

# Cross-Functional “Coopetition”: The Simultaneous Role of Cooperation and Competition Within Firms

Extant marketing literature tends to view cross-functional relationships as primarily cooperative or competitive in nature, but not both. In contrast, this research focuses on cross-functional “coopetition” (i.e., the joint occurrence of cooperation and competition across functional areas within a firm). Using responses from midlevel managers and top executives, the authors find that cross-functional coopetition enhances a firm’s customer and financial performance. The authors further show that this influence is mediated by market learning, indicating that performance returns to cross-functional coopetition occurs through an underlying learning mechanism.

Scholars in marketing and strategic management argue that knowledge transfer across functional boundaries is critical for numerous outcomes, including new product success (e.g., Griffin and Hauser 1992), organizational learning (Huber 1991), and overall firm performance (e.g., Gray and Meister 2004). In the marketing literature, Menon and Varadarajan (1992) argue that a firm’s market knowledge must be transferred or disseminated across departments before knowledge can play a critical role as a strategic asset.<sup>1</sup> Research also indicates that a firm’s competitive advantage lies in its ability to transfer market knowledge across departments (e.g., Maltz and Kohli 1996).

However, the transfer of knowledge across functional boundaries can be rather difficult and complicated. Even the most organized efforts to share knowledge are often impeded by employees’ tendencies to guard and selectively share information (Gilmour 2003). Consider the number of companies that have experienced difficulties with internal knowledge transfer. For example, Hewlett-Packard’s early failure in the laptop market with a 23-pound product can be attributed to its lack of knowledge flow between its marketing and engineering departments (Fisher, Maltz, and Jaworski 1997). General Motors found that its knowledge-

sharing attempts in the transfer of manufacturing insights from its Saturn division to its other divisions proved more difficult than expected (Kerwin and Woodruff 1992). Barilla SpA’s own sales and marketing areas impeded knowledge transfer to its operations area when it attempted to install a just-in-time distribution system (Hammond 1994).

Within academic research across marketing and management, scholars also recognize that knowledge transfer is valuable but often difficult to achieve (e.g., Kogut and Zander 1992; Szulanski 1996) and have subsequently studied barriers to knowledge transfer. Although research points to several factors that can impede knowledge transfer across functional boundaries within an organization, a critical factor is the degree of competition across functions. In particular, research shows that an arduous relationship between the source and the recipient (Szulanski 1996), or interfunctional rivalry (Maltz and Kohli 1996), can impede internal knowledge transfer. In numerous situations, functions must compete for a firm’s scarce resources and thus are often reluctant not only to share information to prevent a competing function from gaining knowledge but also to receive information for fear that it will heighten the value of a competing function’s knowledge (Gupta and Govindarajan 2000). Thus, the question is whether competing departments can effectively cooperate with one another to enhance organizational learning and performance. More generally, how should firms strategically manage cross-functional competition and cooperation to achieve competitive advantage?

The extant marketing literature has not addressed this important question, because it is often assumed that cross-functional interactions between marketing and other functional units are primarily cooperative or competitive, but not both. On the one hand, many researchers have viewed cross-functional interactions from a cooperation aspect, focusing on the value of interfunctional coordination and communication (e.g., Griffin and Hauser 1992; Moorman and Rust 1999; Narver and Slater 1990). On the other hand, others have viewed cross-functional interactions from a competition aspect, focusing on interdepartmental rivalry

---

<sup>1</sup>We refer to “functions” and “departments” interchangeably throughout this article.

---

Xueming Luo is Assistant Professor of Marketing, College of Business Administration, University of Texas, Arlington (e-mail: luoxm@uta.edu). Rebecca J. Slotegraaf is Assistant Professor of Marketing and Lilly Faculty Fellow (e-mail: rslotegr@indiana.edu), and Xing Pan is Assistant Professor of Marketing (e-mail: xpan@indiana.edu), Kelley School of Business, Indiana University. The authors appreciate the constructive comments and suggestions from the anonymous *JM* reviewers, Rohit Deshpandé, Ken Price, K. Sivakumar, and seminar participants at the University of Texas, Arlington, and Jinan University in China on previous versions of this manuscript.

(e.g., Homburg, Workman, and Krohmer 1999; Levitt 1969). However, although functional areas compete with one another in the pursuit of divergent individual goals and strategic priorities (e.g., Houston et al. 2001), they must also cooperate so that they work toward the firm's common interests (Narver and Slater 1990). Consequently, an organization's functional areas are often forced to compete and cooperate simultaneously with one another. Thus, it is critical to understand how these seemingly conflicting relationships interplay and affect firm performance.

In an effort to understand these effects better, we focus on cross-functional "coopetition," which we define as the joint occurrence of cooperation and competition across functional areas within a firm. A coopetition view of the interactions between marketing and other functional areas not only emphasizes the need to address complex interdepartmental structures but also echoes the importance of coordinating diverse and competitive knowledge and skills across the cross-functional boundaries within a firm. We argue that cross-functional coopetition improves a firm's customer and financial performance.

We also investigate whether market learning plays a mediating role in the relationship between cross-functional coopetition and firm performance. This mediating role would suggest that there is an underlying learning mechanism by which cross-functional coopetition contributes to superior performance. Market learning is grounded in the knowledge-based view of the firm (Grant 1996) and is recognized as an important source for a firm's competitive advantage (e.g., Kogut and Zander 1992; Nonaka 1994; Sinkula 1994). Although marketing scholars have focused on the value of knowledge across a broad array of topics, including the utilization of market knowledge (e.g., Deshpandé and Zaltman 1982; Menon and Varadarajan 1992; Moorman, Zaltman, and Deshpandé 1992) and the exchange of knowledge across functional units (Fisher, Maltz, and Jaworski 1997; Griffin and Hauser 1992; Maltz and Kohli 1996), how intrafirm cooperation among competing functions influences a firm's learning about key marketing activities has yet to be explored. Following prior studies (e.g., Menon et al. 1999; Moorman 1995; Srivastava, Shervani, and Fahey 1998), we refer to market learning as an organization's knowledge stores of key marketing activities, such as developing new products, building brand image among customers, and establishing channel partnerships and networks in the market.

Therefore, in this study, we empirically test (1) whether the joint occurrence of cross-functional competition and cross-functional cooperation (intensity and ability) improves a firm's customer and financial performance and (2) whether a firm's market learning mediates these performance returns. Our results show that cross-functional coopetition has an important effect on performance outcomes through enhanced market learning, paving the way for new insight into how cross-functional interactions can affect a firm's competitive advantage. Our study also offers managers evidence that cooperation and competition should *both* be strategically stimulated across functions to promote intrafirm knowledge transfer and to enhance the firm's customer and financial performance.

## Cross-Functional Coopetition

### *Theoretical Nature of Cross-Functional Coopetition*

Coopetition, or the joint occurrence of cooperative and competitive behaviors, can exist at multiple levels, including firms, strategic business units (SBUs), departments, and task groups (e.g., Brandenburger and Nalebuff 1996; Hamel, Doz, and Prahalad 1989; Tsai 2002). One theoretical foundation of coopetition can be drawn from research on social structure in the sociology literature. In particular, the social embeddedness framework purports that relations are always present and that the social structure of these relations influences subsequent behaviors (Granovetter 1985; Uzzi 1997, 1999). In consideration of the types of social relations, weak ties (Granovetter 1973) are characterized by sporadic interactions, yet they can offer high returns by linking people or firms to diverse pools of information (Burt 1992). In contrast, embedded ties are characterized by frequent and stronger interactions such that information is perceived as more trustworthy (Granovetter 1985) and cooperation is high (Gulati 1998). In considering both types of relations, research shows that the greatest value is recognized when there is a complementary mix of both forms (Uzzi 1999). Thus, we expect that firms enhance their performance when they exhibit cooperative social ties that are nested in a broader competitive framework.

Research in the marketing literature supports and extends this notion. For example, Vargo and Lusch (2004) point to the importance of collaboration not only among interorganizational partners but also among intraorganizational functions for a firm's long-term viability. At the intraorganizational level, some marketing scholars have also recognized that interdepartmental interaction may be a double-edged sword, involving both collaboration and rivalry (e.g., Ruekert and Walker 1987). We explicitly address this interdepartmental interaction by examining the effects of cross-functional coopetition, or the joint occurrence of cooperation and competition, across functional areas within a firm.

In cross-functional coopetition, interdepartmental interactions and the transfer of knowledge across functional areas can be both competitive and cooperative in nature. The competitive nature often occurs because knowledge can generate private gains for individual departments to outperform their counterparts. Indeed, cross-functional competition may result from direct comparisons among functional units (Levitt 1969; Maltz and Kohli 1996), interdepartmental struggles to obtain limited tangible resources (e.g., organizational capital, personnel) and intangible resources (e.g., top executives' mental time, attention) (Frankwick et al. 1994), and divergent goals and strategic priorities (Houston et al. 2001; Ruekert and Walker 1987). At the same time, knowledge transfer across functions within a firm may be cooperative in nature because departments need to collaborate with one another in the transfer of market knowledge for the common interests of the firm. Informal cooperative interaction among functional departments is particularly important for obtaining more frequent and valuable information (Granovetter 1985) and for achieving greater knowl-

edge transfer across departments (Ruekert and Walker 1987). For example, “hall talk” and storytelling are informal knowledge transfer processes that occur among departments as a means to bring people and departments together and to facilitate attainment of the organization’s goals (Kohli and Jaworski 1990). Thus, the degree to which a firm’s departments cooperate in conjunction with various levels of competition in the firm’s social structure jointly defines the firm’s level of cross-functional cooperation.

To clarify the concept of cross-functional cooperation further, we briefly discuss how it differs from two related constructs: First, cross-functional cooperation is similar to interorganizational alliances in that both involve cooperation between competing segments (i.e., functions, firms), yet important differences exist. An obvious difference is the level of analysis; the former is focused at the intraorganizational level, and the latter is focused at the interorganizational level. As a result, for example, the competitive element of cooperation within a firm is likely to be different from the competitive element between firms, such that rivalry and conflict are likely to be less extreme within a firm than between firms. In addition, underlying characteristics of interorganizational alliances, such as anticipated future interaction (Heide and Miner 1992) and relationship age (Anderson and Weitz 1989), are not likely to play a role in cross-functional cooperation. Second, cross-functional cooperation is also similar to market orientation in that both emphasize cooperation across functions or departments. In particular, a process view of market orientation suggests that knowledge about customers is disseminated across departments (e.g., Kohli and Jaworski 1990). However, cooperation and market orientation differ in an important way. Whereas market orientation focuses on promoting functional coordination and reducing interdepartmental conflict and friction (e.g., Narver and Slater 1990), cross-functional cooperation recognizes that interdepartmental conflict is not always unfavorable and can even produce specific benefits (Anderson and Narus 1990; Lado, Boyd, and Hanlon 1997).

### ***The Effect of Cross-Functional Cooperation on Performance***

We expect the joint occurrence of cross-functional cooperation and competition to enhance firm performance. The synergy of cooperation has been theorized to produce various benefits, including learning, cost savings, resource sharing, and innovation (Lado, Boyd, and Hanlon 1997). At an intraorganizational level, cooperation among competing units may be evident by absorbed and frequent interactions to uncover competing units’ know-how (Tsai 2002). Therefore, we focus on the ability and intensity, respectively, of the nature of interdepartmental cooperation and examine the performance effects of cross-functional cooperation in more detail by investigating (1) the joint occurrence of cross-functional cooperative ability and competition and (2) the joint occurrence of cross-functional cooperative intensity and competition.

*The joint occurrence of cross-functional cooperative ability and competition.* Cross-functional cooperative abil-

ity refers to skills in recognizing the value of new market knowledge as well as assimilating, transforming, and deploying market knowledge across lateral cross-functional interactions, reflecting an absorptive capacity for cooperative knowledge transfer (Cohen and Levinthal 1990; Zahra and George 2002). The ability for cross-functional cooperation extends beyond the acquisition of market knowledge, because functional units that do not have the capacity for assimilation and transformation may not be able to internalize the available knowledge or to deploy it effectively.

Regarding the joint impact of cross-functional cooperative ability and competition on firm performance, it is possible that a negative effect may occur. In particular, Rindfleisch and Moorman (2003) show that a firm’s customer orientation may deteriorate if the firm is engaged in a cooperative alliance with competitors; one reason for this decline is a low level of trust among alliance members. It is also noted that interfunctional rivalry decreases the level of trust in information (e.g., Maltz and Kohli 1996), which suggests that cross-functional competition coupled with cooperative ability could decrease a firm’s customer-based performance.

However, we expect that the joint occurrence of cross-functional cooperative ability and competition has a positive effect on a firm’s customer performance and financial performance. A combination of cross-functional cooperative ability and competition may nurture productive interactions (e.g., Brandenburger and Nalebuff 1996; Lado, Boyd, and Hanlon 1997; Uzzi 1999) that can facilitate internal efficiencies and sharing of best practice for successful deployment and exploitation of knowledge. In particular, cooperation among competitors can foster greater knowledge seeking and result in synergistic rents (Lado, Boyd, and Hanlon 1997). High cross-functional cooperative ability emphasizes the nature of gaining, absorbing, and sharing customer and market knowledge, whereas high cross-functional competition may provide departments with a strong incentive to share this knowledge to understand one another’s positions better. Indeed, Tsai (2002) empirically shows that productive interactions can be nurtured when there is high competition for resources across a firm’s SBUs because they are more likely to share information and exploit valuable knowledge stores. These productive interactions can also affect firm performance. For example, Von Hippel (1987) shows that cooperation among competing firms can improve each firm’s profits.

As such, the joint effect of high cooperative ability and high competition may generate better problem solving in satisfying customer needs and higher performance (Hamel, Doz, and Prahalad 1989; Lado, Boyd, and Hanlon 1997; Tsai 2002). Therefore, we predict that at the functional level within the firm, the joint occurrence of cooperative ability and competition gives rise to better customer and financial performance.

H<sub>1</sub>: The joint occurrence of cross-functional cooperative ability and competition has a positive effect on a firm’s (a) customer performance and (b) financial performance.

*The joint effect of cross-functional cooperative intensity and competition.* Cross-functional cooperative intensity

refers to the degree to which lateral, interdepartmental interactions are frequent and close within an organization. Prior research shows that frequent cooperative interaction enhances the level of communication and knowledge sharing (Ghoshal, Korine, and Szulanski 1994; Tsai 2002). Frequent interactions across functional areas may also serve as a mechanism that helps functions both recognize where potentially useful market knowledge could serve and route it to the destinations across functional boundaries for improved outcomes (Huber 1991).

We expect that the joint occurrence of cross-functional cooperative intensity and competition has a positive influence on a firm's customer performance and financial performance. More specifically, frequent interactions can create more opportunities to share knowledge and ideas (Tsai 2002), and sharing information across competing functions can offer timely integration of knowledge within a firm (e.g., Uzzi 1997), which in turn stimulates superior performance. Intensive cooperation across competing departments may not only promote the development and conversion of tacit knowledge into a shared understanding of customer needs (Nonaka 1994; Rindfleisch and Moorman 2001) but also generate more collaborative and effective strategic decision making within the organization (Ghoshal, Korine, and Szulanski 1994). Indeed, a competitive interdepartmental structure coupled with frequent interactions may enable a firm to capitalize on the communication channels and ties embedded across its functional areas, thus leading to greater market and financial returns.

Furthermore, the joint occurrence of cross-functional cooperative intensity and competition may reduce knowledge overlap and create synergies. In particular, although the intraorganizational functions are likely to share similar resource constraints and market situations imposed by the firm, knowledge across departments is less likely to be redundant, given the traditional emphases across functions (Moorman and Rust 1999). With less redundancy, frequent interaction among competing departments provides access to novel and complementary market intelligence across functional knowledge silos (Granovetter 1973). This access to nonredundant information fosters better problem solving and decision making (e.g., Cummings 2004) and is essential for the creation of customer and financial value (e.g., Kohli and Jaworski 1990). Therefore, we predict that the joint occurrence of cross-functional cooperative intensity and competition enhances customer and financial performance.

H<sub>2</sub>: The joint occurrence of cross-functional cooperative intensity and competition has a positive effect on a firm's (a) customer performance and (b) financial performance.

### ***The Mediating Role of Market Learning***

We also argue that a firm with departments that simultaneously compete and cooperate may enhance its market learning, which in turn will generate higher performance. Market learning broadly refers to a firm's expertise in and knowledge stores of key marketing activities, such as developing new products, building brand image, responding to customers' needs, and establishing channel relationships (Menon et al. 1999; Moorman 1995; Srivastava, Shervani,

and Fahey 1998). On the basis of the knowledge-based view of the firm, which posits that competitive advantage results from different knowledge stores and market expertise (e.g., Grant 1996; Nonaka 1994), we examine whether market learning is a route from which cross-functional cooperation enhances a firm's customer and financial performance.

The coexistence of cross-functional cooperation and competition is likely to create a synergy that improves a firm's market learning. First, the joint occurrence of cross-functional cooperative ability and competition offers the opportunity for customer and market knowledge to cross a firm's functional boundaries in an absorbed and effective way. With the facilitating effect of competition, brought about by the interest in knowing more about competitors' positions (Hamel, Doz, and Prahalad 1989; Tsai 2002), the cooperative ability to recognize, assimilate, and apply specialized market knowledge across competing departments is likely to enhance the ease and effectiveness with which learning may occur (Cohen and Levinthal 1989; Grant 1996; Szulanski 1996).

Second, the joint occurrence of cross-functional cooperative intensity and competition is also expected to improve a firm's market learning by enabling departments to enhance their knowledge stores in proactive and innovative ways. Intensive and frequent interactions can improve the transfer of complex knowledge (Hansen 1999) and adaptation to complex situations (Uzzi 1997). Furthermore, as we previously indicated, cross-functional competition can instill the motivation to understand other functions' positions. Thus, when intensive interactions occur across competing functions, this joint occurrence of cross-functional cooperative intensity and competition enables the competing departments to attain new and complementary knowledge that reduces the chance for interdepartmental misunderstanding of complex knowledge (Griffin and Hauser 1996) and offers the opportunity to diffuse novel ideas and promote greater learning (e.g., Ghoshal, Korine, and Szulanski 1994).

Therefore, we expect that the joint occurrence of cross-functional cooperative ability and competition and the joint occurrence of cross-functional cooperative intensity and competition enable a firm to generate stronger market learning.

H<sub>3</sub>: A firm's market learning is influenced by (a) the joint occurrence of its cross-functional cooperative ability and competition and (b) the joint occurrence of its cross-functional cooperative intensity and competition.

Extant literature in marketing shows a large and accumulating amount of evidence regarding the influence of organizational learning and market intelligence on firm performance (e.g., Kohli and Jaworski 1990; Maltz and Kohli 1996; Moorman, Zaltman, and Deshpandé 1992; Rindfleisch and Moorman 2001; Zhou, Yim, and Tse 2005). In addition, fundamental tenets of the knowledge-based view (Grant 1996; Kogut and Zander 1992) indicate that superior knowledge stores and organizational learning, as strategic assets, lead to improved financial and market performance. As previously argued, we believe that cross-functional cooperation (1) helps a firm build the necessary knowledge

stores for superior market learning, in the form of the joint occurrence of cross-functional cooperative intensity and competition, and (2) enables the firm to exploit these knowledge stores for superior market learning, in the form of the joint occurrence of cross-functional cooperative ability and competition. In turn, superior market learning leads to improved firm financial and market performance (e.g., Dodgson 1993; Kogut and Zander 1992).

Therefore, we purport that the performance advantages of cross-functional cooperation are achieved through an underlying learning mechanism.

H<sub>4</sub>: Market learning mediates the influence of the joint occurrence of cross-functional cooperative ability and competition on a firm's (a) customer performance and (b) financial performance.

H<sub>5</sub>: Market learning mediates the influence of the joint occurrence of cross-functional cooperative intensity and competition on a firm's (a) customer performance and (b) financial performance.

## Methodology

### Sample

The sample consists of firms that operate in high-technology sectors such as biotechnology, software development, information technology, and electronics within China. As the second largest economy in the world, China represents a critical market to consider (Boisot and Child 1996; Walters and Samiee 2003). Using the official *China Basic Statistical Units Yearbook* as the sampling frame, we randomly selected 500 firms headquartered in metropolitan areas with nationwide operations in China.<sup>2</sup>

The data were collected from two key informants within the organization to minimize potential common method bias. In particular, common method bias concerns arise when both independent and dependent variables are measured by the same key informant (e.g., Van Bruggen, Lillien, and Kacker 2002). To specify the two key informants from each of the 500 firms, the firms were telephoned and requested to select one midlevel manager randomly (e.g., sales, marketing, research-and-development [R&D] department manager) and one top executive (e.g., chief executive officer, general manager). The key informants were carefully chosen to ensure that they had the knowledge and background to complete the questionnaire in a thoughtful manner. The midlevel managers and senior executives were interviewed separately (Atuahene-Gima and Li 2002). In generating these responses for each company, top executives answered survey questions about organizational performance, market learning, and firm demographic information, whereas midlevel department managers answered questions about cross-functional cooperative forces, competitive forces, and some items of firm performance as a check of data validity.

<sup>2</sup>These 500 firms were equally selected from five major cities, including Shanghai in the East, Chengdu in the West, Beijing in the North, Guangzhou in the South, and Changsha in Central China. We selected this equal distribution to minimize bias of regional market heterogeneity.

A total of 329 firms (658 managers) met the screening criteria (i.e., the knowledge and background to respond and two key informants from each firm) and initially agreed to participate. After matching key informants and deleting missing data, we ended up with usable information from 163 firms (326 informants). As a result, we obtained a response rate of 32.6% of the original sample (163/500) and 49.5% of the qualified informants (163/329). To test for nonresponse bias, we compared the demographic data of 70 firms that agreed to participate but did not complete the interviews with those of the completed and useful responses. We found no significant difference in firm size, industry, location, and ownership.

The results testing the performance items that were designated to check informant response validity (sales growth, customer satisfaction, and return on investment [ROI]) exhibit high consistency between top executives and midlevel managers (Guttman's: .83, .88, and .87, respectively). To ensure that the senior executives were appropriate and reliable, we examined the extent of their involvement in making strategic decisions in the firm (Li and Atuahene-Gima 2001); the results show high strategic involvement ( $M = 6.81$  on a seven-point scale). Among the midlevel managers, several functional areas were covered, including sales (38%), marketing (33%), R&D (21%), and others (8%). Note that all functional areas may generate market knowledge to enhance customer value (Kohli and Jaworski 1990; Narver and Slater 1990) and that the process of market intelligence dissemination across functional boundaries can be evaluated by midlevel managers from marketing and other functional areas (e.g., Fisher, Maltz, and Jaworski 1997; Maltz and Kohli 1996). In general, 68% of informants had more than five years' experience in the firm, and 91% had at least two years' experience with the firm. Thus, the key informants were reasonably knowledgeable about the cross-functional dynamics within the firm (e.g., Johnson, Sohi, and Grewal 2004). Among the firms in our sample, 72.5% were small or medium in size, with 500 or fewer employees. The largest industry segment was electronics (36.3%), followed by information technology (28.1%) and biotechnology (18.7%).

### Measures

We assessed all constructs as multi-item measures. In addition, we scored each item on a seven-point scale, ranging from "strongly disagree" (1) to "strongly agree" (7). The questionnaire was prepared in English, translated into Chinese by independent translators, and then back translated into English to ensure accuracy and follow appropriate guidelines (Brislin 1970). The questionnaire was then pretested with 17 Chinese managers in a pilot study. Responses from the pretests ensured the relevance and equivalence of the final measures. We describe all measures in Table 1 and detail them in the Appendix. We discuss the measurement results in the "Results" section.

We measured *cross-functional cooperative intensity* with six items that we constructed to assess the degree to which the lateral cross-functional interactions are frequent and close. We adapted this measure in part from similar research in marketing that focuses on relational embedded-

**TABLE 1**  
**Main Constructs, Sources, and Definitions**

Construct	Construct Sources	Construct Definition	Key Informants in the Dyad
Cross-functional cooperative intensity	Antia and Frazier (2001); Rindfleisch and Moorman (2001)	The extent of the frequency and closeness of the lateral social interactions among functional areas within the firm.	Midlevel managers
Cross-functional cooperative ability	Cohen and Levinthal (1990); Szulanski (1996); Zahra and George (2002)	The ability to assimilate and deploy market knowledge in lateral interactions among functional areas.	Midlevel managers
Cross-functional competition	Levitt (1969); Houston et al. (2001); Maltz and Kohli (1996); Ruekert and Walker (1987)	The degree to which departments compete both for limited tangible and intangible resources and for strategic importance, power, and department charter.	Midlevel managers
Market learning	Menon et al. (1999); Moorman (1995); Srivastava, Shervani, and Fahey (1998)	The firm's expertise in and knowledge stores of key marketing activities (i.e., developing new product development, building brand image, sensemaking customers' current and potential needs, and others).	Top executives
Firm performance	Moorman and Rust (1999)	The perceptions of strategic market performance and financial performance (i.e., market share growth, customer loyalty, new product development, sales growth, customer satisfaction, selling costs, customer retention, customer lifetime value, and ROI).	Top executives

ness at other organizational levels (e.g., Antia and Frazier 2001; Rindfleisch and Moorman 2001). Our *cross-functional cooperative ability* measure includes six items that examine the core underlying ability to evaluate, assimilate, and exploit market knowledge transferred from other departments during cross-functional interactions. In line with the process perspective of absorptive capacity (Cohen and Levinthal 1990; Lane, Salk, and Lyles 2001), this measure extended the three-item scale that Szulanski (1996) initially suggested and validated.

The measure of *cross-functional competition* included 11 items that assessed the extent to which functional areas compete with one another for tangible and intangible resources, strategic importance, and charter (Ruekert and Walker 1987) and the extent to which departments struggle with one another because of divergent departmental goals and strategic priorities (Houston et al. 2001; Levitt 1969; Maltz and Kohli 1996). We dropped one item to enhance scale validity (see the Appendix), which resulted in a ten-item measure.

We developed the ten-item measure of *market learning* to capture the firm's expertise in and knowledge stores of key marketing activities, adapting our measure from Menon and colleagues' (1999) list of key marketing activities. With these ten items, we model market learning as a higher-order construct of three subdimensions. This approach is similar to extant literature that uses a second-order factor to examine cooperative competency (Sivadas and Dwyer 2002). Our three subdimensions include market learning in product/service (i.e., developing a new product/service, promot-

ing and selling a product/service, and refining and repositioning an existing product/service), customer (i.e., building a brand image among customers, developing extensive customer service capabilities, and making sense of customers' current and potential needs), and channel (i.e., pricing below competitors, establishing marketing and distribution networks in the market, collaborating with business partners, and knowing about business environment). The results show good overall fit:  $\chi^2 = 36.85$ , d.f. = 32,  $p > .05$ ; comparative fit index (CFI) = .981, goodness-of-fit index (GFI) = .957, and root mean square error of approximation (RMSEA) = .031; as we expected, the three first-order latent constructs loaded significantly on market learning (product/services:  $\lambda = .753$ ,  $p < .01$ ; customer:  $\lambda = .816$ ,  $p < .01$ ; channel:  $\lambda = .610$ ,  $p < .01$ ).

In terms of performance, we examined two broad metrics of *firm performance*. To assess the firm's strategic market and financial outcomes, such as market growth and ROI, we used a four-item measure of financial performance that we adapted, in part, from the work of Moorman and Rust (1999). In addition, to assess the firm's customer-based performance, including its customer satisfaction and customer retention, we used a four-item measure of customer performance that we also adapted, in part, from the work of Moorman and Rust (1999).

To control for any extraneous effects due to firm or industry factors, we also included several covariates. In particular, we included firm size and firm ownership to control for economies of scale and resource capacity. We measured *firm size* using the number of employees, which is consis-

tent with extant research (e.g., Lee and Grewal 2004; Luo 2001), and we measured *firm ownership* using a dummy variable (1 = firms with foreign ownership, 0 = otherwise [i.e., state- or private-owned firms]) due to strategic and operations differences between foreign and local firms in China (e.g., Peng and Luo 2000). In addition, we included two industry variables to control for market effects that have been reported to influence a firm's strategic choices and performance outcomes (e.g., Atuahene-Gima and Li 2002; Li and Calantone 1998; Zhou, Yim, and Tse 2005). Specifically, we included *industry hostility*, which we measured using the five-item scale that Jaworski and Kohli (1993) developed, and *market volatility*, which we measured using a four-item scale that is well-accepted in marketing literature (e.g., Li and Calantone 1998; Slater and Narver 1994; Zhou, Yim, and Tse 2005).

## Analysis and Results

### Measure Validation

Following the work of Anderson and Gerbing (1988), we test the validity of the measures using confirmatory factor analysis. Overall model statistics indicate that the chi-square for the measurement model with all constructs is 1427.18 ( $p = .00$ ), with an acceptable ratio of chi-square to degrees of freedom of 1.67; the CFI, GFI, adjusted goodness-of-fit index (AGFI), and RMSEA are .96, .94, .93, and .05, respectively.

Convergent validity for each of the measures, as indicated by Cronbach's alpha, all exceeded the .7 benchmark (Nunnally 1978). As Table 2 shows, the minimum reliability across the measures is .90. Furthermore, at .71 or higher, the average variance extracted (AVE) for each construct exceeds the .5 benchmark (Fornell and Larcker 1981).

Discriminant validity of the measures was supported with two different approaches. First, we conducted a series of chi-square difference tests by examining pairs of constructs using two models (one constrained model and one unconstrained model) for each pair of measured constructs (Anderson and Gerbing 1988). The results suggest that unconstrained models fit the data better than constrained models, indicating discriminant validity. Second, we compared the AVE of the individual constructs with the squared correlation between construct pairs (Fornell and Larcker 1981). As is evident in Table 2, the largest correlation is that between customer performance and financial performance

( $r = .58$ ), which, when squared ( $r^2 = .336$ ), is less than the AVE for either customer performance or financial performance (AVE = .75 and .72, respectively). In all cases, we find that the AVEs exceed the squared correlations, which again confirms discriminant validity.

### The Effects of Cross-Functional Cooperation

Using regression analysis, we capture the effects of cross-functional cooperation with the interaction between the cooperation and competition constructs. We mean-centered these variables before creating the interaction to reduce any collinearity between the main and the interaction effects (Aiken and West 1996). Following Aiken and West's (1996) and Cohen and Cohen's (1983) recommendations, we entered the variables into the model in distinct steps: We entered the covariates, then the main effects, and finally the interaction effects. To examine the incremental effect of including the interaction between cross-functional cooperation and competition, we examined the change in R-square ( $\Delta R^2$ ), which indicates the value of including additional variables in a model (Cohen and Cohen 1983) and the value of interactions in particular (Aiken and West 1996). The results for the effects of cross-functional cooperation on firm performance appear in Table 3.

The results show that the interaction between (i.e., the joint occurrence of) cross-functional cooperative ability and competition has a positive and significant effect on customer performance ( $b = .19, p < .01$ ) and on financial performance ( $b = .26, p < .01$ ), in support of H<sub>1</sub> (see Table 3). In addition, the results show that the joint occurrence of cross-functional cooperative intensity and competition has a positive and significant effect on customer performance ( $b = .23, p < .01$ ) and on financial performance ( $b = .16, p < .05$ ), in support of H<sub>2</sub> (see also Table 3). Moreover, entry of the joint occurrence of cross-functional competition and cooperative ability and of the joint occurrence of cross-functional competition and cooperative intensity in the third step explained a significant level of additional variance beyond the main effects. Specifically, these two types of cross-functional cooperation explained 8% more variance for customer performance ( $F_{(2, 159)} = 3.96, p < .01$ ) and 10% more variance for financial performance ( $F_{(2, 159)} = 4.43, p < .01$ ).

For our examination of whether there are any differential effects for the two types of organizational performance, model comparisons show that the joint occurrence of cross-

TABLE 2  
Descriptive Statistics of Key Constructs

Variables	M	SD	AVE	CI	CA	CM	LEARN	CUPF	FIFP
Cross-functional cooperative intensity (CI)	5.28	1.23	.74	.91					
Cross-functional cooperative ability (CA)	5.89	1.14	.73	.43**	.91				
Cross-functional competition (CM)	4.19	1.31	.71	.32**	.36**	.90			
Market learning (LEARN)	5.10	1.18	.72	.18*	.37**	-.12	.90		
Customer performance (CUPF)	5.41	1.05	.75	.36**	.24**	-.17*	.39**	.95	
Financial performance (FIFP)	5.08	1.36	.72	.27**	.35**	-.10	.37**	.58**	.90

\* $p < .05$ .

\*\* $p < .01$ .

Notes: The coefficient alpha for each measure is on the diagonal, and the intercorrelations are on the off-diagonal.

**TABLE 3**  
**The Effect of Cross-Functional Coopetition on Customer and Financial Performance**

Independent Variables	Customer Performance			Financial Performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Coopetition Effects</b>						
Joint occurrence of cross-functional cooperative ability and competition (CA × CM)			.19**			.26**
Joint occurrence of cross-functional cooperative intensity and competition (CI × CM)			.23**			.16*
<b>Main Effects</b>						
Cross-functional cooperative ability (CA)		.27**	.29**		.36**	.39**
Cross-functional cooperative intensity (CI)		.32**	.36**		.22**	.23**
Cross-functional competition (CM)		-.16*	-.13		-.11	-.10
<b>Covariates</b>						
Firm size	.06	.04	.04	.16*	.17*	.16*
Firm ownership	.16*	.16*	.14	.09	.08	.08
Industry hostility	.24**	.23**	.24**	.22**	.21**	.21**
Market volatility	-.09	-.11	-.10	-.12	-.16*	-.16
<b>Overall Model</b>						
F value	8.83**	10.65**	8.87**	7.21**	11.77**	10.04**
Adjusted R <sup>2</sup>	.25	.43	.51	.21	.45	.55
ΔR <sup>2</sup>		.18	.08		.24	.10
Incremental F		9.52**	3.96**		13.47**	4.43**

\* $p < .05$ .

\*\* $p < .01$ .

functional cooperative ability and competition has a stronger effect on financial performance than on customer performance ( $\chi^2_{diff} = 11.28$ ,  $d.f._{diff} = 1$ ,  $p < .01$ ) and that the joint occurrence of cross-functional cooperative intensity and competition has a stronger effect on customer performance than on financial performance ( $\chi^2_{diff} = 3.71$ ,  $d.f._{diff} = 1$ ,  $p < .10$ ). It is possible that frequent interaction among competing departments helps build customer retention and loyalty, whereas improvements in a firm's financial performance require more absorptive and assimilating cooperation among competing departments.

### **The Mediating Role of Market Learning**

To examine the extent to which market learning mediates the effects of cross-functional coopetition, we relied on the three-step mediated regression approach that Baron and Kenny (1986) recommend. More specifically, to establish mediation of market learning, coopetition must affect market learning and performance, and marketing learning must affect performance. As we previously indicated, the results show that cross-functional coopetition affects performance (see Models 3 and 6 in Table 3). Therefore, to establish mediation, cross-functional coopetition must affect market learning, and market learning must affect performance. The results show that the joint occurrence of cross-functional cooperative ability and competition has a positive effect on market learning ( $b = .22$ ,  $p < .01$ ) and that the joint occurrence of cross-functional cooperative intensity and competition has a positive effect on market learning ( $b = .17$ ,  $p <$

.05), as Model 7 shows (see Table 4). These results support H<sub>3</sub>. For our examination of the effect of market learning on performance, the results indicate that market learning has a positive and significant effect on a firm's customer performance ( $b = .32$ ,  $p < .01$ ) and financial performance ( $b = .28$ ,  $p < .01$ ).<sup>3</sup>

Furthermore, as Table 4 shows, inclusion of market learning in the model reduces the strength of the effect of cross-functional coopetition on performance. In particular, the joint effect of cross-functional cooperative ability and competition on customer performance and the joint effects of cross-functional cooperative intensity and competition on both customer performance and financial performance are no longer significant (see Models 8 and 9 in Table 4). Thus, market learning fully mediates the joint effect of cross-functional cooperative ability and competition on customer performance, fully mediates the joint effect of cross-functional cooperative intensity and competition on customer performance, and fully mediates the joint effect of cross-functional cooperative intensity and competition on

<sup>3</sup>Although common variance between market learning and firm performance may influence this effect, we examined whether the relationship between market learning and firm performance would differ when firm performance was reported by midlevel managers rather than by senior executives. The results indicate that there remains a strong relationship between market learning (reported by senior executives) and firm performance (reported by midlevel managers):  $r = .31$ ,  $p < .01$ .



**TABLE 4**  
**The Mediating Effect of Market Learning**

Independent Variables	Model 7: Market Learning	Model 8: Customer Performance	Model 9: Financial Performance
<b>Mediating Effect</b>			
Market learning		.32**	.28**
<b>Coopetition Effects</b>			
Joint occurrence of cross-functional cooperative ability and competition (CA × CM)	.22**	.11	.20**
Joint occurrence of cross-functional cooperative intensity and competition (CI × CM)	.17*	.13	.12
<b>Main Effects</b>			
Cross-functional cooperative ability (CA)	.37**	.20**	.26**
Cross-functional cooperative intensity (CI)	.29**	.24**	.18**
Cross-functional competition (CM)	-.12	-.09	-.09
<b>Covariates</b>			
Firm size	.05	.09*	.16*
Firm ownership	.10	.10	.06
Industry hostility	.24**	.18**	.20*
Market volatility	-.10	-.11*	-.17
<b>Overall Model</b>			
F value	14.87**	10.92**	9.62**
R <sup>2</sup>	.53	.60	.58

\* $p < .05$ .

\*\* $p < .01$ .

financial performance. Moreover, although the interaction effect of cross-functional cooperative ability and competition on financial performance remains significant, its effect diminishes (see Table 4), illustrating partial mediation. These results offer strong support for H<sub>4</sub> and H<sub>5</sub> and the argument that cross-functional coopetition realizes performance advantages through market learning.

### Model Comparisons

To examine the extent to which our results are robust across different models, we used structural equation modeling (SEM) to compare alternative models. In particular, we fit the data with three models (Morgan and Hunt 1994; Zhou, Yim, and Tse 2005). In the first model (SEM1), all variables directly influence the two types of firm performance, and we do not include any mediation effect of market learning. The second model (SEM2) involves full mediation of market learning (i.e., the joint occurrence of cross-functional cooperative ability and competition and the joint occurrence of cross-functional cooperative intensity and competition are not modeled to affect performance). The third model (SEM3) allows partial mediation of market learning. All three models include the aforementioned covariates.

The results indicate that fit indexes for SEM1 are  $\chi^2 = 1749.93$ , d.f. = 852,  $p = .00$ ; CFI = .90, GFI = .88, AGFI = .87, and RMSEA = .06; fit indexes for SEM2 are  $\chi^2 = 1602.98$ , d.f. = 855,  $p = .00$ ; CFI = .92, GFI = .91, AGFI = .89, and RMSEA = .06; and fit indexes for SEM3 are  $\chi^2 = 1578.54$ , d.f. = 851,  $p = .00$ ; CFI = .94, GFI = .92,

AGFI = .90, and RMSEA = .05. Comparison across these three alternative SEM models illustrates that SEM3, with partial mediation effects, fits the data best, fitting the data better than SEM1 with no mediation effects ( $\chi^2_{diff} = 171.39$ , d.f.<sub>diff</sub> = 1,  $p < .01$ ) and better than SEM2 with full mediation effects ( $\chi^2_{diff} = 24.44$ , d.f.<sub>diff</sub> = 4,  $p < .01$ ). In other words, these findings show that market learning partially mediates the influence of cross-functional coopetition effects on firm performance, consistent with the regression results in Table 4. Furthermore, the structural paths in SEM3 appear to be consistent with the beta coefficients from the regression results. Specifically, SEM3 results show support for the market learning–customer performance ( $b = .35$ ,  $p < .01$ ) and market learning–financial performance ( $b = .29$ ,  $p < .01$ ) linkages,<sup>4</sup> comparable to the counterpart beta coefficients of .32 ( $p < .05$ ) and .28 ( $p < .05$ ) regression results in Table 4.<sup>5</sup> Overall, the results for SEM confirm our conceptual framework, demonstrating the performance benefits of cross-functional coopetition and the role of market learning as a mediator of these benefits.

<sup>4</sup>We assessed SEM path coefficients significance through a bootstrapping procedure with 1000 resamples.

<sup>5</sup>Although we found a significant path from cross-functional cooperative intensity to customer performance in SEM3 ( $b = .18$ ,  $p < .05$ ), which was not significant in the regression analysis, specific differences between regression results and SEM results may be due to different estimation approaches (ordinary least squares in the regression approach and maximum likelihood in the SEM approach) and to the accounting for measurement error in SEM.

## Discussion

The recently emerging research stream on coopetition has been largely limited to the interfirm level (e.g., Rindfleisch and Moorman 2003; Zeng and Chen 2003). Only a few studies have examined coopetition at the intraorganizational level, focusing on SBU-level knowledge sharing in general (Tsai 2002) or within a multinational organization (e.g., Ghoshal, Korine, and Szulanski 1994). Coopetition at the cross-functional level has largely been ignored in both the marketing and the management literature. Notably, Rindfleisch and Moorman (2001) point out that the marketing literature has devoted surprisingly little systematic research on interfirm coopetition, let alone intrafirm coopetition.

Our focus on the simultaneous role of cooperation and competition in cross-functional relationships advances the recent emphasis on market knowledge transfer across functional boundaries for superior learning and performance (Maltz and Kohli 1996, 2000). We argue that because cross-functional cooperation involves the ability for and the intensity of knowledge transfer and because competition can facilitate knowledge transfer given an underlying incentive to understand competing functions' positions, the joint occurrence of cross-functional cooperation and competition can create synergies that translate into competitive advantage. Overall, our results indicate that cross-functional coopetition has an important impact on a firm's customer-based and financial-based performance and that market learning mediates these performance returns. Thus, although a firm's functional areas may experience competition for resources and strategic emphasis, cooperative forces are necessary to shape not only its market learning but also its customer and financial performance. Consequently, our findings regarding the synergy of simultaneous cooperation and competition at the functional level provide some empirical evidence of the "positive-sum" or syncretic rents of interfirm coopetition that Lado, Boyd, and Hanlon (1997) theorize.

Importantly, our results also show that cross-functional coopetition can affect firm performance in different ways. For example, the joint occurrence of cross-functional cooperative intensity and competition has a stronger positive effect on customer-based performance than on financial-based performance, potentially because frequent interactions among competing departments may not be an efficient approach (Lado, Boyd, and Hanlon 1997); yet the communication offers additional information that can benefit consumers (Fisher, Maltz, and Jaworski 1997; Griffin and Hauser 1996). Our introduction of two important concepts of cross-functional cooperation—namely, cooperative intensity and cooperative ability—also offers important insight for intrafirm knowledge transfer and performance outcomes. A combination of the two cooperation concepts in cross-functional coopetition may help solve the "fail-to-use" problem of sticky yet valuable market knowledge (Maltz and Kohli 1996), such that the joint occurrence of cross-functional cooperative ability and competition offers the ability to recognize and assimilate valuable yet tacit market knowledge and the joint occurrence of cross-functional cooperative intensity and competition provides

the channels for knowledge transfer across functional boundaries within the firm.

Although prior work has suggested a link between coopetition and performance (e.g., Brandenburger and Nalebuff 1996; Hamel, Doz, and Prahalad 1989; Lado, Boyd, and Hanlon 1997), few studies have explored the reasons for this link. Drawing from the knowledge-based view of the firm, we probe for an underlying learning mechanism and point out that coopetition at the intraorganizational level influences firm performance through market learning. Specifically, our results indicate that market learning plays a major mediating role in the extent to which cross-functional coopetition influences firm performance. Thus, the value of simultaneous cooperation and competition within cross-functional interactions lies in how they influence a firm's market learning, which in turn affects the firm's performance. This finding highlights a critical implication for marketing scholars because it uncovers an important role of marketing knowledge and intraorganizational learning in exploiting cooperative ability and intensity among competing departments for better firm performance.

### *Managerial Implications*

Our research also offers insight to managers regarding the importance of simultaneously managing cooperation and competition in cross-functional interactions. Although executives may recognize that market knowledge transfer across functional areas is valuable, they must also understand that it is a complicated process due, in part, to the underlying nature of cooperation and competition in cross-functional relationships.

Notably, our results regarding the strong, beneficial influence of cross-functional coopetition on firm performance indicate that fostering cooperation but quenching competition may limit a firm's full performance potential. In other words, our research directs managers to understand that competition and conflicts among marketing, R&D, finance, and other departments are not always harmful. Instead, fostering the joint occurrence of cross-functional cooperation and competition can direct conflicts toward constructive interactions and actually promote a firm's overall market learning and performance. For example, Royal Dutch Shell had two functions that were focused on bettering their own individual departments and competing for business within the organization. When these competing functions came together to share knowledge, the organization reaped higher performance (Burrell and Wallace 2003). This example, coupled with our research findings, informs managers that a firm should attempt to cooperatively bridge the competitive nature of its functional areas and leverage the joint occurrence of competition and cooperation for improved firm customer and financial performance.

Indeed, the overwhelming push for lean budgets and downsizing in today's business practice is likely to generate high levels of competition among functional areas. This competition can often be the result of how resources are apportioned across departments. For example, firms frequently cut marketing budgets to save costs, often because

marketing expenditures are not easily tied to financial outcomes (Rust et al. 2004). As a result, with inherent and often unavoidable competitive pressures between marketing and other functions (i.e., fighting for more budget from the shrinking sum within a firm), executives should consider specific approaches that can instill cooperative ability and intensity across the competing departments, such as use of cross-functional teams to focus on organizational goals rather than purely functional goals (Griffin and Hauser 1996; Maltz and Kohli 2000), implementation of explicit employee incentives that focus on the firm's long-term objectives (Hauser, Simester, and Wernerfelt 1994), illustration of marketing expenditure effects on shareholder value to increase the credibility of the marketing function within the firm (Rust et al. 2004), and structural changes to offer more opportunities for informal interactions among departments within the firm.

Our findings also point managers to the valuable mediating role of market learning in the process of converting cross-functional cooperation into higher performance. Specifically, our results indicate that engaging in more intensive and absorbed collaborations across competing functional boundaries can enhance a firm's overall performance through a learning route. Thus, managers should nurture the frequency of interactions among competing departments and the absorptive capacity for cooperation among competing functions to promote intraorganizational learning, which ultimately advances firm performance.

Finally, managers who want to enhance organizational learning and are interested in more readily transferring knowledge within the firm should understand that the culprit of this problem may result not simply from low intensity of cross-functional cooperation but also from a lack of assimilation and deployment of market knowledge. Overall, both cooperative intensity and ability may help functional areas recognize where market knowledge resides within the organization, assimilate such knowledge, and then deploy this market knowledge for improved learning and subsequent superior firm performance.

### **Further Research and Current Limitations**

First, further research on cross-functional cooperation could examine differences across functional areas regarding the cooperative ability to recognize and assimilate market knowledge. In particular, our research unveiled that departments are not the same in their abilities to assimilate and use market knowledge that is available within the firm. Thus, further research should pragmatically recognize the difference among functional areas regarding their abilities to absorb market knowledge and explore antecedents of this difference.

Second, further research could track how learning mediates the relationship between cross-functional cooperation and organizational performance over time. Our research indicated that market learning plays a mediating role in transferring cross-functional cooperation into customer and financial performance. However, it would be interesting to examine how cross-functional level learning may translate over time to build stronger cross-functional cooperative

intensity and ability. Overall, the notion of cross-functional cooperation may provide future marketing research a novel way of thinking about the complexities of market knowledge transfer across functional boundaries within the firm.

## **Appendix Operationalization of Measures**

### ***Cross-Functional Cooperative Intensity (6-Item Measure)***

New scale based on the work of Antia and Frazier (2001), Narver and Slater (1990), and Rindfleisch and Moorman (2001): reliability = .91 and AVE = .74 (reported by midlevel managers).

1. Departments here share communications frequently in our business.
2. All departments frequently discuss common problems in our business.
3. Marketing personnel share close ties with people in other departments.
4. Our relationship with other departments is mutually gratifying and highly cohesive.
5. We expect that our strong interdepartmental social relationship will exist far into the future.
6. There is little informal interaction among people from different departments. (Reverse coding)

### ***Cross-Functional Cooperative Ability (6-Item Measure)***

New scale based in part on the work of Szulanski (1996) and Cohen and Levinthal (1990): reliability = .91 and AVE = .73 (reported by midlevel managers).

During the interdepartmental interactions, our departments here have strong abilities to

1. Identify new and useful market knowledge transferred from other departments.
2. Understand new and useful market knowledge transferred from other departments.
3. Value new and useful market knowledge transferred from other departments.
4. Assimilate new and useful market knowledge transferred from other departments.
5. Apply new and useful market knowledge transferred from other departments.
6. Exploit new and useful market knowledge transferred from other departments.

### ***Cross-Functional Competition (11-Item Measure)***

New scale based on the work of Houston and colleagues (2001), Maltz and Kohli (1996), and Ruckert and Walker (1987): reliability = .90 and AVE = .71 (reported by midlevel managers).

1. We regularly compete for the limited resources across departments.
2. When members of several departments talk about distribution of resources (i.e., capital, personnel) across departments, tensions frequently run high.

3. Functional areas regularly compete with each other for more mental attention and time from top executives.
4. To get more resources for our department, other departments oftentimes have to make sacrifices.
5. Individual departments here try to obtain more time and attention from senior managers even at the costs of other functions.
6. Each department is constantly compared and benchmarked with other departments to improve efficiency in the organization.
7. Most departments here try to gain more strategic importance and power inside the firm.
8. The objectives pursued by the marketing department are incompatible with those of other departments (e.g., manufacturing, IT [information technology], operations). (Item dropped to enhance scale validity)
9. Protecting one's departmental turf is considered to be a way of life in this business.
10. Individual departments here tend to outperform others for a better department charter.
11. People from different departments feel that the goals of their respective departments are in harmony with each other. (Reverse coding)

### **Market Learning (10-Item Measure)**

New scale based on the work of Menon and colleagues (1999) and Srivastava, Shervani, and Fahey (1998): reliability = .90 and AVE = .72 (reported by top executives).

Regarding market knowledge, compared to other companies in your industry, my company has a strong position in terms of the expertise in

1. Developing new product/service.
2. Promoting and selling product/service.

3. Refining and repositioning existing product/service.
4. Building brand image among customers.
5. Developing extensive customer service capabilities.
6. Sensemaking customers' current and potential needs.
7. Pricing below competitors.
8. Establishing marketing and distribution networks in the market.
9. Collaborating with business partners.
10. Knowing about business environment (tax, labor, institutional regulations, etc.).

### **Organizational Performance**

#### *Customer Performance (4-Item Measure)*

Adapted in part from the work of Moorman and Rust (1999) and Narver and Slater (1990): reliability = .95 and AVE = .75 (reported by top executives).

1. Customer loyalty.
2. Customer satisfaction.
3. Customer lifetime value.
4. Customer retention.

#### *Financial Performance (4-Item Measure)*

Adapted in part from the work of Moorman and Rust (1999) and Narver and Slater (1990): reliability = .90 and AVE = .72 (reported by top executives).

1. Market share growth.
2. Sales growth.
3. Reducing selling costs.
4. ROI.

---

## **REFERENCES**

- Aiken, Leona and Stephen G. West (1996), *Multiple Regression: Testing and Interpreting Interactions*. Thousand Oaks, CA: Sage Publications.
- Anderson, Erin and Barton Weitz (1989), "Determinants of Continuity in Conventional Industrial Channel Dyads," *Marketing Science*, 8 (4), 310-23.
- Anderson, James C. and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, 103 (3), 411-23.
- and James A. Narus (1990), "A Model of Distributor Firm and Manufacturer Firm Working Partnerships," *Journal of Marketing*, 54 (January), 42-58.
- Antia, Kersi and Gary L. Frazier (2001), "The Severity of Contract Enforcement in Interfirm Channel Relationships," *Journal of Marketing*, 65 (October), 67-81.
- Atuahene-Gima, Kwaku and Haiyang Li (2002), "When Does Trust Matter? Antecedents and Contingent Effects of Supervisor Trust on Performance in Selling New Products in China and the United States," *Journal of Marketing*, 66 (July), 61-81.
- Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-82.
- Boisot, Max and John Child (1996), "From Fiefs to Clans and Network Capitalism: Explaining China's Emerging Economic Order," *Administrative Science Quarterly*, 41 (3), 600-628.
- Brandenburger, Adam and Barry Nalebuff (1996), *Co-opetition*. New York: Currency Doubleday.
- Brislin, R.W. (1970), "Back Translation for Cross-Cultural Research," *Journal of Cross-Cultural Psychology*, 1 (3), 185-216.
- Burress, Ann and Sharon Wallace (2003), "Brainstorming Across Boundaries at Shell," *KM Review*, 6 (2), 20-23.
- Burt, Ronald S. (1992), *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.
- Cohen, Jacob and Patricia Cohen (1983), *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*, 2d ed. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, Wesley M. and Daniel A. Levinthal (1989), "Innovation and Learning: The Two Faces of R&D," *The Economic Journal*, 99 (September), 569-96.
- and —— (1990), "Absorptive Capacity: A New Perspective on Learning and Innovation," *Administrative Science Quarterly*, 35 (March), 128-52.
- Cummings, Jonathon N. (2004), "Work Groups, Structural Diversity, and Knowledge Sharing in a Global Organization," *Management Science*, 50 (3), 352-64.
- Deshpandé, Rohit and Gerald Zaltman (1982), "Factors Affecting the Use of Market Research Information: A Path Analysis," *Journal of Marketing Research*, 19 (February), 14-31.
- Dodgson, Mark (1993), "Organizational Learning: A Review of Some Literatures," *Organization Studies*, 14 (3), 375-94.

- Fisher, Robert J., Elliot Maltz, and Bernard J. Jaworski (1997), "Enhancing Communication Between Marketing and Engineering: The Moderating Role of Relative Functional Identification," *Journal of Marketing*, 61 (July), 54–70.
- Fornell, Claes and David F. Larcker (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, 19 (February), 39–50.
- Frankwick, Gary, James Ward, Michael Hult, and Peter Reingen (1994), "Evolving Patterns of Organizational Beliefs in the Formation of Strategy," *Journal of Marketing*, 58 (April), 96–110.
- Ghoshal, Sumantra, Harry Korine, and Gabriel Szulanski (1994), "Interunit Communication in Multinational Corporations," *Management Science*, 40 (1), 96–110.
- Gilmour, David (2003), "How to Fix Knowledge Management," *Harvard Business Review*, 81 (October), 16–17.
- Granovetter, Mark (1973), "The Strength of Weak Ties," *American Journal of Sociology*, 78 (6), 1360–80.
- (1985), "Economic Actions and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, 91 (3), 481–510.
- Grant, Robert M. (1996), "Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration," *Organization Science*, 7 (4), 375–387.
- Gray, Peter H. and Darren B. Meister (2004), "Knowledge Sourcing Effectiveness," *Management Science*, 50 (6), 821–34.
- Griffin, Abbie and John R. Hauser (1992), "Patterns of Communication Among Marketing, Engineering, and Manufacturing: A Comparison Between Two New Product Teams," *Management Science*, 38 (3), 360–73.
- and ——— (1996), "Integrating R&D and Marketing: A Review and Analysis of the Literature," *Journal of Product Innovation Management*, 13 (3), 191–215.
- Gulati, Ranjay (1998), "Alliances and Networks," *Strategic Management Journal*, 19 (4), 293–317.
- Gupta, Anil K. and Vijay Govindarajan (2000), "Knowledge Flows Within Multinational Corporations," *Strategic Management Journal*, 21 (4), 473–95.
- Hamel, Gary, Yves L. Doz, and C.K. Prahalad (1989), "Collaborate with Your Competitors and Win," *Harvard Business Review*, 67 (1), 133–39.
- Hammond, Janice H. (1994), "Barilla SpA (A)," Harvard Business School Case No. 9-694-046.
- Hansen, Morten T. (1999), "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organization Subunits," *Administrative Science Quarterly*, 44 (1), 82–111.
- Hauser, John R., Duncan I. Simester, and Birger Wernerfelt (1994), "Customer Satisfaction Incentives," *Marketing Science*, 13 (4), 327–50.
- Heide, Jan B. and Anne S. Miner (1992), "The Shadow of the Future: Effects of Anticipated Interaction and Frequency of Contact on Buyer-Seller Cooperation," *Academy of Management Journal*, 35 (2), 265–91.
- Homburg, Christian, John P. Workman Jr., and Harley Krohmer (1999), "Marketing's Influence Within the Firm," *Journal of Marketing*, 63 (April), 1–17.
- Houston, Mark B., Beth A. Walker, Michael D. Hutt, and Peter H. Reingen (2001), "Cross-Unit Competition for a Market Charter: The Enduring Influence of Structure," *Journal of Marketing*, 65 (April), 19–34.
- Huber, George P. (1991), "Organizational Learning: The Contributing Processes and the Literature," *Organization Science*, 2 (February), 88–115.
- Jaworski, Bernard J. and Ajay K. Kohli (1993), "Market Orientation: Antecedents and Consequences," *Journal of Marketing*, 57 (July), 53–70.
- Johnson, Jean, Ravipreet Sohi, and Rajdeep Grewal (2004), "The Role of Relational Knowledge Stores in Interfirm Partnering," *Journal of Marketing*, 68 (July), 21–36.
- Kerwin, K. and D. Woodruff (1992), "Can Olds Hitch Its Wagon to Saturn's Star?" *BusinessWeek*, (November 23), 74.
- Kogut, Bruce and Udo Zander (1992), "Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology," *Organization Science*, 3 (3), 383–97.
- Kohli, Ajay K. and Bernard J. Jaworski (1990), "Market Orientation: The Construct, Research Propositions, and Managerial Implications," *Journal of Marketing*, 54 (April), 1–18.
- Lado, Augustin A., Nancy G. Boyd, and Susan C. Hanlon (1997), "Competition, Cooperation, and the Search for Economic Rents: A Syncretic Model," *Academy of Management Review*, 22 (1), 110–41.
- Lane, Peter J., Jane E. Salk, and Marjorie A. Lyles (2001), "Absorptive Capacity, Learning, and Performance in International Joint Ventures," *Strategic Management Journal*, 22 (12), 1139–61.
- Lee, Ruby P. and Rajdeep Grewal (2004), "Strategic Responses to New Technologies and Their Impact on Firm Performance," *Journal of Marketing*, 68 (October), 157–71.
- Levitt, Theodore (1969), *The Marketing Mode*. New York: McGraw-Hill.
- Li, Haiyang and Kwaku Atuahene-Gima (2001), "Product Innovation Strategy and the Performance of New Technology Ventures in China," *Academy of Management Journal*, 44 (6), 1123–34.
- Li, Tiger and Roger Calantone (1998), "The Impact of Market Knowledge Competence on New Product Advantage: Conceptualization and Empirical Examination," *Journal of Marketing*, 58 (October), 13–29.
- Luo, Yadong (2001), "Antecedents and Consequences of Personal Attachment in Cross-Cultural Cooperative Ventures," *Administrative Science Quarterly*, 46 (2), 177–201.
- Maltz, Elliot and Ajay Kohli (1996), "Market Intelligence Dissemination Across Functional Boundaries," *Journal of Marketing Research*, 33 (February), 47–61.
- and ——— (2000), "Reducing Marketing's Conflict with Other Functions: The Differential Effects of Integrating Mechanisms," *Journal of the Academy of Marketing Science*, 28 (4), 479–92.
- Menon, Anil, Sundar G. Bharadwaj, Phani Tej Adidam, and Steven W. Edison (1999), "Antecedents and Consequences of Marketing Strategy Making: A Model and a Test," *Journal of Marketing*, 63 (April), 18–40.
- and P. Rajan Varadarajan (1992), "A Model of Marketing Knowledge Use Within Firms," *Journal of Marketing*, 56 (October), 53–71.
- Moorman, Christine (1995), "Organizational Market Information Processes: Cultural Antecedents and New Product Outcomes," *Journal of Marketing Research*, 32 (August), 318–35.
- and Roland T. Rust (1999), "The Role of Marketing," *Journal of Marketing*, 63 (Special Issue), 180–97.
- , Gerald Zaltman, and Rohit Deshpandé (1992), "Relationships Between Providers and Users of Market Research: The Dynamics of Trust Within and Between Organizations," *Journal of Marketing Research*, 29 (August), 314–29.
- Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, 58 (July), 20–38.
- Narver, John C. and Stanley F. Slater (1990) "The Effect of a Market Orientation on Business Profitability," *Journal of Marketing*, 54 (October), 20–35.
- Nonaka, Ikujiro (1994), "A Dynamic Theory of Organizational Knowledge Creation," *Organization Science*, 5 (1), 14–37.
- Nunnally, Jum C. (1978), *Psychometric Theory*, 2d ed. New York: McGraw-Hill.

- Peng, Mike W. and Yadong Luo (2000), "Managerial Ties and Firm Performance in a Transition Economy: The Nature of a Micro-Macro Link," *Academy of Management Journal*, 43 (3), 486-501.
- Rindfleisch, Aric and Christine Moorman (2001), "The Acquisition and Utilization of Information in New Product Alliances: A Strength-of-Ties Perspective," *Journal of Marketing*, 65 (April), 1-18.
- and ——— (2003), "Interfirm Cooperation and Customer Orientation," *Journal of Marketing Research*, 40 (November), 421-36.
- Ruekert, Robert and Orville Walker (1987), "Marketing's Interaction with Other Functional Units: A Conceptual Framework and Empirical Evidence," *Journal of Marketing*, 51 (January), 1-19.
- Rust, Roland T., Tim Ambler, Gregory S. Carpenter, V. Kumar, and Rajendra K. Srivastava (2004), "Measuring Marketing Productivity: Current Knowledge and Future Directions," *Journal of Marketing*, 68 (October), 76-89.
- Sinkula, James (1994), "Market Information Processing and Organizational Learning," *Journal of Marketing*, 58 (January), 35-45.
- Sivadas, Eugene and F. Robert Dwyer (2000), "An Examination of Organizational Factors Influencing New Product Success in Internal and Alliance-Based Processes," *Journal of Marketing*, 64 (January), 31-49.
- Slater, Stanley F. and John C. Narver (1994), "Does Competitive Environment Moderate the Market Orientation-Performance Relationship?" *Journal of Marketing*, 58 (January), 46-55.
- Srivastava, Rajendra K., Tasadduq A. Shervani, and Liam Fahey (1998), "Market-Based Assets and Shareholder Value: A Framework for Analysis," *Journal of Marketing*, 62 (January), 2-18.
- Szulanski, Gabriel (1996), "Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm," *Strategic Management Journal*, 17 (Winter Special Issue), 17-43.
- Tsai, Wenpin (2002), "Social Structure of 'Coopetition' Within a Multiunit Organization: Coordination, Competition, and Intra-organizational Knowledge Sharing," *Organization Science*, 13 (2), 179-90.
- Uzzi, Brian (1997), "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness," *Administrative Science Quarterly*, 42 (1), 35-67.
- (1999), "Embeddedness in the Making of Financial Capital: How Social Relations and Networks Benefit Firms Seeking Financing," *American Sociological Review*, 64 (August), 481-505.
- Van Bruggen, Gerrit, Gary Lilien, and Manish Kacker (2002), "Informants in Organizational Marketing Research: Why Use Multiple Informants and How to Aggregate Responses," *Journal of Marketing Research*, 39 (November), 469-78.
- Vargo, Stephen L. and Robert F. Lusch (2004), "Evolving to a New Dominant Logic for Marketing," *Journal of Marketing*, 68 (January), 1-17.
- Von Hippel, Eric (1987), "Cooperation Between Rivals: Informal Know-How Trading," *Research Policy*, 16 (6), 291-302.
- Walters, Peter G. and Saeed Samiee (2003), "Marketing Strategy in Emerging Markets: The Case of China," *Journal of International Marketing*, 11 (1), 97-106.
- Zahra, Shaker and Gerard George (2002), "Absorptive Capacity: A Review, Reconceptualization, and Extension," *Academy of Management Review*, 27 (2), 185-203.
- Zeng, Ming and Xiao-Ping Chen (2003), "Achieving Cooperation in Multiparty Alliances: A Social Dilemma Approach to Partnership Management," *Academy of Management Review*, 28 (4), 587-605.
- Zhou, Kevin, Chi Kin Yim, and David Tse (2005), "The Effects of Strategic Orientations on Technology- and Market-Based Breakthrough Innovations," *Journal of Marketing*, 69 (April), 42-60.

Copyright of *Journal of Marketing* is the property of American Marketing Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.