategic business unit of a multinational firm) decision-making centralization on the relationship between responsiveness and performance. In the present study, we consider the level of centralization at the multinational SBU level to be an important contingent factor, as it has been shown to play an important role in business success (Huber and McDaniel, 1986). Prior studies (e.g. Morgan and Strong, 2003) had focussed on the importance of a firm’s responsiveness, but did not address its structural property, which may moderate the impact of responsiveness on performance (e.g. Eisenhardt and Martin, 2000). When the multinational SBU’s degree of centralization is taken into account, the effect of responsiveness on performance may vary. In other words, if a multinational SBU, is not properly structured, cultivating responsiveness may not always pay off with respect to increased performance. Thus, given the importance of responsiveness for long-term survival and growth, many MNC SBUs may need to reduce centralization before cultivating responsiveness. Therefore, the current research addresses the neglected influence of the business unit’s (BU’s) level of centralization and its moderation of the responsiveness/strategic performance relationship.

Another component of the MO construct concerns the degree to which generated information is disseminated throughout the organization. This component is not addressed in the current research in favor of a focus on the multinational SBU’s level of centralization.

Addressing these relationships in an international context can further inform us about the differential impact of the elements of MO because volatile markets and the effects of environmental factors are often greater in MNCs (Greenley, 1995; Diamantopoulos and Hart, 1993; Rose and Shoham, 2002). Cadogan (2012, p. 1421) states that “the majority of research into market-oriented behavior is domestically oriented.” Limited light has been shed on this area in the international context.
(e.g. Cadogan and Diamantopoulos, 1995; Cadogan et al., 2003). Unless otherwise stated, most studies of MO are based on activities primarily involving customers and competitors located within a single domestic market (Ellis, 2007). The current research provides specific insights into the workings of MO, and does so from an international perspective. More specifically, we consider that responsiveness, which has been shown to have the most direct influence on performance, will function differently under centralized/decentralized decision-making structures. The disaggregation of the MO construct makes it possible to illustrate how the dimension of responsiveness interacts with centralization to influence performance. Thus, based on this knowledge, marketers are better informed to leverage MO behaviors.

The purpose of this research is to empirically investigate how market intelligence generation and resource flexibilities cultivate responsiveness, as well as how centralization moderates the impact of a MNC SBU's responsiveness on strategic performance. Strategic performance, defined as a firm's competitive position with respect to other firms including their relative global market share, competitiveness, and strategic position (Zou and Cavusgil, 2002), was chosen as a dependent variable because the long-term strategic nature of the construct is less susceptible to short-term fluctuations in the marketplace, and it is more likely to incorporate investments that will pay off in the future when compared to other measures of performance. The current research outlines an empirical study of multinational SBUs to test the proposed theoretical model. The remainder of the paper is structured as follows: after introducing the theoretical background, we develop the theoretical model. We then describe our research methodology and analysis, and present the findings of our study. We conclude by discussing the implications of our research for both practitioners and scholars, along with limitations and future research directions.

2. Background

MO has been conceptualized from both the cultural and the behavioral perspectives (Homburg and Pflesser, 2000). The cultural perspective investigates organizational norms and values that encourage behaviors consistent with MO (Narver and Slater, 1990). The behavioral perspective focusses on organizational activities that are related to the behaviors of generation and dissemination of market intelligence as well as responsiveness to environmental change (e.g. Kohli and Jaworski, 1990). The cultural perspective emphasizes a set of customer-oriented beliefs, values, and market focus philosophies embedded in the firm, however, it has not been shown to directly impact the firm's performance. It is market-oriented behavior that has been shown to drive business success (Homburg and Pflesser, 2000). Therefore, research on the performance-related consequences of MO tends to focus on the behavioral perspective rather than cultural perspective (Cadogan et al., 2012). The present study scrutinizes subtleties of the relationships between the individual dimensions of MO and MNC SBU strategic performance. Therefore, we focus on the behavioral aspect of the construct of MO.

According to Kohli and Jaworski (1990), MO is composed of market intelligence generation, market intelligence dissemination, and the responsiveness to market intelligence. Much of the extant research investigating the relationship between MO and performance has addressed MO at the aggregate level, in which the components of market generation, dissemination, and responsiveness are formed into a composite that has been used for empirical tests (e.g. Kirca et al., 2005; Cadogan et al., 2002; Cadogan et al., 2009). However, several researchers have reported nonsignificant
or even negative effects for the association between MO and performance (e.g., Agarwal et al., 2003). Recent studies have found varied effects for the three MO components on performance (Murray et al., 2007; Rose and Shoham, 2002). Thus, several scholars (e.g., Cadogan, 2012; Murray et al., 2007) have argued that it is vital to examine the effect of the individual MO components, especially in an international context, where the turbulence of market changes is expected to be high both in magnitude and agility (e.g., Cadogan et al., 2003). While a few international studies have broken out the individual dimensions of MO (e.g., Chung, 2012; Murray et al., 2007), these studies often found mixed results regarding the relationships between the individual dimensions and performance. For example, some studies indicated that intelligence generation and/or intelligence dissemination had no direct effect on performance, but the effect was funneled through responsiveness (e.g., Chung, 2012; Rose and Shoham, 2002). Therefore, the impact of intelligence generation and dissemination on a firm’s performance can only be realized through the construct of responsiveness.

MO is described as “the organization-wide generation of market intelligence pertaining to current and future needs of customers, dissemination of intelligence horizontally and vertically within the organization, and organization-wide action or responsiveness to market intelligence” (Kohli and Jaworski, 1990, p. 467). The sequence of these behaviors is indicated in existing MO studies both conceptually and empirically. In other words, the generated intelligence needs to be disseminated before the action of responsiveness can impact performance. In the present study, we simplify this relationship by linking the causality between intelligence generation and responsiveness. On one hand, we affirm the findings of previous scholars (e.g., Cadogan et al., 2012; Chung, 2012) that market intelligence generation impacts responsiveness. On the other hand, we suggest that responsiveness has a differential impact on performance based on the level of centralization in the firm’s decision-making structure. By modeling market intelligence generation only (i.e., removing intelligence dissemination from the model) as the antecedent to responsiveness in the MO model, the current research can address the second half of the model identified above. Few would argue that intelligence dissemination would either entail the same activities or produce the same results in a centralized vs a decentralized firm. In fact, many of the activities used as items in Kohli and Jaworski’s (1990) intelligence dissemination scale would not impact decision making in a centralized MNC SBU (i.e., “A lot of informal talk” in this business unit concerns our competitors’ tactics or strategies.” or “When something important happens to a major customer or market, the whole business unit knows about it in a short period.”). Information that is generated but not provided to the individuals making organizational decisions has little value to the firm (Cadogan et al., 2008). However, the operationalization of the information dissemination construct typically measures overall information dissemination throughout the company, not information dissemination to the decision makers. For this reason, we did not address information dissemination as a construct which may be valuable (if it involves the decision makers) or not, and chose instead to focus on the degree to which a multinational SBU’s decision making is centralized.

3. Conceptual development
3.1 Market intelligence generation and responsiveness
According to Kohli et al. (1993), market intelligence generation refers to the collection and assessment of both customer needs and forces that influence the development and
refinement of these needs. Numerous studies have found support for a positive relationship between MO and firm performance. However, some scholars have questioned the degree to which these effects can be proportionally attributed to each of the individual dimensions of MO due to conflicting results in the literature (e.g. Cadogan, 2012). In some studies, market intelligence generation was found to have no significant effect on performance (Murray et al., 2007; Rose and Shoham, 2002). A growing number of scholars (e.g. Chung, 2012; Hult et al., 2005) have advocated research that investigates the internal causal relationships between individual components in the MO construct as well as their individual relationships with other variables (e.g. performance). Recent findings have indicated that market intelligence generation may only indirectly influence performance via responsiveness (e.g. Chung, 2012).

Responsiveness has become a cardinal capability needed for firms to achieve a competitive advantage (Matson and McParlane, 1999; Meehan and Dawson, 2002). In particular, responsiveness enables companies to reconfigure their processes to meet new market requirements, share information across organizational borders, take maximum advantage of information processing systems, and adopt new product and process technologies ahead of their competition (Hoyt et al., 2007). Given the increasing amount of dynamism and uncertainty in the global marketplace, it is not surprising that responsiveness has been found to be a key factor in promoting competitive success (Jayachandran et al., 2004).

In the management literature, researchers have linked responsiveness to external events, where responsiveness is the ability to modify organizational strategies to match environmental threats or opportunities (e.g. Weick, 1979). This stream of literature focussed on organizational adaptation to the external environment. However, the strategy literature presents a broader range of conceptual definitions and applications of the responsiveness construct. Tsai et al. (2009) recognized that organizations not only react passively to environmental changes, but also attempt to change external constraints to bring or maintain competitive advantage. Zaheer and Zaheer (1997) related their notion of responsiveness to the speed of strategic decision making. Meehan and Dawson (2002) further concluded that managers regard responsiveness as the ability to concomitantly meet the needs of different customers, and the organization should consistently do so more quickly than anyone else and rapidly enough to retain the value of the decision for customers. In the marketing literature, responsiveness refers to actions taken in response to relevant market information generated and subsequently filtered (Jaworski and Kohli, 1993). This construct has been shown to be related to performance and reflects the agility and coordination with which the actions are implemented. For MNC SBUs, we conclude that responses to both customer needs and competitors’ actions are critical in competitive international markets.

Cadogan et al. (2008, p. 1268) argue “the quality of a firm’s responsiveness activities is partly a function of the degree to which available market information influences the development and implementation of marketing plans.” Only actionable behaviors will impact performance, and the behavior of intelligence generation on its own may not directly affect performance. For example, AT&T surveyed customers and found that it was providing too many transmission equipment options, which caused confusion with customers. As a result of this finding, AT&T cut back the number of options offered which resulted in increased sales, customer satisfaction, and lower costs. Market intelligence generation is a necessary precursor to responsiveness, as firms...
need to understand their customers first to respond effectively. Firms must view their offerings from the perspective of the consumer in order to comprehend the customer’s definition of value. Firms that better understand customer needs and wants are more able to respond to this information and generate more value for customers. When MNCs and their SBUs are active in collecting and assessing information about customers, they will be both more responsive to customer needs and more alert to competitors’ movements (through information acquired from customers):

\[ H1. \] Market intelligence generation positively impacts the multinational SBU’s responsiveness.

Based on the hypothesis above, the impact of market intelligence generation on a MNC SBU’s strategic performance is expected to be mediated by MNC SBU’s responsiveness. We suspect that this is a partial mediation, because market intelligence cannot only be used to respond market changes, but also can play a role through other behaviors on a multinational SBU’s performance. For example, generated intelligence can influence long-term learning behaviors that would potentially improve strategic performance. However, given the focus and scope of this study, we conservatively propose that a significant relationship between intelligence generation and strategic performance will exist even after accounting for responsiveness:

\[ H2. \] Market intelligence generation positively impacts the multinational SBU’s strategic performance.

Market intelligence generation provides MNC SBUs with valuable information about new opportunities to exploit, and can also help neutralize some potential threats from competition (via information generated from consumers) through other organizational behaviors. It allows MNC SBUs to sense the pulse of the market, while providing a conduit for the continual evolution of the definition of performance. Therefore, we expect that responsiveness partially mediates the effect of market intelligence generation on the multinational SBU’s strategic performance.

3.2 Resource flexibilities

Flexibility is a complex, multidimensional, and difficult-to-capture concept. At least 50 different terms for various types of flexibilities can be found in the manufacturing literature. Strategic flexibility has been used frequently as a label for the construct. Grewal and Tansuhaj (2001) considered strategic flexibility to be a polymorphous construct, which means that the exact meaning and conceptualization of flexibility varies from one context to another (Young-Ybarra and Wiersema, 1999). For example, Harrigan (1980) theorizes strategic flexibility as a firm’s ability to redeploys its assets without friction. Similarly, Sanchez (1995) conceptualizes strategic flexibility in the context of product competition as comprising the flexibility inherent in product-creating resources (resource flexibility) and flexibility in using these available resources (coordination flexibility). We contend that the flexibility of a firm’s resources is a factor that is likely to impact its ability to respond to market changes. According to the capability-building mechanism, flexibility is the ability that enhances the productivity of firms’ resources. Flexibility is often developed as part of a long-term, strategic focus and can be viewed as a capability that enables a firm to respond quickly and efficiently.
In an international context, Cadogan et al. (2012) argued that strategic flexibilities and MO jointly influenced the firm’s performance, and are mutually important for business success. Strategic flexibilities are regarded as the ability of firms to successfully respond and adapt to market changes (Combe and Greenley, 2004). Flexibilities, which require the investment in physical and human resources, provide the opportunity to respond to future market needs (Kogut and Kulatilaka, 2001). For example, a multinational SBU invests in technologies that may easily adapt future customer needs. This investment provides the multinational SBU with real options, which can provide the firm with flexibility to respond current and future market changes (Cadogan et al., 2012). As resources are regarded as the primary strategic assets of a firm, the flexibility of resources is a critical organizational element that enables the multinational SBU to exhibit responsiveness. Thus, we model resource flexibilities as an antecedent to responsiveness.

Flexibility is a broad construct relevant to different areas of a multinational SBU. In a manufacturing system, managers focus on the flexibility of individual resources – physical asset, technology, and human resources (Slack, 1987). Physical asset flexibility refers to the extent to which a firm can quickly change its facility from one usage to an alternative usage or reallocate facilities from one place to another (Franza and Gaimon, 1998). Technology flexibility, refers to the ability of the design, organize, and implement new technologies to adapt to business process changes (Nelson et al., 1997). Human resource flexibility can be defined as the ability of a firm to move employees from one area or function to a different area or function. Resource flexibility is defined as the ability to quickly and easily adjust or alter resource deployment to cope with changes caused by global market conditions. For the present study, we treat resource flexibilities as a multi-dimensional construct, which is composed of three formative variables (Bagozzi and Fornell, 1982; Cadogan and Lee 2013).

The dynamic nature of global markets requires many firms to relocate or redeploy resources to meet a dynamic set of customer needs. The decreasing length of product life cycles leaves firms with the challenge of planning for facilities whose useful lives should be much longer than the life cycle of any individual product. As a consequence, the importance of a firm’s ability to rapidly allocate its resources from the manufacture of one product to the next has been heightened (Franza and Gaimon, 1998). Besides, Nelson et al. (1997) argued that technology flexibility supports business processes and can greatly influence the multinational SBU’s capacity for change. This is especially true in new product development where the project using flexible design technologies will typically outperform projects using inflexible technologies (Thomke, 1997). Flexibility of technological resources reduces the incremental cost and time required to incorporate product design modifications. Also, with respect to human resource flexibility, flexible employees can be assigned to work on different tasks and under diverse circumstances, such as in different country markets, and the time required to transfer employees into new duties or jobs is low (van den Berg and van der Velde, 2005).

Burgelman’s (1996) study of Intel’s resource allocation process illustrates the importance of resource flexibilities in responding to the market changes. At a time of extreme volatility, in which Asian manufacturers disrupted world markets with severe price-cutting and accelerated technological improvements, Intel redeployed its technological and physical resources to develop new products. Accordingly, as margins for memory chips decreased and margins for microprocessors increased, Intel began producing proportionally more microprocessors. Intel flexibly allocated physical,
technical, and human resources and ultimately transformed itself into a microprocessor company. When a company’s facilities and technology can be easily mobilized and modified in a global environment, managers can strategically redeploy production capacity to respond changes in the environment.

Firms are not solely passive reactors to market changes; proactive changes initiated by the firm can impact both customers and competitors (Bernardes and Hanna, 2009; Cadogan et al., 1999), and resource flexibilities are required whether the game plan is defensive or proactive. Organizations that are sensitive to changes in the environment and are flexible enough to change quickly have a strategic organizational capability that can enhance competitive advantage. As an ability that is nurtured and grown over time, resource flexibilities allow a firm to be responsive to environmental changes (Wright and Snell, 1998). Thus, resource flexibilities allow MNC SBUs to respond to new market conditions, while providing for future integration with relatively lower cost (Figure 1):

\[ H3. \text{ Resource flexibilities positively impact the multinational SBU’s responsiveness.} \]

3.3 Responsiveness and the centralized/decentralized decision-making structure

3.3.1 Responsiveness. As outlined above, responsiveness has been shown to be a critical component of firm success. The current research focuses on the behavioral aspects of responsiveness because behaviors are often observable and more likely to be quickly adaptable. For example, in an organizational setting altering responsiveness behaviors can be as simple as enacting a policy change. All firms display some degree of responsiveness from time to time. Thus, we define MNC SBU responsiveness as actions or behaviors taken by a multinational SBU to react quickly and purposefully to changes in customers and competitors in the global market.

In fast-moving industries, the requirement of rapid decision making in response to market changes applies to both tactical and strategic decisions. Verdú and Gómez-Gras (2009) demonstrated that firms most sensitive to the demands of the market showed better results in overall performance. Jayachandran et al. (2004) showed a relationship between customer response capability and performance. Other research that solidified this relationship includes meta-analyses on both MO (Kirca et al., 2005) and the marketing function (Krasnikov and Jayachandran, 2008) that showed a positive relationship between responsiveness and firm performance. These works are salient because responsiveness is a critical component of both the marketing function and the MO paradigm as defined in the works cited above. The well-established literature

![Figure 1. Hypothesized model](image-url)
indicates that responsiveness should positively impact an MNC SBU’s performance. We also contend that this positive impact on performance is critical, but this relationship is not robust until the multinational SBU’s level of centralization of decision making is taken into account.

3.3.2 Centralization. As responsiveness requires the prompt reaction of personnel in decision making, we investigate both decision-making structure and responsiveness simultaneously. More specifically, responsiveness is subject to the constraint of the centralization of decision making (i.e. centralization) which involves the locus of authority to make decisions in organizations (Dalton et al., 1980). If, for instance, the power to make decisions is exercised by one or relatively few individuals at the top level of the organization, the structure is considered centralized.

One of the core functions for managers is the creation of an appropriate structural environment that can provide system stability and institutional support for a host of other internal organizational capabilities. As an organization can be regarded as an information processing system (Huber and McDaniel, 1986), the degree to which decision-making authority is centralized or decentralized is a key indicator of the manner in which an organization utilizes information to respond the market (Jaworski and Kohli, 1993). Centralization has been defined as the distribution of decision-making authority through the hierarchy (Holdaway and Newberry, 1975). This construct focuses on the locus of authority to make decisions affecting the organization. A centralized MNC SBU will typically have a high degree of hierarchical authority and low levels of participation from subsidiaries, whereas a decentralized MNC SBU will be characterized by low hierarchical authority and highly participative decision making (Dalton et al., 1980). Responding to market changes may greatly depend on the lower levels of the hierarchies, where the interface between customers and the firm is concentrated. The centralized/decentralized structure is assumed to provide a foundation for achieving coordination and control of responsiveness within an organization, as it constrains and prescribes the authority of organization members (Andrews et al., 2009). Therefore, with the authority dispersed in the multinational SBU, responsive behaviors can be more efficient and result in better performance outcomes.

When the firm intends to respond to market changes, high levels of centralization can hinder interdepartmental communication and the frequent circulation and sharing of ideas (Pertusa-Ortega et al., 2010; Cadogan et al., 2006, 2009). High levels of centralization may also retard the association between responsiveness and strategic performance by preventing those closest to local customer from promptly making independent decisions. Particularly, the cultural distance present in many MNC SBU’s operating environments likely magnifies the effect of a centralized/decentralized decision-making structure. Centralization may prevent the application of tacit cultural knowledge to changing environmental circumstances. Meanwhile, prior research (e.g. Batley and Larbi, 2004) has indicated the importance of a decentralized structure for delivering responsive and effective services. Decentralization is necessary for rapid decision making, which is needed when operating in environments characterized by constant change (Pertusa-Ortega et al., 2010). High levels of decision participation can maximize the points of contact between managers and customers, facilitating more effective responses to customer needs:

\[ H4. \] MNC SBU responsiveness has a positive impact on strategic performance when the multinational SBU’s decision-making structure is decentralized.
4. Methodology

4.1 Research design and sampling frame

To test the theoretical model of responsiveness, primary data were collected using a cross-sectional mail survey of BUs competing in global industries. Here, SBU is defined as a division of a multinational designed to sell a distinct set of products to an identifiable set of customers, and to compete with a well-defined set of competitors across the globe (Jacobson, 1992). Each BU acts as an autonomous operating multinational organization, even though it is technically under the umbrella of the multinational. For example, to consider a firm like General Electric at the corporate level would be meaningless. It is only by breaking the firm down into the diverse BUs (i.e. light bulbs, appliances, jet engines, power generation equipment, etc.) that meaningful conclusions can be drawn. These BUs often act as distinct multinational businesses in the global marketplace, with distinctive resources and strategies and little direction from the enterprise as a whole. Global industries were selected as the context of the study because of their fast-changing and dynamic nature (Roth et al., 1991). Since global industries are characterized by a high level of intra-industry trade (Porter, 1986), using a trade ratio of 30:70 (i.e. 30 percent intra-industry and 70 percent inter-industry) as the minimum limit to control for the global nature of industries, we identified 23 global industries. These include consumer goods industries such as pharmaceutical preparations, soap and other detergents, perfumes, cosmetics, and other toilet preparations, as well as industrial goods industries such as oil and gas field machinery and equipment, textile machinery, and ball and roller bearings.

Within these 23 industries, SBUs were identified through Dun and Bradstreet's America's Corporate Families and The Directory of Corporate Affiliations. Three criteria were used to select the BUs. First, to facilitate data collection, the SBU (i.e. a division of a multinational firm) had to be based in the USA, although the headquarters could be based elsewhere. Second, the SBU had to have at least 200 employees. Third, total annual sales of the SBU had to total at least $20 million. The minimum size requirements were installed to ensure that the subject BUs had sufficient experience and investment in their multinational operations. Overall, 434 SBUs met these requirements and qualified for the study.

4.2 Questionnaire and measures

A structured survey questionnaire was developed in two stages. First, the relevant literature was searched for existing scale items that measure MNC SBU's strategic performance, responsiveness, centralization, market intelligence generation, and resource flexibilities. New items were developed based on extant literature when existing measures were not available. Second, personal interviews were conducted with three MNC SBU executives responsible for international operations and with four academicians familiar with research in global business strategy. All were asked to evaluate whether the items were meaningful, understandable, and valid measures of the proposed constructs in the study. Based on their feedback, some changes were made to the questionnaire items. The managers who participated in the final study responded to a series of multi-item Likert measures on a seven-point scale with responses ranging from “strongly disagree” (1) to “strongly agree” (7).

4.3 Measures

4.3.1 Strategic performance. Zou and Cavusgil (2002) defined strategic performance as a firm’s competitive position with respect to other firms including their relative global
To measure strategic performance we adopted the measure used by Zou and Cavusgil (2002). Three of the four items in this scale focussed on the firm’s position with respect to competitors in the global marketplace. The fourth item addressed the position of the business in terms of the global market share. The composite reliability (Fornell and Larcker, 1981) for this scale was 0.92.

4.3.2 Responsiveness. We define responsiveness as actions or behaviors taken by a MNC SBU to react quickly and purposefully to changes in the global market. We focus on the behavioral aspect of responsiveness because behaviors are quickly adaptable. To measure responsiveness to the market, we adapted five items from Jaworski and Kohlis et al.’s (1993) scale on responsiveness for the international setting. As all items in this scale were negatively valenced, the items were reverse coded. The composite reliability (Fornell and Larcker, 1981) for this scale was 0.76.

4.3.3 Market intelligence generation. Understanding what customers want in terms of product attributes and supplementary services is a fundamental marketing practice. Gordon et al. (1993) contended that the most direct avenue toward understanding the customer comes from simply asking them. To measure market intelligence generation we adapted three items from the MO scale (Jaworski and Kohli, 1993) that were focussed on interaction with the customer to the global market context (i.e. “We often meet with customers worldwide to find out what products and services they need in the future.”). The composite reliability (Fornell and Larcker, 1981) for this scale was 0.72.

4.3.4 Centralization. Centralization can best be described as the opposite of the delegation of decision-making power throughout the organization (Aiken and Hage, 1968; Jaworski and Kohli, 1993). Centralization was assessed through the adaptation of the scale developed by Aiken and Hage (1968) as well as Jaworski and Kohli (1993) to the global context of the current study. The three-item scale focussed on approval authority and the ability of employees to make decisions without input from top management (e.g. “There can be little action here until top management approves a decision”). The composite reliability (Fornell and Larcker, 1981) for this scale was 0.81.

4.3.5 Resource flexibilities. We found no empirical works that measured the flexibility of a firm’s resource setup. Theorists have conceptually discussed the impact of flexibility on the firm (e.g. Slack, 1987), though examples of measurement in this context are scarce. As such, we developed new measures for the construct of resource flexibilities. Because flexibility is applied to a diverse set of resources, such as physical asset, technologies, and human resources, it is clear that this construct would best be measured through the use of a formative second-order scale with reflective first order items because the improper specification of a formative variable as reflective may cause spurious results (Diamantopoulos and Winklhofer, 2001; Jarvis et al., 2003).

Since a composite formative variable has no error term, an exhaustive list of items must be included in the construct items. A four-step process was used to ensure a comprehensive item list. First, one of the authors compiled a listing of potential...
dimensions and items. Second, this list was evaluated, verified, and amended by a cohort of managers engaged in marketing management for multinational firms. Third, the amended list was evaluated and amended by several PhDs working in the area of international marketing, strategic marketing, or both. Finally, the items were verified by a second group of marketing managers who deemed the list to be exhaustive.

Though some of the items may seem similar, the items in this scale are sufficiently independent that an increase in one item would not necessarily prescribe an increase in the other items. For example, item 1 states “Our plant facilities around the globe can be easily relocated” which is conceptually similar to item 6 “It would be easy for us to transfer technology from one country location to another.” However, where “plant facilities” are by definition tangible, technology is primarily informational. Transferring the tangible “plant” is primarily a matter of logistics where technological transfer is predicated on a firm’s ability to adapt to different techniques and knowledge bases that are defined by the surrounding language and culture.

Since the inclusion of a single formative measure in a structural equation model can have serious negative consequences on the conclusions drawn from that model (Jarvis et al., 2003), the formative scale for resource flexibilities is not included in the confirmatory factor analysis measurement model to follow.

MNC SBU resource flexibilities were measured with nine items. Each item was recorded on a seven-point scale to tap the extent to which an aspect of a resource can be changed or redeployed when needed. Variance inflation factors were calculated for these items using SPSS and the highest VIF was 2.2, well under the proposed cutoff of 10. The complete item list is provided as Table I.

4.4 Data collection
The data collection involved two phases. In the first phase, a personalized cover letter, a questionnaire, and a postage-paid business reply envelope were sent to the CEO/president or vice-president (VP) for international operations or for global strategic planning of each SBU in the sampling frame. Three weeks after the initial mailing, completed questionnaires had been returned by 72 SBUs. Another 15 questionnaires were returned as undeliverable due to incorrect mailing address, because the addressee had retired, or because the addressee was no longer with the SBU. A number of phone calls and letters were also received stating that participation was not possible due to company policy, time constraint, or lack of interest.

The second phase started three weeks after the initial mailing. A personalized cover letter, a replacement copy of the questionnaire, and a postage-paid business reply

| 1. Our plant facilities around the globe can be easily relocated |
| 2. It would be very difficult to retool our plant facilities for alternative use |
| 3. Our excess capacities are very difficult to be redeployed |
| 4. We have extensively adopted the flexible manufacturing technology in our plants |
| 5. Our product technology can be easily modified to meet various demand sophistications |
| 6. It would be easy for us to transfer technology from one country location to another |
| 7. Our personnel are willing to work in any country market where they are needed most |
| 8. Our personnel can be easily transferred from one country subsidiary to another |
| 9. We have sufficient talent in our personnel to pursue any strategy that is necessary |

Note: aReverse coded item

Table I.
Resource flexibilities items

IMR 30.6
envelope were sent to those who had not responded. Four weeks later, completed
questionnaires had been returned by another 54 SBUs. Overall, 126 SBUs returned the
completed questionnaires, for a response rate of about 29 percent.

The assessment of potential nonresponse bias was done by comparing the
responding SBUs with the nonresponding SBUs, and the early-responding SBUs with
the late-responding SBUs (see Armstrong and Overton, 1977). Based on average
annual sales and average number of employees, there was no statistically significant
difference between the responding SBUs and the nonresponding SBUs. In addition,
there was no statistically significant difference in the mean of measured items between
the early-responding SBUs and the late-responding SBUs. Thus, it can be concluded
that there is no evidence to suggest the existence of nonresponse bias.

5. Results
Our approach to analyzing the data in this research followed the recommendations
A measurement model was utilized to assess the convergent and discriminant validity
of those constructs measured by reflective scales, while a structural path model was
applied to test the proposed hypotheses. The two-step modeling procedure was used
to eliminate the possibility of interpretational confounding, and to eliminate the
possibility that a good fit on one dimension (structural or measurement) will
compensate for a poor fit on the other dimension (Anderson and Gerbing, 1982).
Multiple indicator measurement models were used for all reflective constructs to
reduce potential ambiguity (Anderson and Gerbing, 1982), and since none of our
constructs met the requirements for acceptable single-item measures (Bergkvist and
Rossiter, 2007). To test for potential common method variance (CMV) bias we applied
Harman's one-factor test to the data. Items for all four reflective constructs were
subject to an exploratory factor analysis.

The unrotated factor analysis extracted four principal components and showed that
the items were not loading on a single, common methods factor (Podsakoff and Organ,
1986). Further, the most prominent factor accounted for less than one-third of the
variance present. As an additional test, we ran the partial correlation test by partialing
out the first principal components. The results indicated that many significant partial
correlations remained between the variables.

A final test of CMV was conducted using the marker variable technique (Lindell and
Whitney, 2001). Risk aversion (sample items included “We are unwilling to take a risky
course of action that may fail” and “We like to implement plans only if we are very sure
that they will work”) was selected as a marker variable as it is conceptually unrelated
to the variables used in the model. First, a latent common methods variable was
added to the measurement model. All items in the measurement model were used to
inform this variable, and all paths were constrained to be equal, resulting in a common
factor loading of 0.13. Risk aversion was then added to the model and the constrained factor
loadings decreased to 0.12. Finally, all constructs were subjected to a partial correlation
test while controlling for the effect of risk aversion. All bivariate correlations remained
statistically significant ($p < 0.05$). Based on these tests, we concluded that CMV bias is not a
significant concern in this research.

To construct our measurement model, we entered the four reflective constructs into
an EQS 6.1 confirmatory factor analysis (Bentler, 1995). Factors, items, and reliabilities
are listed in Table II. All factors met the accepted reliability requirements (Nunnally
and Bernstein, 1994).
<table>
<thead>
<tr>
<th>Factor</th>
<th>Item name Item</th>
<th>Composite reliability</th>
<th>Standardized factor loading</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic performance</td>
<td>SP1 The strategic position of our business unit in the global market is very strong</td>
<td>0.92</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP2 Relative to our major competitors, our business unit is very competitive in the global market</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP3 Our global market share is very high relative to our major competitors</td>
<td>0.86</td>
<td>10.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP4 We have been able to build a global leadership position in our industry</td>
<td>0.87</td>
<td>10.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.93</td>
<td>11.1</td>
<td></td>
</tr>
<tr>
<td>Intelligence generation</td>
<td>IG1 We often meet with customers worldwide to find out what products and services they will need in the future</td>
<td>0.71</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IG2 We do a lot of in-house market research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IG3 We frequently poll worldwide end users to assess the quality of our products and services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centralization</td>
<td>CE1 There can be little action here until top management approves a decision</td>
<td>0.81</td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CE2 Even small matters have to be referred to top management for an answer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CE3 Any course of action a country subsidiary takes has to have top management’s approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsivenessa</td>
<td>RE1 It takes us a long time to decide how to respond to our major competitors’ new campaign</td>
<td>0.76</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RE2 Even if we came up with a great marketing plan, we probably would not be able to implement it in a timely fashion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RE3 When we find that a competitor has a new campaign, we will not respond until we feel its impact on our global competitive position</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RE4 For one reason or another, we tend to ignore changes in our customers’ product or service needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RE5 The product lines we sell depend more on internal politics than on real market needs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degrees of freedom 108.539 84

Note: aAll responsiveness items are reverse coded
We followed the recommendations of Bagozzi and Yi (1988) in assessing the fit of the measurement model. The model converged in fewer than 30 iterations without reporting any condition codes or other anomalies. The $\chi^2$-test was significant in this model ($\chi^2(84) = 108, p < 0.025$), but because problems have been identified with the $\chi^2$-statistic, such as unknown power and inadequate measurement of goodness of fit (Fornell and Larcker, 1981), we evaluated other model fit statistics in accordance with Bagozzi and Yi (1988).

Fit indices indicate that model fit was very good (BBNFI = 0.910, BBNNFI = 0.972, CFI = 0.978, RMSEA = 0.048). The variances for all items and factors was statistically significant indicating convergent validity (Anderson and Gerbing, 1988). This finding was reinforced by the fact that all standardized factor loadings were statistically significant in magnitude and statistically significant. A test of discriminant validity was run in accordance with the criteria enumerated by Bagozzi and Yi (1988). We ran a series of six pairwise comparisons between one- and two-factor models to test the validity of the four factors. Discriminant validity was evidenced by the significantly better fit of the two-factor models in all six comparisons. Table II displays the items, standardized factor loadings, $t$-values, and the $\alpha$'s for the factors. It is clear from the fit indices at the bottom of Table I that the fit of our measurement model is acceptable.

Astute readers will notice that resource flexibilities were not included in this table. Based on the guidelines proposed by Jarvis et al. (2003), resource flexibilities were designed as a formative index where causality flows from the indicator to the construct (Diamantopoulos and Winklhofer, 2001). As such, the inclusion of this construct in the structural model would return meaningless results.

5.1 Path model and hypotheses tests

A structural path model in EQS 6.1 was utilized to test the hypothesized main effects. In the path model, a formative composite score was computed for resource flexibilities. For market intelligence generation, responsiveness, and strategic performance, which were all measured with reflective scales, the weighted sum of their items with standardized loadings of individual items as weights was obtained. The structural path model showed acceptable levels of fit to the data ($\chi^2(1) = 5.037, p = 0.025$, BBNFI = 0.936, CFI = 0.944, standardized RMR = 0.055). The Bentler-Weeks modeling technique required the specification of two equations in this path model. The equations predicting responsiveness and strategic performance each explained more than 20 percent of the variance in these constructs ($R^2 = 0.21, 0.24$, respectively).

$H1$ predicted a positive relationship between market intelligence generation and responsiveness; the results show that this relationship is positive and significant as predicted. $H2$ predicted a positive relationship between market intelligence generation and strategic performance. Figure 2 shows that this hypothesized relationship is strongly significant.

$H3$ predicted that a MNC SBU’s resource flexibilities would be positively related to responsiveness. The results showed a significant relationship in the full model confirming $H3$.

For the overall model, a positive relationship between responsiveness and strategic performance is expected. This relationship is directionally supported, but it is not significant in the overall model at 0.05 level.

$H4$ predicted that a firm’s level of centralization would moderate the underlying relationship between responsiveness and performance. When a firm is decentralized, responsiveness will be positively associated with strategic performance. To test the
Moderating impact of centralization, we median-split the data set on the centralization factor and ran a two-group path model in EQS 6.1. Specifically, we first ran the two-group path model on samples with low and high centralization, respectively, without any constraints. We then ran the two-group path model by constraining the path from responsiveness to strategic performance to be equal. The $\chi^2$ difference between the unconstrained model and the constrained model is 6.55, which is significant at 0.05 level, suggesting that the unconstrained model fits significantly better than the constrained model. Thus, the path coefficient from responsiveness to strategic performance should be different, supporting a significant moderating effect of centralization. We also ruled out the possibility that centralization negatively impacted strategic performance through responsiveness by running the bootstrap mediation test (Preacher and Hayes, 2008). The results of this test indicated a confidence interval including zero (LLCI = -0.2754, ULCI = 0.0898). This showed that the path between centralization and strategic performance is not mediated by responsiveness.

In all, when centralization is low, responsiveness leads to greater strategic performance (0.464, $t = 2.409, p < 0.05$), but when centralization is high the results were not significant ($-0.261, t = -1.465, p < 0.15$). Therefore, $H4$ is supported in that responsiveness had positive results for the decentralized firm (Table III, Figure 3).

As an additional test of $H4$, we attempted Ping’s (1995) parsimonious estimation technique for interaction variables. Though the measurement model converged with a fit similar to the model without the interaction term, the structural model would not converge, possibly due to the limited sample size. A third test of this hypothesis was conducted using a linear regression model containing responsiveness, centralization, and their product term as predictors of strategic performance. The results of this analysis followed the pattern identified through the split sample technique, however, the interaction term only achieved marginal significance. Since the split sample technique returned a significantly positive relationship for the low centralization group

<table>
<thead>
<tr>
<th>Path</th>
<th>Low centralization</th>
<th>High centralization</th>
<th>$\Delta \chi^2$</th>
<th>$p$-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td>To</td>
<td>Coefficient</td>
<td>$t$-statistics</td>
<td>Coefficient</td>
</tr>
<tr>
<td>IG</td>
<td>SP</td>
<td>0.646</td>
<td>2.996</td>
<td>0.864</td>
</tr>
<tr>
<td>Resp</td>
<td>SP</td>
<td>0.464</td>
<td>2.409</td>
<td>-0.261</td>
</tr>
<tr>
<td>IG</td>
<td>Resp</td>
<td>0.174</td>
<td>1.045</td>
<td>0.387</td>
</tr>
<tr>
<td>Flex</td>
<td>Resp</td>
<td>0.141</td>
<td>1.427</td>
<td>0.125</td>
</tr>
</tbody>
</table>

**Table III.** Constrained paths for the split centralization model
we hypothesized that the current results were being impacted by a range restriction. Cadogan (2012, p. 345) advises researchers to “generate more data from the tails of the variables being studied” as a potential remedy. To address this, the data were split into quartiles based on their level of centralization. The middle two quartiles were dropped from the analysis as they were assumed to be unduly influencing the results. When the regression equation was run including only the top and bottom quartiles (based on level of centralization) a significant interaction was found ($\beta = -0.325, t = -2.132, p = 0.038$). A plot of this interaction shows that SBUs high in centralization showed no difference in strategic performance based on their level of responsiveness. Low centralization SBUs, on the other hand, showed a clear increase in strategic performance as responsiveness increased (Figure 4).

We also tested our hypotheses with the control variables of sales revenue, employee size, and international business experience included in the model. Due to their large variances, the control variables were first standardized prior to analysis with EQS. All of the proposed relationships articulated above remained significant when the model included the controls.

6. Discussion
This study disaggregates the MO construct (Cadogan, 2012) to investigate the relationship between market intelligence generation and responsiveness, and how responsiveness mediates the effect of intelligence generation and resource flexibilities on a MNC SBU’s strategic performance.

The contribution of this study is threefold. First, the findings concur with previous research (e.g. Chung, 2012) that intelligence generation impacts MNC SBU strategic performance via responsiveness. This finding supplements existing studies
on the relationship between marketing intelligence generation, responsiveness, and strategic performance.

Second, our results show that the decomposition of the construct of MO is important because it reveals internal causal relationships between the MO components, and it allows us to scrutinize how the multinational SBU’s structure interacts with responsiveness to affect strategic performance. Responsiveness, as a component of MO, has been shown to be an important indicator of firms’ performance (e.g. Rose and Shoham, 2002). However, in the international context, especially in highly competitive industries (Cadogan et al., 2006), the turbulent environment requires that the firm facilitate responsiveness with a compatible decision-making structure. Our investigation suggests that the multinational SBU’s level of centralization, which controls the utilization of market intelligence in responding to market changes, must be considered when evaluating the relationship between responsiveness and strategic performance. In a finding of importance to both academics and practitioners, we found that under different levels of centralization, responsiveness may have either a significant or no effect on strategic performance. In the full model, the results showed that responsiveness was positively related to strategic performance, but this relationship was not significant. However, when centralization was modeled as a moderator to this relationship, we found a significant and positive relationship for decentralized MNC SBUs. This finding suggests that the multinational SBU’s level of centralization is a key factor that moderates the effect of responsiveness on strategic performance.

Intuitively, and in line with extant research (Kirca et al., 2005), we contend that responsiveness can increase the firm’s performance. In the present study, we argued that the impact of responsiveness is contingent on a centralized/decentralized structure. In a centralized MNC SBU, restricted downstream employee participation in decision making may result in responsive behaviors that do not lead to increases in strategic performance. This appears to be especially true in an international setting where a cultural gap likely exists between a firm’s home culture and the culture of the firm’s customers. In these settings, a centralized decision-making process can slow down response speed (Jaworski and Kohli, 1993). Reducing centralization may be an effective management strategy for MNC SBUs to enhance the impact of responsiveness on strategic performance. However, ignoring this firm’s decision-making structure can
lead to partial or incomplete explanations of the relationship between responsiveness and strategic performance. We show that responsiveness matters for decentralized firms, but the results also suggest that efforts applied to responsiveness cultivation in more centralized firms may not result in increased strategic performance. The cultivation of responsiveness in more centralized firms may redirect resources that could potentially result in increased strategic performance if applied elsewhere. Thus, this finding improves our understanding of the relationship between responsiveness and strategic performance in a multinational SBU by taking centralization into account.

In addition, we empirically link responsiveness and strategic performance in a multinational context. The results suggest that responsiveness is critical in the fast-changing global market. Building on prior research about MO in domestic markets, this study empirically demonstrates the nuances within the construct of MO and the strategic role of responsiveness in an international context. The dynamic global market requires the consideration of additional components of the multinational SBU, so true relationships are not obscured.

Third, the present study contributes to the literature by identifying the capability of resource flexibilities and empirically measuring how this construct influences responsiveness. To the best of our knowledge, a number of articles concerning flexibility and responsiveness have been written at the conceptual level (Bernardes and Hanna, 2009; Sanchez, 1995), with a few adding empirical data (Hoyt et al., 2007), but the current research is the first to operationalize the construct in this way. Our findings suggest that developing resource flexibilities can lead to increased responsiveness, and thereby increased strategic performance.

In addition to the advances for academics and practitioners outlined above, this study provides specific implications for managers. In the hyper-competitive and fast-changing global market, being responsive to customer needs and competition is critical to the performance of MNC SBUs. However, the current research shows that simply investing in the cultivation of responsiveness will not result in increased performance for all firms. Our findings suggest that, to leverage the benefits of responsiveness, global managers need to decentralize the hierarchy of authority when making decisions, because there is no positive impact of responsiveness on strategic performance in highly centralized firms. Middle or lower level employees are often closer to customers and more aware of critical competitor and market changes. Encouraging the participation of these groups in decision making (i.e. decentralizing) may be needed to translate responsiveness into increased strategic performance.

It is also imperative for MNC SBU managers to pay attention to factors that enable responsiveness, and our findings suggest that market intelligence generation and resource flexibilities play major roles in determining responsiveness. Therefore, in industries, where responsiveness is critical, more attention should be allocated to these elements. Importantly, investments in the cultivation of responsiveness are more likely to pay off in when the firm is decentralized. Specifically, while fostering intelligence generation and resource flexibilities, managers should pair these elements with a less centralized decision-making structure. Thus, this study managerially contributes to illustrate the factors and the condition that can improve the multinational SBU’s strategic performance.

7. Limitations and future research
Though this study provides new insight into the complexity of MO and the role of responsiveness, there are several limitations to the research described here. For
example, the sample size of 126 may not have the statistical power necessary to generate more significant findings. One reviewer suggested that a potential moderated mediation relationship might exist with respect to resource flexibilities, responsiveness, and strategic performance. When tested, this relationship was not found to be significant in our sample. Future research may find significant results for this relationship with a larger sample, refined measures or some other technological advance (Table IV).

Second, given the theory of MO and the international context, we consider market intelligence generation and resource flexibilities to be antecedents of responsiveness. There might be other antecedents worth probing that were not addressed in the current research. For example, learning behaviors, degree of internationalization, cultural awareness, etc. can play a role in responsiveness or/and performance. These constructs can be framed and investigated with respect to different strategic orientations (Cadogan, 2012). A more thorough understanding of the factors that drive responsiveness will greatly enhance our understanding of these linkages in an international context.

Third, this research utilized a cross-sectional survey design, which carries the potential for CMV. Though multiple tests for this issue were conducted without detecting a serious problem (i.e. the marker variable technique), the potential for this problem could be ameliorated by using dyadic or secondary data. Future researchers may consider using experimental or quasi-experimental designs to further limit this possibility. The sacrifice of external validity may be worth the cost if CMV can be avoided entirely.

Fourth, our data only test the impact of centralization over a limited range. It is probable that a firm with too little centralization will be uncoordinated and wasteful, so the link between centralization and performance is likely curvilinear. Exploring this need for centralization may require experimental study but it may also succeed in identifying a proper centralization/responsiveness balance. There are almost certainly firms where adding structure by centralizing decision making may actually be beneficial.

Finally, two of our scales returned AVEs slightly below the recommended threshold level of 0.50 (Bagozzi and Yi, 1988). However, it is quite common for studies dealing with the constructs examined in the current research to fall short of the 0.50 benchmark (i.e. Cadogan et al., 2006, 2009; Kouropalatis et al., 2012). To further test the discriminant validity of these constructs, the square root of the AVE for each construct is listed in the diagonal of the correlation matrix. As the AVE square root values exceed the off-diagonal values, we can claim discriminant validity for these constructs, and

### Table IV. Correlations

<table>
<thead>
<tr>
<th></th>
<th>Strategic performance</th>
<th>Intelligence generation</th>
<th>Centralization</th>
<th>Responsiveness</th>
<th>Resource flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic performance</td>
<td>0.87(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligence generation</td>
<td>0.484(**)</td>
<td>0.68(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centralization</td>
<td>-0.215(*)</td>
<td>-0.178(*)</td>
<td>0.78(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Responsiveness</td>
<td>-0.249(**)</td>
<td>0.345(**)</td>
<td>-0.436(**)</td>
<td>0.66(a)</td>
<td></td>
</tr>
<tr>
<td>Resource flexibility</td>
<td>0.333(**)</td>
<td>0.278(**)</td>
<td>-0.285(**)</td>
<td>0.362(**)</td>
<td>1.00(b)</td>
</tr>
</tbody>
</table>

Notes: \(n = 126, \) \(\quad \) Figures on the diagonal are square root of the AVE; \(\text{bresource flexibility is formative so AVE is not applicable.} \) \(\quad \) \(\*) p < 0.05; \(\**\) p < 0.01
the AVEs values are acceptable (Kouropalatis et al., 2012). In future research, improving the psychometric properties of scales designed to measure the individual MO components will increase explanatory power as well as confidence in future research.

In addition to addressing the limitations, future research could extend the model by investigating the influence of other organizational characteristics, such as risk preference, industry dynamism, formalization, or organizational culture. The impact of responsiveness on performance might also be contingent on these characteristics. Investigating the effect of learning behaviors on responsiveness may be an interesting avenue to explore the potential of MO. For example, marketers might be interested in making use of market intelligence through organizational learning behaviors to achieve responsiveness or/and performance (Slater and Narver, 1995).

In addition, other than resource flexibilities, other types of flexibilities can be explored, especially since strategic flexibility is such a broad concept. For example, future research may expose differential effects from varied types of flexibilities. The flexibilities concept could potentially be broken down into physical plant flexibility, technological flexibility, and human resource flexibility. Since it is unlikely that flexibility of a firm’s workforce will result in uniform benefits for the firm, human resource flexibility could be further broken down by function (i.e., sales flexibility, engineering flexibility, and production management flexibility). It is clear that firms may create value through the flexibility of any of the above groups, but this value is unlikely to be uniform.

Another promising area of future research would be to address how the coordination of a firm’s flexibilities is impacted by the multinational SBU’s available resources. Different resources are more (or less) available to firms in different industries and in different cultures. Future research may focus on the link between available resources and the cultivation of flexibilities. Beyond this, resource flexibilities or coordination flexibility of resources may interact with responsiveness to affect strategic performance. Lastly, other dependent variables such as financial performance, market capitalization, or new product development performance can be considered in future research. Data of this kind may markedly enrich the current findings.

References


Further reading


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