

International orientation and cross-functional integration in new product development

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Abstract Drawing upon an organizational learning perspective, this study suggests that international orientation and functional integration are important determinants of new product success in the global market. Based on survey data of 188 Korean manufacturing firms, we examined the interplay between international orientation and cross-functional integration in new product development (NPD). The results reveal that internationally oriented firms can gain crucial market expertise for successful NPD, and cross-functional integration amplifies the benefits of international orientation. Consistent with the organizational learning perspective, this study highlights the importance of forming an organizational culture that actively pursues foreign market opportunities and promotes collaboration among functional areas.

Keywords Organizational learning perspective · International orientation · Cross-functional integration · NPD · New product performance

Introduction

In international markets, the importance of new products is greater than ever before. Previous research, spurred by rapid changes in the business environment based on technological development and the globalization of economic activities, has emphasized the significance of developing new products as an integral part of firm strategy (De Brentani and Kleinschmidt 2015; Shinkle and McCann 2014), a major tool for maintaining competitive edge (Jeong et al. 2006), and a crucial determinant of corporate performance and survival (Chaney and Devinney 1992). As a result,

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new products have attracted considerable attention in the literature, mainly exploring factors that determine successful new product development (NPD) processes (Cooper and Kleinschmidt 1987; Hempelmann and Engelen 2015; Hirunyawipada et al. 2010; Slater et al. 2014) and performance (De Brentani and Kleinschmidt 2015; Eisend et al. 2016; Jeong 2003; Olson et al. 2001; Salomo et al. 2010; Song and Montoya-Weiss 2001; Troy et al. 2008; Tsai and Hsu 2014).

While the literature on NPD has documented various dimensions of NPD processes, the performance implications of new products in the international market context have not received significant attention, despite the clear trends of globalization and economic integration worldwide (De Brentani and Kleinschmidt 2004; Jeong 2003). In the context of more firms engaging in internationalization to seek product market opportunities, new products are considered a critical strategic issue in achieving sustainable competitive advantage on a global scale (Kleinschmidt et al. 2007). Thus, it is necessary to examine whether the conventional wisdom in new product performance research holds true in the international market, since developing and launching new products adds greater challenges or difficulties arising from various sources of uncertainty (Eisend et al. 2016).

In order to reduce the challenges a firm will face in international markets, the previous literature has attempted to examine the role of organizational factors on the outcomes of new products by linking concepts from the marketing literature in domestic research settings. Along with Henard and Szymanski (2001), several scholars have focused on various organizational factors that influence new product outcomes in the domestic market context (Moorman and Miner 1997; Olson et al. 2001; Slater et al. 2014; Troy et al. 2008). In the international context, De Brentani et al. (2010) emphasized that organizational environments and competencies are linked directly to the success of new products in global markets. In addition, De Brentani and Kleinschmidt (2004) addressed how forming an organizational culture that emphasizes globalization is pivotal when firms are participating in diverse geographical markets, and De Brentani and Kleinschmidt (2015) further articulated the importance of a global innovation culture as a determinant of new product success. Based on the previous literature, participating in international markets can help firms to accumulate key resources and proprietary assets from internationalization (Hitt et al. 1997) and utilize accrued resources and assets efficiently (Knight 2000; Kogut 1985). Consistent with literature articulating the importance of an organizational culture or atmosphere that emphasizes commitment to international markets, this study attempts to test empirically whether international orientation can enhance the performance of new products in international markets.

While international orientation is largely overlooked in the new product research domain, a large volume of new product literature in the marketing field continuously seeks to find drivers of new product success (Evanschitzky et al. 2012; Slater et al. 2014; Troy et al. 2008). In the domestic context, a number of studies have examined the positive role of cross-functional integration in new product development. Among different types of determinants, cross-functional integration has been described as a key element of new product success (Gatignon and Xuereb 1997; Ruekert and Walker 1987). In addition, along with Olson et al. (1995), who



highlighted the role of organizational structure, other studies have examined integration between functions, including R&D, marketing, manufacturing, financing, and industrial design, to expand the boundaries of cross-functional integration (Hempelmann and Engelen 2015; Zhang et al. 2011). Within the international marketing context, several studies have combined cross-functional integration with national culture (Engelen et al. 2012; Garrett et al. 2006) and innovativeness (Song and Xie 2000), and explored key factors of new product performance by comparing Korean and Japanese firms (Im et al. 2003). However, relatively few have addressed the issue of NPD in the global market context (De Brentani and Kleinschmidt 2004; De Brentani et al. 2010) and tested the importance of cross-functional integration. In this context, in which firms face a greater degree of challenges stemming from external environments along with resource constraints in the international market, the motivation for integration among different functions may increase (Olson et al. 2001); thus, cross-functional integration may be even more important for a firm pursuing international market opportunities.

Based on an organizational learning perspective, we highlight the importance of international orientation in international new product development. As difficulties in international markets mainly come from lack of market knowledge, it is crucial for a firm to constantly acquire information on foreign markets (Katsikeas et al. 2000; Lord and Ranft 2000). For instance, country-specific knowledge gained from foreign market presence may assist firms to overcome the liability of foreignness (Luo and Peng 1999). Moreover, it has been argued that organizational learning not only helps a firm to sense the market, but also allows the organization to establish rules for the acquisition, distribution, and interpretation of information (Sinkula 1994). Information on foreign markets may allow a firm to further facilitate learning about customers and competitors, and also interact with distribution channels (Knight and Cavusgil 2004). Consistent with an organizational learning perspective, therefore, we propose that internationally oriented firms will be able to acquire essential market knowledge and expertise across diverse national markets.

According to organization research and product innovation literature, organizational integration is crucial in facilitating information and knowledge flows among different functions within a firm. Since the dissemination of knowledge within an organization is not automatic, shaping effective organizational learning processes to facilitate internal knowledge transfer is pivotal. Further, the potential benefit of acquired knowledge may not be realized without the dissemination of knowledge across functional areas. While previous studies have generally assumed that organizational learning about foreign markets is similar across all firms (Lord and Ranft 2000), cross-functional integration may serve as an important mechanism through which a variety of knowledge may be shared among different functional areas.

To fill this gap, this study addresses three important research objectives. First, the role of international orientation, overlooked in new product research, is examined. While it is crucial for firms to establish an organizational culture that fosters international orientation, it can be more important for Asian firms. Evidenced by the success of many Japanese, Korean, and now Chinese firms over the last few decades in the global market, international orientation may create a new imperative to



compete in international markets. As Knight and Cavusgil (2004) argued, firms must possess new competencies when they internationalize; thus, testing whether international orientation which generates new competencies may provide meaningful insights for Asian firms pursuing new product opportunities in international markets.

The second objective is to examine whether cross-functional integration is still beneficial for new product outcomes for Asian firms. While the previous literature has addressed the potential benefit of cross-functional integration for new product outcomes in general (Olson et al. 1995; Song and Montoya-Weiss 2001; Troy et al. 2008), there is limited understanding of whether the performance implications of cross-functional integration are still applicable to new products from Asian firms. Since the organizational structure of Asian firms is known to be more hierarchical and centralized than that of MNCs from the US or Europe (Whitley 1990), the impact of cross-functional integration may be different.

Finally, new product research dealing with Asian firms in general has been very limited (Jeong 2003). Most NPD studies have sampled firms from developed countries in the West. Therefore, in the context of Asian firms, our understanding of how new products are developed and managed is certainly limited.

To accomplish these objectives, this study draws upon diverse literature in international business, marketing strategy, and product innovation. First, the scope of international orientation is expanded to include the NPD domain. While the importance of international orientation itself has been explored, the concept has rarely been linked to new product research. Further, most prior studies have been conducted in the context of Western or developed countries, limiting generalizability. Moreover, this study will examine whether the benefits of cross-functional integration associated with NPD hold for Asian firms. As the organizational structure of Asian firms is known to be more hierarchical, it is unclear whether they can enjoy benefits from cross-functional integration like those accruing to Western firms. Thus, the results of this study enrich knowledge on the impact of cross-functional integration on Asian firms.

In the following section, we explain the conceptual background of international new products, international orientation, and cross-functional integration, and provide a description of South Korea as the research setting; this is followed by hypotheses, methodology, and results of the empirical analysis. Finally, implications will be addressed, along with suggested avenues for future research.

Conceptual background

New products in the international market

Recent changes in the business environment driven by globalization have reduced trade barriers and caused rapid advancement in technology and communication. This has forced firms to seek market opportunities for new products across borders (De Brentani et al. 2010; Jeong 2003); the introduction of new products across different national markets has become an important international marketing strategy



(Tellis et al. 2003). While introducing new products allows a firm to establish new market opportunities (Burgelman 1991), it is often challenging, owing to the higher level of complexity and uncertainty driven by differences in consumer preferences, culture, economic conditions, and institutions. Furthermore, as Zaheer (1995) argued, firms entering international markets may experience the liability of foreignness (the costs of doing business abroad that result in competitive disadvantage) stemming from limited local knowledge of social, political, and economic conditions (Makino and Delios 1996).

In order to cope with challenges arising from international markets and also to compete with indigenous firms or MNCs, it is essential to establish an innovative new product strategy for competitive advantage. Achieving technological advancement has become critical for success in international markets (Bartlett and Ghoshal 1987; Zahra et al. 2000). Within the context of international new products, diverse streams of research have emerged. For instance, researchers have explored the role of national culture and economic conditions on new product adoption and performance. Stremersch and Tellis (2004) found that economic conditions have a stronger impact on the success of new products than national culture. However, in new product take-off, national culture plays a critical role, though economic conditions are not significant (Tellis et al. 2003). More recently, Eisend et al. (2016) further argued that the fit between organizational and national cultures is an important determinant of new product performance. Their results reflect how new product activities in international markets are more volatile and unpredictable than they are in domestic markets.

Another stream of research regarding international new products has evolved to tackle the importance of knowledge-sharing across borders. Hirunyawipada et al. (2010) suggest that a knowledge-sharing mechanism is an important aspect of NPD. Further, cross-functional integration can be viewed as a mechanism of knowledge-sharing. Similarly, Subramaniam (2006) highlighted that cross-national collaboration fosters knowledge transfer and forms of knowledge integration in a multinational firm. Similarly, global NPD process capabilities fostered by global knowledge integration have proven to play a significant role in global NPD program performance (Kleinschmidt et al. 2007). Taken together, these studies have consistently articulated the importance of knowledge-sharing and integration in international NPD. In general, firms in international markets naturally face a lack of market-specific knowledge and information that must be gained through experience in a specific market. Thus, establishing an efficient flow of information and knowledge is critical for the success of international new products.

Finally, studies have also well documented how organizational strategies or characteristics can affect new product performance. Im et al. (2003) compared the new product performance of Korean and Japanese firms based on market orientation perspectives, finding that customer orientation, cross-functional integration, and team proficiency influence NPD process, and in turn enhance performance. However, the impact of market orientation for Korean and Japanese firms was not uniform. Market orientation was also found to be an important predictor of global new product performance (Wren et al. 2000). Beyond the market orientation perspective (Kohli and Jaworski 1990; Narver and Slater 1990), international



business scholars, linking international business literature with new product literature, have argued that international diversification is associated with new product performance. The results indicate that more geographically diversified firms have superior performance, and that the pattern of performance may differ between US and Chinese samples (Jeong 2003).

The success of international new products is largely dependent upon organizational characteristics or culture, which can help overcome the challenges embedded in the nature of international new products. As noted, the challenges firms face with international new products are multifaceted, in that firms have to confront simultaneously challenges generated both from development of new products and from participation in international markets. Under these circumstances, it is imperative for firms to build an organizational atmosphere or culture that can mitigate these challenges and effectively utilize their resources. Thus, international orientation and cross-functional integration are jointly important for new product success in international markets. Firms can gain essential market knowledge and information by actively pursuing market opportunities in international markets when firms are internationally oriented. However, when firms are more internationally oriented, they inevitably face a higher degree of challenges than less internationally oriented firms, since these firms face diverse national markets. Hence, more internationally oriented firms require an additional mechanism to help them overcome a higher degree of challenges in international markets.

An effective mechanism for international orientation is cross-functional integration. Integration among different functions can effectively mitigate the difficulties surrounding new product activities in international markets. Further, a high level of integration across different functions helps firms to share market knowledge and information and create collective knowledge. Thus, international orientation in conjunction with cross-functional integration is an important mechanism to help firms overcome the barriers and challenges of new product activities in international markets.

In the next section, we further elaborate on how international orientation and cross-functional integration can enhance new product performance.

International orientation

NPD literature, which highlights the importance of organizational climate or culture, has well documented the role of different types of organizational orientation on both the NPD process and performance. Learning orientation, defined as the “organization-wide activity of creating and using knowledge to enhance competitive advantage,” has been found to be a predictor of firms’ innovativeness and to enhance performance (Calantone et al. 2002, p. 517). In addition, the importance of strategic orientation, or activities implemented to achieve organizational goals, has been addressed as a predictor of new product performance (Jeong et al. 2006). However, participating in international markets requires coordination of resources and capabilities based on the global perspective to cope with the deep-rooted challenges that surround new products in international markets. Thus, it is argued that organizations need to foster an international orientation.



The term ‘international orientation’ has been applied differently by scholars. Some have addressed international orientation as an entrepreneurial approach that defines internationalization as a combination of proactive, innovative, and risk-taking behaviors (Covin and Miller 2014; McDougall and Oviatt 2000); others have used the term to describe globally minded behavior based on accelerated internationalization and the emergence of born-global firms (Weerawardena et al. 2007). In contrast to the entrepreneurial approach, the globally minded approach is more focused on the timing of internationalization. However, in this study, we use the term ‘international orientation’ to refer to a managerial vision and proactive organizational culture that supports the development and utilization of organizational resources to achieve objectives in international markets (Knight and Cavusgil 2004; Knight and Kim 2009). In a similar vein, international orientation has also been described as a perspective viewing the product market as international, not domestic, and designing products accordingly (Cooper 2001, p. 88). While the two definitions are equivocal, they also share the commonality that internationally oriented firms view and define international markets as their product market and develop resources and capabilities to build a competitive advantage in international markets (Jeong 2003).

Previous literature has documented the motives of firms that establish international orientation. Some younger firms develop a strong international orientation based on cost advantage or limited access to resources in local markets (Baldauf et al. 2000). The domestic market may be too small for firms to achieve economies of scale, or competition in the domestic market may be rising (Kleinschmidt and Cooper 1988). Further, globalization has reduced the level of uncertainty surrounding diverse industries (Moen and Servais 2002). Changes in market conditions, technological development, and the entrepreneurial attitude of human resources have been described as motives explaining the rise of international orientation (Madsen and Servais 1997). Similarly, Knight and Cavusgil (2005) argued that advanced information, production, and communication technologies have increased the efficiency and decreased the cost of international business.

The benefit of international orientation centers on knowledge of the product market. Internationally oriented firms may obtain varied customer and competitor knowledge (Griffith et al. 2006) and build competencies by handling complexities and opportunities effectively (De Brentani and Kleinschmidt 2004). By establishing an organizational culture that fosters international orientation, firms can proactively find new market opportunities (Knight 2000) and develop new products that reflect various customer preferences (De Brentani and Kleinschmidt 2004). Firms that are widely diversified geographically may rise as multinational traders or global startups and record superior export performance (Kuivalainen et al. 2007). Internationally oriented firms develop new products based on the reflection of experience and learning from diverse markets, which in turn may enhance new product performance and achieve competitive advantage (Colder 2000). More geographically diversified firms can generate greater new product performance (Jeong 2003). Since developing new products based on domestic requirements to capture the home market and then exporting a modified version of the product is myopic, the objective of firms must be to “design for the world and market to the world” (Cooper 2001, p. 89). Thus,



international orientation can help firms use knowledge required in the global market to launch new products and overcome challenges in international markets, and in turn enhance new product performance.

Benefits of cross-functional integration

Cross-functional integration has often been used to describe integration between R&D and marketing functions. However, the scope of integration has expanded in the recent literature to include multiple functional areas involved in product development efforts within an organization. For instance, cross-functional integration can be defined as “facilitating communication among different functions” in general (Troy et al. 2008, p. 133), whereas Song and Montoya-Weiss (2001, p. 65) defined cross-functional integration as “the magnitude of interaction and communication, the level of information-sharing, the degree of coordination, and the extent of joint involvement across functions in specific new product developments tasks.”

One benefit of integration may arise from the sharing of information, which enhances common understanding as well as consistency (Sethi 2000). In addition, integration enables the acquisition of particular resources and skills necessary during the development stage from different functions, and enhances the utilization of organizational resources (Jeong et al. 2006). Furthermore, integration allows different functions to share tacit knowledge embedded in individuals and helps to form collective knowledge for an NPD team or organization (Hirunyawipada et al. 2010).

Based on the premise that cross-functional integration is beneficial for new product performance, research streams on the integration–performance relationship have emerged from diverse perspectives. The first stream of research has focused on how integration helps to increase NPD proficiency and in turn enhances new product advantages (Di Benedetto 1999; Li and Calantone 1998; Olson et al. 1995; Song et al. 1997; Swink and Song 2007). Another research stream looks into contingency factors that may influence the integration–performance relationship. Sivadas and Dwyer (2000) reported governance mechanism, institutional support, innovation type, and partner type as factors that establish cooperative competency and lead to higher levels of integration. Other studies have also tested internal factors such as innovativeness (Song and Xie 2000). Further, different lines of research have distinguished various types of organizational structures as well as different stages of NPD (Gomes et al. 2003; Olson et al. 1995; Song et al. 1997).

Finally, several researchers have addressed the relationship between cross-functional integration and new product performance in a cross-cultural setting. Nakata and Sivakumar (1996) linked national culture with NPD, applying five cultural dimensions conceptualized by Hofstede. Song and Parry compared NPD programs in Japanese and US firms and argued that cross-functional integration may provide positional advantages and in turn create positive new product performance. Further, Lee et al. (2000) compared differences in organizational characteristics and new product performance based on cultural dimensions, using Korean and US samples. More recently, a few studies have empirically tested the role of national culture on integration–performance relationships, finding that the level of integration is stronger in national cultures with strong collectivism (Engelen et al. 2012)



and also that the mechanism of integration may vary with power distance, masculinity, and uncertainty avoidance (Garrett et al. 2006). Furthermore, Eisend et al. (2016) expanded the scope of national culture and attempted to find the impact of fit between organizational and national culture on new product performance.

Based on this broad review of the literature, it is evident that cross-functional integration allows firms to share information among different functions and to generate collective knowledge, which in turn enables efficient utilization of resources. Thus, combined with international orientation, cross-functional integration is clearly beneficial for the success of international new products.

NPD in Korean firms

In the case of Korea, internationalization has developed mainly through export-oriented industrialization, owing to the size of the domestic market and the structure of the manufacturing industry. In the early growth stages, Korean firms focused on labor-intensive products like textiles, clothing, and shoes in export markets, but they have moved into capital-, technology-, and knowledge-intensive goods, including semiconductors, electronics, communications devices, automobiles, and machinery for international markets (Park 2011). In particular, to overcome the Asian economic crisis in the late 1990s, many Korean firms focused on developing more innovative and efficient products (Park et al. 2010). For Korean firms, moreover, new product success is a focal vehicle to overcome the problems of being stuck between newly industrialized economies and emerging countries.

Recently, Korean firms have developed a competitive advantage by developing innovative and knowledge-based products targeting global markets (Lee et al. 2013). For example, Samsung Electronics has led the global IT market with cutting-edge technology (Shams et al. 2015). In particular, the Galaxy smartphone series helped Samsung Electronics to become a leading player in the global smartphone market. Another Korean company, Amore Pacific, has become a major Asian cosmetic giant by developing innovative new products targeted at Asian consumers. Amore Pacific's new products gained a reputation for successful new product introductions by addressing the specific skincare needs of Asian women, and their specialized products have become increasingly popular in the West as well (Hwang 2004). Given the global emergence of Korean firms, an effort to understand the new product management of Korean firms will not only fill research gaps from previous studies, including research on Asia, but also suggest effective directions for creating competitive advantage in international markets.

Research hypotheses

As shown in Fig. 1, international orientation is hypothesized as an independent variable of new product performance, measured by market performance and financial performance. In addition, this study suggests that cross-functional integration has a moderating effect on the relationship between international orientation and new product performance.



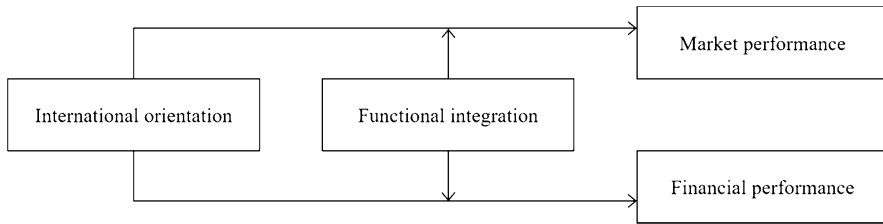


Fig. 1 Conceptual framework

Impact of international orientation on new product performance

As mentioned, the concept of international orientation comprises a managerial vision and proactive organizational culture supporting the development and utilization of resources to achieve objectives in international markets (Knight and Kim 2009). Internationally oriented firms view the world as their marketplace (Knight and Cavusgil 2004) and possess unique managerial competencies and a global mindset (Mort and Weerawardena 2006). Being internationally oriented also implies that firms actively explore new overseas market opportunities and emphasize an aggressive and entrepreneurial attitude toward international markets (Knight and Kim 2009).

According to previous research, the potential benefits of international orientation are threefold. First, firms may gain knowledge from international market opportunities. International orientation allows firms to obtain varied customer and competitor knowledge in international markets (Griffith et al. 2006). Moreover, the knowledge gained from international markets and operations can enhance efficiency, which in turn may improve international sales growth (Autio et al. 2000). Furthermore, international orientation may allow firms to acquire new knowledge in areas such as technology, which is essential for international markets (Zhou et al. 2007), and help to develop special knowledge suitable for international business strategies (Knight and Cavusgil 2005). Thus, firms can develop intangible resources such as marketing competence, which is a critical instrument for corporate outcomes (Knight and Kim 2009).

Second, firms benefit from experience in international markets. As De Brentani et al. (2010) highlighted, experience is an important intangible organizational resource that affects the outcome of global new products. When firms enter international markets, they are required to build a new set of skills and competencies, which can be generated from experience in other national markets (Autio et al. 2000; Jeong 2003). Firms can develop new products that reflect experience from diverse markets (Kuivalainen et al. 2007). In addition, experience is directly linked to organizational commitment in the global NPD context, as it assures the development and utilization of the special know-how or knowledge necessary for new products (Kleinschmidt et al. 2010).

Third, international orientation leads to efficient utilization of organizational resources. The most common entry barrier to international markets is that firms will be challenged by resource constraints. While some argue that the motivation for early internationalization by younger firms is limited access to resources in domestic markets (Baldauf et al. 2000), limited access to both tangible and intangible resources



is a common characteristic of international markets. Thus, performance may vary based on a firm's ability to utilize its resources efficiently, as organizational capability to deploy resources is more important than possession of resources (Murray et al. 2011). Internationally oriented firms can allocate specific resources that are essential for international markets to generate foreign sales and allow efficient utilization of the firm's resources (De Brentani and Kleinschmidt 2004; Knight 2000).

Overall, a high level of international orientation helps firms to form competencies acquired from knowledge and experience through business activities in diverse markets. International orientation may also allow efficient utilization of resources, which in turn may allow firms to achieve superior performance in international markets. Therefore:

Hypothesis 1a International orientation is positively associated with the market performance of new products.

Hypothesis 1b International orientation is positively associated with the financial performance of new products.

Moderating effect of cross-functional integration

Past research on cross-functional integration has been extensively conducted in the NPD setting. Researchers have argued that as a key organizational factor determining the success of new products (Troy et al. 2008), integration enhances organizational capabilities by collating the firm's information and knowledge, thus increasing NPD proficiency and new product performance (Brockman and Morgan 2003; Moorman and Miner 1997; Olson et al. 2001; Song and Montoya-Weiss 2001). Further, integration among diverse functions increases the amount and variety of information available, and provides greater benefits to project outcomes, particularly under high uncertainty (Song and Montoya-Weiss 2001). Integration also allows common understanding of the project and form consistency (Sethi 2000), and creates collective knowledge by combining individuals' tacit knowledge into a new product team (Hirunyawipada et al. 2010). Furthermore, it is essential for firms to coordinate a processing mechanism to integrate the required skills and resources (Tsai and Hsu 2014) and achieve an organizational culture that involves diverse functions to generate different information, ideas, and perspectives (Song and Montoya-Weiss 2001). Cross-functional integration may also work as a knowledge integration mechanism that fosters 'the regular patterns of interactions' that induce the transfer, recombination, and usage of knowledge among functional areas (Luca and Atuahene-Gima 2007). Thus, information gained from marketing, including customer needs and preferences, can provide guidelines for new product development, contributing to an advanced NPD process and in turn increasing opportunities to launch successful new products (Tsai and Hsu 2014).

In particular, as organizations face more challenges stemming from complexity and uncertainty when participating in international markets (Zhou et al. 2012), establishing an organizational culture with a high level of cross-functional integration is important because it will allow dissemination of market knowledge and information



across different functions. As noted, the benefits of international orientation clearly lie in acquiring the knowledge and experience necessary for international markets as well as efficiently utilizing resources from international markets. However, internationally oriented firms still require a mechanism to exchange and coordinate acquired knowledge and information to overcome challenges from the external environment and achieve desirable outcomes. The benefits of international orientation may not be realized unless they are managed properly.

Under these circumstances, we argue that cross-functional integration is a key mechanism that enables international orientation to work jointly and create synergy. As integration allows communication between different functional areas (Gatignon and Xuereb 1997), as well as cooperation and collaboration on strategic decision-making processes (Moenaert and Souder 1990), it can further leverage the benefits of international orientation by effectively managing market information and accumulated knowledge gained from international experience. In addition, market knowledge and information from different national markets can be formed as collective knowledge through cross-functional integration and can improve both creativity and the performance of new products (Im and Workman 2004). Furthermore, as market knowledge competence, which is derived from market intelligence, is a critical strategic asset for a firm and an important determinant of product advantage and market performance (Li and Calantone 1998; Sinkula 1994), it is essential that a firm establishes cross-functional integration to manage market intelligence efficiently. Thus, we argue that cross-functional integration is a critical factor that can enhance the benefits of international orientation; therefore, we expect a positive moderating effect from functional integration.

Hypothesis 2a Cross-functional integration positively moderates the relationship between international orientation and the market performance of new products.

Hypothesis 2b Cross-functional integration positively moderates the relationship between international orientation and the financial performance of new products.

Methods

Sample and data collection

To test the proposed hypotheses, we collected data through a survey of Korean manufacturing firms. The sampling frame was drawn from the membership directory of a nationwide trade association. The organization was established with the objective of advancing the national economy through trade, and is currently the largest business organization in the country, with more than 70,000 member companies. It supports exporting companies, draws trade cooperation from the private sector, formulates new trade strategies, and builds trade infrastructure. A sample of 1000 manufacturing companies was selected from the membership directory, limited to the most active exporting companies. An email survey, considered appropriate because the agency maintains official correspondence with its members through this medium, was employed to collect data. There is a designated director or manager for each member company who serves the role of



contact person for all major correspondence between the association and the respective company. The academic purpose of this project was clearly identified to respondents in the email to ensure confidentiality of responses; the email also included a link to the survey. The email offered incentives, including a report with the main findings upon completion of study. The key informants had various organizational titles, such as CEO or president (20.2%), senior manager (40.4%), and sales manager in charge of international markets (39.4%). After eliminating responses that omitted items or were irrelevant, the final sample included 188 firms. Within the overall sample, 107 firms were in the consumer product market, while 81 were in industrial products. Further, 40.4% of the sample had R&D intensity (the ratio of R&D expenditure over annual sales) of between 5 and 10%, and 32.4% have annual sales between 5 and 10bn Korean won. More detailed information about the sample is presented in Table 1.

Table 1 Sample description

	Frequency (%)
Annual sales (billion Won)	
Below 5	52 (27.7)
5–10	61 (32.4)
10–100	38 (20.2)
Over 100	37 (19.7)
R&D intensity (%)	
Below 5	77 (41.0)
5–10	76 (40.4)
10–20	25 (13.3)
Over 20	10 (5.3)
Number of employees	
Below 50	67 (35.7)
50–200	38 (20.2)
200–500	35 (18.6)
Over 500	48 (25.5)
International experience (years)	
Below 10	40 (21.3)
10–15	52 (27.7)
15–20	48 (25.5)
Over 20	48 (25.5)
Export intensity (%)	
Below 20	44 (23.4)
20–50	39 (20.7)
50–80	56 (29.8)
Over 80	49 (26.1)
Product type	
Industrial goods	81 (43.1)
Durable consumer goods	50 (26.6)
Non-durable consumer goods	57 (30.3)



Measures

In order to test the research hypotheses, all variables used in this study were measured based on previous literature that had shown acceptable reliability and validity. Further, most variables were measured with multi-item Likert-type scales, ranging from 1 (strongly disagree) to 5 (strongly agree). The scale for international orientation was adapted from Cooper and Kleinschmidt (1985), Covin and Slevin (1989), and Steensma et al. (2000). Three items were employed to measure international orientation, conveying top management mindset, attitude, and resource allocation with regard to international activities. Functional integration was measured using three items adapted from Li and Calantone (1998) and Tsai and Hsu (2014). Respondents were asked to assess whether functional units share market information and exchange information about new product activities.

Regarding new product performance, this study used a five-item scale to capture respondents' level of satisfaction (scored from 1 = *very unsatisfied* to 5 = *very satisfied*) in the previous three years with the achievement of six new product objectives. The objectives for market performance included number of new products, product quality, and customer acceptance (Gomes et al. 2003; Song and Montoya-Weiss 2001), and for financial performance included sales growth, market share growth, and profitability (Im et al. 2003; Jeong et al. 2006; Song and Xie 2000). For these items, the word 'perceived' was added to 'new product performance' to make it easier for respondents to differentiate this type of performance from the other performance measure. More detailed scale items appear in Table 2.

Table 2 Measurement model results

	Standardized loading	Factor loading	Composite reliability	Average variance extracted	<i>t</i> value
International orientation			0.925	0.805	
Global mindset of top management	0.820	0.887			25.136
Seeking worldwide market information	0.835	0.893			26.487
Performance evaluation in global market	0.842	0.895			27.181
Functional integration			0.894	0.739	
Solving problems collaboratively	0.651	0.799			13.164
Sharing market information	0.842	0.885			22.960
Coordination of opinions	0.852	0.890			23.564
Market performance			0.755	0.509	
Number of new products	0.543	0.741			8.276
Product competitiveness	0.639	0.871			10.677
Customer acceptance	0.685	0.801			11.868
Financial performance			0.931	0.819	
Sales growth	0.859	0.910			30.716
Market share growth	0.793	0.873			23.737
Profitability	0.877	0.909			32.887



Finally, this study included four variables to control for learning effects from experience on new product performance, and all control variables used natural logarithm. Firm size was measured by total number of employees, and export duration captured by the total number of years the firm had been involved in exporting activities (Cavusgil et al. 1993; Davis et al. 2000). Moreover, export scope was measured by the natural logarithm of the firm's current number of active export markets (Cavusgil et al. 1993), and export intensity captured by export sales over total sales (Hultman et al. 2011).

Analysis and results

Measure validation

This study assessed construct validity through confirmatory factor analysis, using the maximum-likelihood estimation procedure. The Chi-square for the model is significant ($\chi^2 = 73.28$, $df = 48$, $p < 0.05$), which is as expected since the test is sensitive to large sample sizes. The normed fit index (NFI) of 0.933, goodness-of-fit index (GFI) of 0.940, comparative fit index (CFI) of 0.975, incremental fit index (IFI) of 0.976, Tucker–Lewis index (TLI) of 0.966, and root mean square error of approximation (RMSEA) of 0.053 meet recommended thresholds, suggesting good model fit. The results of the measurement model appear in Table 2.

Convergent and discriminant validity

Convergent validity is evidenced by the high and significant standardized factor loading for each item on its predetermined construct; t values of standard factor loadings ranged from 8.276 to 32.887 and were highly significant. As further evidence of convergent validity, the average variance extracted for each construct exceeds 0.5 for all constructs. This study also tested discriminant validity through a series of Chi-square difference tests between all pairs of constructs, in which the latent factor correlation was first unrestricted and then fixed at one. Every unrestricted model exhibited a significantly better fit than the restricted one, and the average variance extracted of the items forming the constructs was larger than its shared variance with any other construct in the model. Thus, we can conclude that there are no particular problems with discriminant validity. Table 3 shows the descriptive statistics for the variables utilized in this study, including the means, standard deviations, and Pearson correlations.

Assessment of common method bias

According to Podsakoff et al. (2003), common method bias can be reduced if all creation variables are asked about in different sections of a questionnaire with a varied scale format such as Likert scales and semantic differential. This study used the Harman single-factor test, a statistical remedy commonly used to control for common method bias. This test required loading all items used to measure both



Table 3 Measurement statistics and inter-construct correlations

	Mean	SD	1	2	3	4	5	6	7
1. Firm size*	4.99	1.86							
2. Export duration*	2.62	0.68	0.379						
3. Export scope*	2.48	1.12	0.463	0.320					
4. Export intensity*	3.70	1.01	-0.116	0.187	0.203				
5. International orientation	3.62	0.80	0.091	0.097	0.177	0.185			
6. Functional integration	3.72	0.66	0.036	0.017	0.093	0.183	0.379		
7. Market performance	3.41	0.57	0.192	0.017	0.185	0.057	0.352	0.345	
8. Financial performance	3.40	0.79	0.296	0.018	0.125	0.015	0.234	0.172	0.431

*Natural logarithm

independent and dependent variables into a single exploratory factor analysis (EFA). If common method bias is a problem, a single factor should emerge from the data, or one factor should explain the majority of the variance. The non-rotated solution EFA produced four factors with eigenvalues greater than 1. Taken together, the four factors explained 75.512% of the total variance in the data, with the first extracted factor without rotation accounting for 20.083%. Given that more than one factor was extracted and less than 50% of the variance can be attributed to the first factor, the results suggest that common method bias is unlikely to be a significant issue with the collected data.

In addition, we followed Richardson et al. (2009) suggestion of the confirmatory factor analysis (CFA) marker technique, that involves the addition of a theoretically irrelevant marker variable in the analysis. In this study, following their suggestion that the marker variable is suitable when it has weakest relationships with other variables, we chose long-term orientation as the marker variable. We assessed long-term orientation through three items developed by Jeong et al. (2012): (1) we emphasize basic research that may provide us with long-term benefits, (2) we constantly monitor significant long-term demand trends in major markets, and (3) we have a long-range plan for future development of new products ($\alpha = 0.769$). When performing the CFA marker technique (Richardson et al. 2009; Williams et al. 2010), we estimated five nested CFA models (i.e., the initial CFA model, the baseline model, Method-C Model, Method-U Model, Method-R Model). First, we estimated the initial CFA model, in which the marker latent variable (long-term orientation) and the four latent variables (international orientation, functional integration, market performance, and financial performance) correlated freely. Then, in the baseline model, the correlations between the marker variable and the other four constructs were forced to zero and the marker variable's parameters constrained to the values obtained from the initial CFA model. In the Method-C model, on the basis of the baseline mode, we added twelve factor loadings from the marker construct to the four constructs. In order to reflect the assumption of equal method effects, this model fixed all these factor loadings to be equal. As shown in Table 4, we found that the Method-C Model fitted significantly better than the baseline model ($\Delta\chi^2 = 7.40$, $\Delta df = 1$, $p < 0.01$). Furthermore, we estimated the



Table 4 Results of CFA marker technique

	χ^2	<i>df</i>	CFI
CFA	102.17	80	0.980
Baseline model	118.65	86	0.971
Method-C Model	111.25	85	0.977
Method-U Model	90.58	74	0.979
Method-R Model from U	98.59	80	0.983
Δ Models	$\Delta \chi^2$	Δdf	Chi-square critical value; 0.05
Chi-square model comparison tests			
Baseline versus Method-C	7.40*	1	3.84
Method-C versus Method-U	20.67*	11	19.68
Method-U versus Method-R	8.01	6	12.59

* $p < 0.05$

Method-U Model, which was similar to the Method-C Model, except that the twelve factor loadings from the marker latent variable to the four indicators were freely estimated, reflecting the assumption of non-equal method effects. When comparing the Method-U with the Method-C Model and the baseline model, the results indicated that the Method-U Model was significantly better than the Method-C ($\Delta\chi^2 = 20.67$, $\Delta df = 11$, $p < 0.05$), suggesting evidence of unequal method effects. Finally, we estimated the Method-R Model based on the Method-U Model, except that we fixed the factor correlations for the four constructs to values obtained from the baseline model. Comparison between the Method-R and Method-U Models revealed that the associations in our model were not significantly biased by method variance ($\Delta\chi^2 = 8.01$, $\Delta df = 6$, *n.s.*). Thus, this test also showed that common method bias is of little concern in our study.

Test of hypotheses

In order to test the research hypotheses, we conducted a hierarchical regression model to test the relationships using the maximum-likelihood approach. To deal with possible multicollinearity between the interaction terms and their components, we mean-centered each scale that constitutes an interaction term, and then created the interaction terms by multiplying the relevant mean-centered scale. The results of formal tests of the hypotheses are provided in Table 5. Each set of regressions includes the regression with control and independent variables (Models 1 and 3), and this helps to verify whether the main variables contributed to the explanatory power of the models used. Models 1 and 2 provide the regression results for market performance, and Models 3 and 4 reveal the results for financial performance as a dependent variable.

Throughout all models, international orientation is positively associated with both market performance ($\beta = 0.240$, $p < 0.001$; $\beta = 0.152$, $p < 0.01$) and financial



Table 5 Results of hierarchical regression

	DV: market performance			DV: financial performance		
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Intercept	2.380 (0.255)***	1.951 (0.292)***	2.186 (0.356)***	2.186 (0.356)***	1.917 (0.422)***	1.917 (0.422)***
Firm size	0.051 (0.026) [†]	0.051 (0.025)*	0.156 (0.036)***	0.156 (0.036)***	0.155 (0.037)***	0.155 (0.037)***
Export duration	-0.088 (0.065)	-0.086 (0.063)	-0.153 (0.091) [†]	-0.153 (0.091) [†]	-0.148 (0.091)	-0.148 (0.091)
Export scope	0.041 (0.042)	0.034 (0.041)	-0.035 (0.059)	-0.035 (0.059)	-0.037 (0.059)	-0.037 (0.059)
Export intensity	0.009 (0.042)	-0.001 (0.042)	0.037 (0.059)	0.037 (0.059)	0.028 (0.060)	0.028 (0.060)
International orientation	0.240 (0.051)***	0.152 (0.054)**	0.219 (0.071)**	0.219 (0.071)**	0.178 (0.078)*	0.178 (0.078)*
Functional integration		0.205 (0.063)**			0.118 (0.091)	0.118 (0.091)
International orientation × functional integration		0.152 (0.081) [†]			0.035 (0.116)	0.035 (0.116)
Adjusted R ²	0.138	0.197	0.128	0.128	0.127	0.127
F value	6.841***	7.398***	6.351***	6.351***	4.794***	4.794***

[†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$



performance ($\beta = 0.219, p < 0.01$; $\beta = 0.178, p < 0.05$). Thus, Hypotheses 1a and 1b are supported. In Model 2, the results show that the interaction term for international orientation by functional integration is positive and significantly related to market performance ($\beta = 0.152, p < 0.10$). The positive direction of this effect suggests that the relationship between international orientation and market performance becomes stronger when firms pursue a higher degree of functional integration, which is consistent with Hypothesis 2a. The results reveal, however, that international orientation by functional integration is not related to financial performance at a significant level ($\beta = 0.035, n.s.$), which suggests that Hypothesis 2b is not supported.

Discussion

As the business environment is rapidly changing, launching new products that meet diverse consumer preferences has become a challenging task for all types of organization. The difficulty of achieving a desirable outcome for new products in international markets is even greater. This may occur because of the 'liability of foreignness' (Zaheer 1995), but limited resources and knowledge may hinder the competitiveness of organizations in international markets (Zhou et al. 2012). Firms have to face a higher degree of complexity and uncertainty, based on national differences (Makino and Delios 1996).

Despite the difficulty of developing and managing new products for the global market, the success of products from Asian firms is quite evident. Building on previous accomplishments in international markets, Japanese firms continue their success through a distinctive management style that fosters process and product innovations in international markets (Abo 2015). In addition, Korean firms have emerged as a dominant player in the global market, based on dominant domestic market positions and strong intentions of internationalization. Recently, firms from China are starting to advance in the global marketplace based on their lower costs of labor and manufacturing, along with strong support from the Chinese government for the R&D sector (Opper and Nee 2015). In such a dynamic environment, it is timely to investigate factors that determine the success of new products in international markets for firms from Asia, and this research, using data from Korean manufacturers, has examined how organizational culture can foster the success of new products in international markets.

The results reveal several key findings regarding the nature of new products from Korean firms. First, the study examined whether a firm's international orientation can enhance the performance of international new products; the results indicate that it can indeed help firms to achieve both market and financial performance of new products. These results are in line with previous literature stressing the importance of establishing an organizational culture of defining the world as the product market and developing resources and capabilities to build competitive advantage internationally (Cooper 2001, p. 89; Knight and Kim 2009). As we can confirm from the success of Korean firms such as Amore Pacific or Samsung Electronics, developing a strong posture toward an international market benefits the outcome of international new products.



Secondly, building on literature from the marketing field, we tested the moderating effect of cross-functional integration. While past research has demonstrated the positive impact of cross-functional integration on new product performance (Evanschitzky et al. 2012; Slater et al. 2014; Song and Xie 2000; Troy et al. 2008), research on cross-functional integration has mostly been conducted from the perspective of MNCs from developed countries, including the United States, Europe, or Japan. Few studies have attempted to link cross-functional integration with national culture based on cross-cultural assessment, and studies on the impact of cross-functional integration from the perspective of Asian firms are lacking. The results reveal that firms that achieve a high level of integration can further enhance the market performance of new products when the firms are internationally oriented. While the moderating effect of cross-functional integration on financial performance was insignificant, the positive and significant outcome on market performance may confirm the conventional wisdom of functional integration. Despite the positive outcome, the result is also interesting since organizational structures in Asian firms are more centralized and hierarchical than those in MNCs from Europe or the United States. Thus, we can argue that the positive impact of cross-functional integration on new products is robust regardless of differences in organizational structure.

Taken together, the results of this study shed new light on the performance implications for international new products by focusing on the organizational culture and characteristics of Korean firms, which have grown as major players in international markets. Our findings indicate that Korean firms with an international orientation may enhance the performance of new products in international markets through the acquisition of knowledge and experience from international markets (Autio et al. 2000; Zhou et al. 2007), and efficient utilization of organizational resources driven by a high level of commitment to international markets (Knight and Cavusgil 2004). In addition, cross-functional integration is found to be an important mechanism that can further amplify the performance of new products in international markets. While international orientation works as a mechanism to overcome the challenges of international markets by actively acquiring essential market knowledge and information, integration among functional areas can further reduce the complexity and uncertainty inherent in NPD. Sharing and transferring market information creates collective knowledge and further develops market knowledge competencies. Thus, cross-functional integration allows firms to nurture new sets of skills and competencies, required for international markets.

Overall, this study highlights the importance of international orientation for new product performance, particularly for Asian firms. Furthermore, this study also addresses the importance of cross-functional integration for new product management by Korean firms in international markets.

Managerial implications

The results of this study provide important implications for executives and marketing managers, not only from Korean firms but also from other Asian firms. In practice, finding organizational factors that can generate new product performance



can be a challenging task, as firms have to cope with environmental changes in international markets. Indeed, the marketing competencies that Knight and Cavusgil (2004) emphasized can be critical organizational capabilities, since assessing the environmental conditions and setting a viable strategy are the core functions of the marketing unit. Thus, finding the imperative to develop marketing competencies is a key success factor in international markets, and international orientation is a key driver in the success of new products in the global market. Some Korean firms have built their growth upon success in the domestic market, and from dominant market positions have been able to support internationalization with a high level of commitment. However, it is evident that more firms are now pursuing international markets from the outset, owing to advanced technology and communication. Xiaomi's recent success in the global market was driven by a strong commitment to the global market based on an international orientation. Naver Line, a social network service provider, also targeted the global market from the start and was recently listed on both the New York and Tokyo Stock Exchanges. These examples highlight how executives and marketing managers of Asian firms need to pursue international orientation in order for them to achieve their corporate objectives. Defining the world as their product market forces firms to proactively gain market information and knowledge from diverse national markets and develop products that can meet customer preferences in targeted markets, based on acquired experience.

In addition, international orientation provides meaningful insights for firms in Asian countries, especially emerging market firms. As noted, Korean firms have built their success in international markets upon their success in the domestic market. At the same time, however, they have faced expansion constraints owing to their relatively small domestic market. As Kleinschmidt and Cooper (1988) stated, the size of the domestic market is clearly an important motive for firms to internationalize, and many Korean firms have expanded their boundaries through exporting. Based on export-oriented internationalization, Korean firms were able to accumulate international experience and obtain market knowledge and information essential for operating in international markets, allowing them to overcome the disadvantages of constrained resources. While this pattern clearly helped Korean firms to grow during last few decades, it can also apply to firms from emerging markets. While domestic market scale may not become an important motive for internationalization for firms from countries with large populations, like China, those firms can still achieve economies of scale and maximize the benefits of globalization. Thus, international orientation can be an important imperative for Asian firms in emerging markets.

In addition to international orientation, the findings of this study address the need for executives to establish an organizational culture that supports active collaboration among diverse functional areas. While integration among different functional areas may be important for any organization, it can be pivotal for SMEs pursuing international markets. Compared to large MNCs, small firms inevitably face environmental challenges that derive from foreign markets as well as resource constraints. In such cases, cross-functional integration is a key element that SMEs must achieve to overcome both liability of foreignness and smallness. In particular, while developing and launching new products in international markets pose



challenges for SMEs, that integration among different functions is pivotal for international new product success. Centralized and hierarchical organizational structures in Asian firms may mean that collaboration among different functional areas is difficult, but this study indicates that firms need to overcome any such rigidity and foster cross-functional integration.

Limitations and future research

Drawing upon previous literature on international orientation and cross-functional integration, this study investigated the performance implications for new products. We used a sample of Korean manufacturers that have grown as major players in the global market in many industries. Naturally, this subject can be further examined by using samples from different countries. As Jeong (2003, p. 370) noted, “Country environments influence the firm’s NPD efforts and its propensity to diversify internationally”; thus, an extension of this study with a different national context would enhance the generalizability of our findings. In the context of Asian firms, there are systemic distinctions between firms from Korea and Japan or China due to economic, cultural, and political conditions; thus, an extension of this study would improve our understanding of international orientation and new product management in Asian firms.

Second, it is possible to argue that the relationship between international orientation and new product performance is bi-directional, as internationalization theory explains that firms may pursue internationalization as a consequence of superior domestic performance. While this would certainly be an interesting topic to explore, we leave this for a future research agenda.

Third, consistent with the literature from international diversification, the effect of international orientation may vary based upon the degree of orientation. It is argued that international diversification can cause managerial difficulties and raise coordination costs due to dispersed operations. Increased coordination costs eventually reduce the benefit of being international, and in turn create a non-linear relationship for firm performance (Boeh and Beamish 2015; Hitt et al. 1997; Lu and Beamish 2004). Similar logic can be applied to international orientation. When firms allocate too much of their organizational resources toward commitment to international markets, they may reduce their efficiency in utilizing resources and thereby incur a negative effect. Thus, investigating the non-linear relationship between international orientation and new product performance could be fruitful.

Fourth, while this study has focused on integration among different functions within an organization, value-chain activities and NPD processes are becoming dispersed globally. Thus, the integration of globally dispersed activities can generate the benefits of acquiring specialized skills and local market knowledge (Salomo et al. 2010). This phenomenon may call for investigation of inter-organizational integration in the context of NPD. By examining the impact of inter-organizational integration in the new product domain, we can further enhance the knowledge surrounding international new product management and confirm whether the benefits may be similar to those from integration within an organization.



Fifth, cross-functional integration in this research was tested as a moderator between international orientation and new product performance, but it could be also possible to examine the mediating effect of cross-functional integration between international orientation and new product performance along with other organizational factors that may influence the relationship. In future research, it would be fruitful to examine the mediating effect of cross-functional integration.

Finally, owing to the nature of the survey instrument, our data only contained the cross-sectional aspect of sample firms. While the results from the empirical analysis are robust, examining the impact of international orientation using longitudinal data would enhance the generalizability of our findings. In addition, the use of key informants has intrinsic limitations based on differences in perception between informants (John and Reve 1982; Merlo and Auh 2009). Thus, future studies might consider employing multiple informants. Nevertheless, as Rindfleisch et al. (2008) observe, obtaining multiple informants may not always be feasible, and the use of single key informants can still produce valid results when the key informants are highly involved and knowledgeable, as in our study. Moreover, a cognitive evaluation of organizational characteristics and NPD performance could differ, based on respondent position (e.g., NPD executives versus international marketing executives). Future research might provide meaningful insight into relationships among international orientation, cross-functional integration, and NPD performance, by exploring impacts of different organizational departments on the decision-making process.

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References

- Abo, T. 2015. Researching international transfer of the Japanese-style management and production system: Hybrid factories in six continents. *Asian Business & Management* 14 (1): 5–35.
- Autio, E., H.J. Sapienza, and J.G. Almeida. 2000. Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal* 43 (5): 909–924.
- Baldauf, A., D.W. Cravens, and U. Wagner. 2000. Examining determinants of export performance in small open economies. *Journal of World Business* 35 (1): 61–79.
- Bartlett, C.A., and S. Ghoshal. 1987. Managing across borders: New strategic requirements. *Sloan Management Review* 28 (4): 7–17.
- Boeh, K.K., and P.W. Beamish. 2015. The cost of distance on subsidiary performance. *Asian Business & Management* 14 (3): 171–193.
- Brockman, B.K., and R.M. Morgan. 2003. The role of existing knowledge in new product innovativeness and performance. *Decision Sciences* 34 (2): 385–419.
- Burgelman, R.A. 1991. Intraorganizational ecology of strategy making and organizational adaptation: Theory and field research. *Organization Science* 2 (3): 239–262.
- Calantone, R.J., S.T. Cavusgil, and Y. Zhao. 2002. Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management* 31 (6): 515–524.
- Cavusgil, S.T., S. Zou, and G.M. Naidu. 1993. Product and promotion adaptation in export ventures: An empirical investigation. *Journal of International Business Studies* 24 (3): 479–506.
- Chaney, P.K., and T.M. Devinney. 1992. New product innovations and stock return performance. *Journal of Business Finance & Accounting* 19 (5): 677–695.
- Colder, P.N. 2000. Insights from senior executives about innovation in international markets. *Journal of Product Innovation Management* 17 (5): 326–340.



- Cooper, R.G. 2001. *Winning at new products: Accelerating the process from idea to launch*. Cambridge, MA: Perseus Publishing.
- Cooper, R.G., and E.J. Kleinschmidt. 1985. The impact of export strategy on export sales performance. *Journal of International Business Studies* 16 (1): 37–55.
- Cooper, R.G., and E.J. Kleinschmidt. 1987. New products: What separates winners from losers? *Journal of Product Innovation Management* 4 (3): 169–184.
- Covin, J.G., and D. Miller. 2014. International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice* 38 (1): 11–44.
- Covin, J.G., and D.P. Slevin. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal* 10 (1): 75–87.
- Davis, P.S., A.B. Desai, and J.D. Francis. 2000. Mode of international entry: An isomorphism perspective. *Journal of International Business Studies* 31 (2): 239–258.
- De Brentani, U., and E.J. Kleinschmidt. 2004. Corporate culture and commitment: Impact on performance of international new product development programs. *Journal of Product Innovation Management* 21 (5): 309–333.
- De Brentani, U., and E.J. Kleinschmidt. 2015. The impact of company resources and capabilities on global new product program performance. *Project Management Journal* 46 (1): 12–29.
- De Brentani, U., E.J. Kleinschmidt, and S. Salomo. 2010. Success in global new product development: Impact of strategy and the behavioral environment of the firm. *Journal of Product Innovation Management* 27 (2): 143–160.
- Di Benedetto, C.A. 1999. Identifying the key success factors in new product launch. *Journal of Product Innovation Management* 16 (6): 530–544.
- Eisend, M., H. Evanschitzky, and D.I. Gilliland. 2016. The influence of organizational and national culture on new product performance. *Journal of Product Innovation Management* 33 (3): 260–276.
- Engelen, A., M. Brettel, and G. Wiest. 2012. Cross-functional integration and new product performance—the impact of national and corporate culture. *Journal of International Management* 18 (1): 52–65.
- Evanschitzky, H., M. Eisend, R.J. Calantone, and Y. Jiang. 2012. Success factors of product innovation: An updated meta-analysis. *Journal of Product Innovation Management* 29 (S1): 21–37.
- Garrett, T.C., D.H. Buisson, and C.M. Yap. 2006. National culture and R&D and marketing integration mechanisms in new product development: A cross-cultural study between Singapore and New Zealand. *Industrial Marketing Management* 35 (3): 293–307.
- Gatignon, H., and J.M. Xuereb. 1997. Strategic orientation of the firm and new product performance. *Journal of Marketing Research* 34 (1): 77–90.
- Gomes, J.F.S., P.C. De Weerd-Nederhof, A.W. Pearson, and M.P. Cunha. 2003. Is more always better? An exploration of the differential effects of functional integration on performance in new product development. *Technovation* 23 (3): 185–191.
- Griffith, D.A., S.M. Noble, and Q. Chen. 2006. The performance implications of entrepreneurial proclivity: A dynamic capabilities approach. *Journal of Retailing* 82 (1): 51–62.
- Hempelmann, F., and A. Engelen. 2015. Integration of finance with marketing and R&D in new product development: The role of project stage. *Journal of Product Innovation Management* 32 (4): 636–654.
- Henard, D.H., and D.M. Szymanski. 2001. Why some new products are more successful than others. *Journal of Marketing Research* 38 (3): 362–375.
- Hirunyawipada, T., M. Beyerlein, and C. Blankson. 2010. Cross-functional integration as a knowledge transformation mechanism: Implications for new product development. *Industrial Marketing Management* 39 (4): 650–660.
- Hitt, M.A., R.E. Hoskisson, and H. Kim. 1997. International diversification: Effects on innovation and firm performance in product-diversified firms. *Academy of Management Journal* 40 (4): 767–798.
- Hultman, M., C.S. Katsikeas, and M. Robson. 2011. Export promotion strategy and performance: The role of international experience. *Journal of International Marketing* 19 (4): 17–39.
- Hwang, A.S. 2004. Integrating technology, marketing and management innovation. *Research-Technology Management* 47 (4): 27–31.
- Im, S., C. Nakata, H. Park, and Y.W. Ha. 2003. Determinants of Korean and Japanese new product performance: An inter-relational and process view. *Journal of International Marketing* 11 (4): 81–112.
- Im, S., and J.P. Workman Jr. 2004. Market orientation, creativity, and new product performance in high-technology firms. *Journal of Marketing* 68 (2): 114–132.
- Jeong, I. 2003. A cross-national study of the relationship between international diversification and new product performance. *International Marketing Review* 20 (4): 353–376.



- Jeong, I., J.H. Pae, and D. Zhou. 2006. Antecedents and consequences of the strategic orientations in new product development: The case of Chinese manufacturers. *Industrial Marketing Management* 35 (3): 348–358.
- Jeong, I., J. Kwak, and D.J. Lee. 2012. A study on global orientation in new product development among small and medium-sized firms. *Seoul Journal of Business* 18 (1): 59–81.
- John, G., and T. Reve. 1982. The reliability and validity of key informant data from dyadic relationships in marketing channels. *Journal of Marketing Research* 19 (4): 517–524.
- Katsikeas, C.C., L.C. Leonidou, and N.A. Morgan. 2000. Firm-level export performance assessment: Review, evaluation, and development. *Journal of the Academy of Marketing Science* 28 (4): 493–511.
- Kleinschmidt, E.J., and R.G. Cooper. 1988. The performance impact of an international orientation on product innovation. *European Journal of Marketing* 22 (10): 56–71.
- Kleinschmidt, E.J., U. De Brentani, and S. Salomo. 2007. Performance of global new product development programs: A resource-based view. *Journal of Product Innovation Management* 24 (5): 419–441.
- Kleinschmidt, E.J., U. De Brentani, and S. Salomo. 2010. Information processing and firm internal environment contingencies: Performance impact on global new product development. *Creativity and Innovation Management* 19 (3): 200–218.
- Knight, G.A. 2000. Entrepreneurship and marketing strategy: The SME under globalization. *Journal of International Marketing* 8 (2): 12–32.
- Knight, G.A., and D. Kim. 2009. International business competence and the contemporary firm. *Journal of International Business Studies* 40 (2): 255–273.
- Knight, G.A., and S.T. Cavusgil. 2004. Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies* 35 (2): 124–141.
- Knight, G.A., and S.T. Cavusgil. 2005. A taxonomy of born-global firms. *Management International Review* 45 (3): 15–35.
- Kogut, B. 1985. Designing global strategies: Comparative and competitive value-added chains. *Sloan Management Review* 26 (4): 15–28.
- Kohli, A.K., and B.J. Jaworski. 1990. Market orientation: The construct, research propositions, and managerial implications. *Journal of Marketing* 54 (2): 1–18.
- Kuivalainen, O., S. Sundqvist, and P. Servais. 2007. Firms' degree of born-globalness, international entrepreneurial orientation and export performance. *Journal of World Business* 42 (3): 253–267.
- Lee, H., K. Lee, and J. Kwak. 2013. Sequential internationalization of small- and medium-sized enterprises from newly industrializing economies: The Korean experience in China. *Asian Business & Management* 12 (1): 61–84.
- Lee, J., J. Lee, and W.E. Souder. 2000. Differences of organizational characteristics in new product development: Cross-cultural comparison of Korea and the US. *Technovation* 20 (9): 497–508.
- Li, T., and R.J. Calantone. 1998. The impact of market knowledge competence on new product advantage: Conceptualization and empirical examination. *Journal of Marketing* 62 (4): 13–29.
- Lord, M.D., and A.L. Ranft. 2000. Organizational learning about new international markets: Exploring the internal transfer of local market knowledge. *Journal of International Business Studies* 31 (4): 573–589.
- Lu, J.W., and P.W. Beamish. 2004. International diversification and firm performance: The S-curve hypothesis. *Academy of Management Journal* 47 (4): 598–609.
- Luca, L.M.D., and K. Atuahene-Gima. 2007. Market knowledge dimensions and cross-functional collaboration: Examining the different routes to product innovation performance. *Journal of Marketing* 71 (1): 95–112.
- Luo, Y., and M.W. Peng. 1999. Learning to compete in a transition economy: Experience, environment, and performance. *Journal of International Business Studies* 30 (2): 269–295.
- Madsen, T.K., and P. Servais. 1997. The internationalization of born globals: An evolutionary process? *International Business Review* 6 (6): 561–583.
- Makino, S., and A. Delios. 1996. Local knowledge transfer and performance: Implications for alliance formation in Asia. *Journal of International Business Studies* 27 (5): 905–927.
- McDougall, P.P., and B.M. Oviatt. 2000. International entrepreneurship: The intersection of two research paths. *Academy of Management Journal* 43 (5): 902–906.
- Merlo, O., and S. Auh. 2009. The effects of entrepreneurial orientation, market orientation, and marketing sub-unit influence on firm performance. *Marketing Letters* 20 (3): 295–311.
- Moen, Ø., and P. Servais. 2002. Born global or gradual global? Examining the export behavior of small and medium-sized enterprises. *Journal of International Marketing* 10 (3): 49–72.



- Moenaert, R.K., and W.E. Souder. 1990. An information transfer model for integrating marketing and R&D personnel in new product development projects. *Journal of Product Innovation Management* 7 (2): 91–107.
- Moorman, C., and A.S. Miner. 1997. The impact of organizational memory on new product performance and creativity. *Journal of Marketing Research* 34 (1): 91–106.
- Mort, S.G., and J. Weerawardena. 2006. Networking capability and international entrepreneurship: How networks function in Australian born-global firms. *International Marketing Review* 23 (5): 549–572.
- Murray, J.Y., G.Y. Gao, and M. Kotabe. 2011. Market orientation and performance of export ventures: The process through marketing capabilities and competitive advantages. *Journal of the Academy of Marketing Science* 39 (2): 252–269.
- Nakata, C., and K. Sivakumar. 1996. National culture and new product development: An integrative review. *Journal of Marketing* 60 (1): 61–72.
- Narver, J.C., and S.F. Slater. 1990. The effect of a market orientation on business profitability. *Journal of Marketing* 54 (4): 20–35.
- Olson, E.M., O.C. Walker, and R.W. Ruekert. 1995. Organizing for effective new product development: The moderating role of product innovativeness. *Journal of Marketing* 59 (1): 48–62.
- Olson, E.M., O.C. Walker, R.W. Ruekert, and J.M. Bonner. 2001. Patterns of cooperation during new product development among marketing, operations and R&D: Implications for project performance. *Journal of Product Innovation Management* 18 (4): 258–271.
- Opfer, S., and V. Nee. 2015. Network effects, cooperation and entrepreneurial innovation in China. *Asian Business & Management* 14 (4): 283–302.
- Park, B.S. 2011. Korea's new growth engine: FTAs with emerging market economies. *SERI Quarterly* 4 (3): 38–49.
- Park, D., R. Chinta, M. Lee, and D. Yi. 2010. New product development project management: Differences between Korean and US small business executives. *Journal of Small Business Strategy* 21 (1): 83–98.
- Podsakoff, P.M., S.B. MacKenzie, J.Y. Lee, and N.P. Podsakoff. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology* 88 (5): 879–903.
- Richardson, H.A., M.J. Simmering, and M.C. Sturman. 2009. A tale of three perspectives: Examining post hoc statistical techniques for detection and correction of common method variance. *Organizational Research Methods* 12 (4): 762–800.
- Rindfleisch, A., A.J. Malter, S. Ganesan, and C. Moorman. 2008. Cross-sectional versus longitudinal survey research: Concepts, findings, and guidelines. *Journal of Marketing Research* 45 (3): 261–279.
- Ruekert, R.W., and O.C. Walker. 1987. Marketing's interaction with other functional units: A conceptual framework and empirical evidence. *Journal of Marketing* 51 (1): 1–19.
- Salomo, S., E.J. Keinschmidt, and U. De Brentani. 2010. Managing new product development teams in a globally dispersed NPD program. *Journal of Product Innovation Management* 27 (7): 955–971.
- Sethi, R. 2000. New product quality and product development teams. *Journal of Marketing* 64 (2): 1–14.
- Shams, R., F. Alpert, and M. Brown. 2015. Consumer perceived brand innovativeness: Conceptualization and operationalization. *European Journal of Marketing* 49 (9/10): 1589–1615.
- Shinkle, G.A., and B.T. McCann. 2014. New product deployment: The moderating influence of economic institutional context. *Strategic Management Journal* 35 (7): 1090–1101.
- Sinkula, J.M. 1994. Market information processing and organizational learning. *Journal of Marketing* 58 (1): 35–45.
- Sivadas, E., and F.R. Dwyer. 2000. An examination of organizational factors influencing new product success in internal and alliance-based processes. *Journal of Marketing* 64 (1): 31–49.
- Slater, S.F., J.J. Mohr, and S. Sengupta. 2014. Radical product innovation capability: Literature review, synthesis, and illustrative research propositions. *Journal of Product Innovation Management* 31 (3): 552–566.
- Song, M., and M.M. Montoya-Weiss. 2001. The effect of perceived technological uncertainty on Japanese new product development. *Academy of Management Journal* 44 (1): 61–80.
- Song, M., and J. Xie. 2000. Does innovativeness moderate the relationship between cross-functional integration and product performance? *Journal of International Marketing* 8 (4): 61–89.
- Song, X.M., and M.E. Parry. 1997. A cross-national comparative study of new product development processes: Japan and the United States. *Journal of Marketing* 61 (2): 1–18.
- Song, X.M., M.M. Montoya-Weiss, and J.B. Schmidt. 1997. The role of marketing in developing successful new products in South Korea and Taiwan. *Journal of International Marketing* 5 (3): 47–69.



- Steensma, H.K., L. Marino, K.M. Weaver, and P.H. Dickson. 2000. The influence of national culture on the formation of technology alliances by entrepreneurial firms. *Academy of Management Journal* 43 (5): 951–973.
- Stremersch, S., and G.J. Tellis. 2004. Understanding and managing international growth of new products. *International Journal of Research in Marketing* 21 (4): 421–438.
- Subramaniam, M. 2006. Integrating cross-border knowledge for transnational new product development. *Journal of Product Innovation Management* 23 (6): 541–555.
- Swink, M., and M. Song. 2007. Effects of marketing-manufacturing integration on new product development time and competitive advantage. *Journal of Operations Management* 25 (1): 203–217.
- Tellis, G.J., S. Stremersch, and E. Yin. 2003. The international takeoff of new products: The role of economics, culture, and country innovativeness. *Marketing Science* 22 (2): 188–208.
- Troy, L.C., T. Hirunyawipada, and A.K. Paswan. 2008. Cross-functional integration and new product success: an empirical investigation of the findings. *Journal of Marketing* 72 (6): 132–146.
- Tsai, K.H., and T.T. Hsu. 2014. Cross-functional collaboration, competitive intensity, knowledge integration mechanisms, and new product performance: A mediated moderation model. *Industrial Marketing Management* 43 (2): 293–303.
- Weerawardena, J., G.S. Mort, P.W. Liesch, and G. Knight. 2007. Conceptualizing accelerated internationalization in the born global firm: A dynamic capabilities perspective. *Journal of World Business* 42 (3): 294–306.
- Whitley, R.D. 1990. Eastern Asian enterprise structures and the comparative analysis of forms of business organization. *Organization Studies* 11 (1): 47–74.
- Williams, L.J., N. Hartman, and F. Cavazotte. 2010. Method variance and marker variables: A review and comprehensive CFA marker technique. *Organizational Research Methods* 13 (3): 477–514.
- Wren, B.M., W.E. Souder, and D. Berkowitz. 2000. Market orientation and new product development in global industrial firms. *Industrial Marketing Management* 29 (6): 601–611.
- Zaheer, S. 1995. Overcoming the liability of foreignness. *Academy of Management Journal* 38 (2): 341–363.
- Zahra, S.A., R.D. Ireland, and M.A. Hitt. 2000. International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal* 43 (5): 925–950.
- Zhang, D., P. Hu, and M. Kotabe. 2011. Marketing-industrial design integration in new product development: The case of China. *Journal of Product Innovation Management* 28 (3): 360–373.
- Zhou, L., A. Wu, and B.R. Barnes. 2012. The effects of early internationalization on performance outcomes in young international ventures: The mediating role of marketing capabilities. *Journal of International Marketing* 20 (4): 25–45.
- Zhou, L., W.P. Wu, and X. Luo. 2007. Internationalization and the performance of born-global SMEs: The mediating role of social networks. *Journal of International Business Studies* 38 (4): 673–690.

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