



Contents lists available at ScienceDirect

## International Business Review

journal homepage: [www.elsevier.com/locate/ibusrev](http://www.elsevier.com/locate/ibusrev)



# Launching reverse-innovated product from emerging markets to MNC's home market: A theoretical framework for MNC's decisions

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### ARTICLE INFO

#### Article history:

Received 22 June 2015

Received in revised form 3 April 2016

Accepted 10 June 2016

Available online xxx

#### Keywords:

Reverse innovation

Global marketing

Emerging markets

Marketing strategy

### ABSTRACT

A reverse-innovated product is a new product that is originally developed for an emerging market by MNCs. The increasing number of MNCs engaging in reverse innovation and the criticality of new products to an MNC's performance and competitive advantage make reverse innovation an important area for academic research and managerial practices. This paper integrates relevant literature and proposes a theoretical framework to understand the mechanisms by which the characteristics of a reverse-innovated product affect management's decision to launch that product in a developed market (e.g., the MNC's home market). By means of literature review, the paper identifies two underlying evaluation mechanisms through which the reverse-innovated product characteristics are linked to management's reverse launch decision: the perceived degree of needed adaptation and the perceived risk of cannibalization. The authors also derive several propositions for future empirical research and discuss implications for future research.

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## 1. Introduction

General Electric developed an ElectroCardioGraph (ECG) machine for the Chinese market and a portable ultrasound machine for the Indian market. Both products turned out to be very successful in the host markets. Similarly, Gillette developed the Guard razor for the Indian market, which also enjoyed good performance. Later on, General Electric and Gillette introduced these products to US consumers. What prompted managers to decide to introduce products developed for emerging markets back into their home country markets?

Extant literature in international marketing falls short in providing theoretical answers to the above question. The internationalization literature is informative for our understanding of why MNCs expand to countries outside of their home country. For instance, a firm's knowledge and resources are important drivers of its international expansion (Qian & Delios, 2008; Zahra, Ireland, & Hitt, 2000). Such internationalization theory, however, is inadequate for explaining why an MNC would want to bring products developed elsewhere back to its home country. Moreover, the literature has focused on country-level or

firm-level factors to explain why MNCs introduce products to foreign markets (e.g. Hutzschenreuter et al., 2010; Serra, Pointon, & Hussein, 2012). While firm-level factors may affect an MNC's decisions to introduce products innovated for emerging markets (i.e. reverse-innovated products) back into its home market, a product-level analysis is more appropriate, as the decision has to be made for each product that is developed.

To advance our understanding of international marketing, scholars have called for research to “develop new theories to explain emerging international business phenomena” (e.g., Griffith, Cavusgil, & Xu, 2008, p. 1230). MNCs that engage in reverse innovation could potentially develop new innovation capabilities that could be leveraged in other markets, especially in its home country. Within this context, effective evaluation of the market opportunity for a reverse-innovated product in the home country market is critical for the long-term success of the MNC as a whole (Govindarajan, Trimble, & Nooyi, 2012; Zedtwitz, Corsi, Soberg, & Frega, 2015).

In this paper, we attempt to shed light on the following research question regarding reverse innovation: What characteristics of a reverse-innovated product would affect an MNC's decision to launch it in the home market?

This paper contributes to the extant international marketing literature in several ways: First, it responds to the call of Griffith and colleagues to develop knowledge in a new international

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marketing phenomenon—reverse innovation. Specifically, it attempts to fill a research gap in the international marketing literature by addressing an MNC's reverse-launch decision from a marketing strategy perspective. Second, this paper develops a theoretical framework to account for variations in MNC management's intention to launch a reverse-innovated product in its home market and provides testable research propositions. These propositions can guide subsequent research on how reverse-innovated product characteristics are related to MNC management decision making, and they serve as a starting point for future thinking in reverse-innovation theory. Lastly, this research may also provide insight and implications for practitioners. MNC managers may find the theoretical framework presented in this paper useful in helping them reach more rational decisions in launching reverse-innovated products back into developed markets.

The rest of this paper is organized as follows. In the next section, we examine the possible factors that MNC management considers in reaching a reverse-launch decision by reviewing and integrating literature from several relevant fields, including new product development, export marketing, global marketing strategy, and product line and product portfolio management. Based on findings from the literature review, we then develop a theoretical framework and articulate several testable propositions regarding key mechanisms of the reverse-launch decision and the reverse-innovated-product-related antecedents of such mechanisms. The paper concludes with a discussion of theoretical and managerial implications of the proposed framework. Even though MNCs internationalize via a variety of entry modes, most of the reverse innovation efforts are in the wholly owned subsidiaries or majority owned international joint ventures (IJVs). Thus, our discussion will focus on these contexts.

## 2. Literature review

The term *reverse innovation* was first coined by Govindarajan and colleagues (c.f. Immelt, Govindarajan, & Trimble, 2009). Reverse innovation is loosely defined as the process of developing new products for an emerging market (Immelt et al., 2009; p. 56). The phenomenon expanded over the years (*Economist*, 2012) and garnered research interest (e.g., Zedtwitz et al., 2015). While we have gained a better understanding of its distinction from close concepts such as cost innovation or frugal innovation (Zeschky, Widenmayer, & Gassmann, 2014) and its different typologies (Zedtwitz et al., 2015), we still have very limited understanding of why MNCs would launch a reverse-innovated product into its home market, not the initial target market for the product.

Launching a reverse-innovated product to the home market could be considered similar to exporting a product to a foreign market because both involve transferring products from one market to another internationally. However, there are two notable differences between a reverse launch and exporting. First, the MNC management is introducing products from a developed market to a foreign market (including developing and/or developed markets) in the case of exporting, whereas the management is introducing a product back into its home market in the case of reverse launch. Second, exported products are usually developed based on domestic customers' needs, familiar to the MNC. However, in developing reverse-innovated products, the MNC often must go out of its 'comfort zone' and rely on local teams from the emerging market to develop products that best address emerging-market customers' needs, with which the MNC may not be familiar (Govindarajan et al., 2012). Historically, developed countries are often considered the lead markets that could influence the diffusion of new products to less developed markets, whereas emerging markets are generally seen as laggard markets with little

influence on the adoption of new product innovations compared to their developed counterparts (Beise, 2004; Vernon, 1966). If an MNC decides to introduce a reverse-innovated product into its home country, it's essentially testing the idea of emerging market as lead market (Tiwari & Herstatt, 2012), which may cause the MNC management to hesitate when evaluating the appropriateness of launching a reverse-innovated product into its home market.

## 3. Theoretical framework and testable propositions

When transferring products from one nation to another, MNC management often finds that products are subject to different customer preferences and tastes, quality requirements, and product usage situations, especially when the two markets are culturally or economically distant (Calantone, Kim, Schmidt, & Cavusgil, 2006b; Cavusgil, Zou, & Naidu, 1993; Tihanyi, Griffith, & Russell, 2005). As a result, firms often have to modify or adapt the physical characteristics or attributes of a product as well as its packaging to better fit the needs and desires of customers in different countries (Calantone et al., 2006b; Cavusgil et al., 1993). Such product adaptation often requires additional resources, which MNCs may not be willing to invest. Empirical research has indicated that many firms tend to export to markets that require a minimal degree of product adaptation and shy away from any major commitment to substantial product adaptation (e.g., Kacker, 1975). Currently, assessing the necessary degree of product adaptation continues to be an important aspect of export strategy for international marketers (Cavusgil & Zou, 1994; Dow, 2006).

More specifically, we define the first underlying evaluation mechanism, perceived degree of needed product adaptation, as the management's perception of effort and resources required to modify a reverse-innovated product to achieve the desired performance goal in the MNC's home market. This construct reflects management's perceived amount of investment required, number of organizational changes needed, and amount of time needed to modify the reverse-innovated product to fit the needs of the customers in the home market. The domain of perceived degree of product adaptation needed includes: 1) the extent and ease of product adaptation; 2) the required cost for product adaptation. In some cases, only minor modifications (e.g. packaging modification) is required, and the modification cost is minimal. In other cases, one single modification can be both challenging and costly (e.g., designing a new battery with longer life).

Managers have a responsibility to maximize firm profit, which often may not necessarily be equivalent to maximizing new product sales. Therefore, when an MNC introduces a new product, it must consider the interrelationship of sales of the new product with sales of existing products. Quelch and Kenny (1994) suggested that firms may face a threat to overall profit due to new product introduction, especially when demand for the product category overall is stagnant or when the new product competes with the existing products for resource allocation. Using a set of experiments, Kim and Chhajed (2000) demonstrated that the introduction of a lower-end product would decrease customer valuation of the higher-end product and cause customers to switch to the lower-end product, resulting in cannibalization. Other researchers have utilized a modeling or game theory approach to demonstrate that concerns for possible cannibalization would affect management's new product decisions regarding whether to launch (Wilson & Norton, 1989), when to launch (Wilson & Norton, 1989), and what to launch (Desai, 2001). Because reverse-innovated products are often partial substitutes of an MNC's existing products in the home markets, risk of cannibalization becomes an important factor in considering reverse launch.

More specifically, we define the second underlying evaluation mechanism, perceived risk of cannibalization, as the

management’s perception of the likelihood that the sales of the reverse-innovated product will be gained at the expense of the existing products offered by the MNC in its home market. The domain of perceived risk of product cannibalization includes: 1) the possibility of product cannibalization in the home market; 2) the magnitude of product cannibalization; and 3) the degree of adverse impact from product cannibalization. For instance, P&G was hesitant to introduce the feminine-care product brand Naturella, originally developed for Mexican consumers, to the developed world, fearing the high likelihood of cannibalization damage to P&G’s Always brand in these developed markets.

Different reverse-innovated product characteristics influence the management’s decision on reverse launch through these mechanisms. The overall theoretical framework is presented in Fig. 1.

An assumption underlying the model is that all reverse-innovated products have the potential to be introduced back into MNC’s home market. This assumption is consistent with Govindarajan and colleagues’ definition of reverse-innovation strategy (Immelt et al., 2009; Govindarajan & Ramamurti, 2011; Govindarajan et al., 2012). Another important feature of this framework is that, unlike most of the conceptual models in export-decision literature, the unit of analysis underlying the framework is the product, rather than the firm. This distinction is meaningful because decisions regarding whether to introduce reverse-innovated products back to the developed markets might vary across different products within the same firm. Concomitantly, this framework integrates relevant literature and presents a model that can be tested in future research. Moreover, rather than considering a broad category of product characteristics, this framework identifies specific product characteristics that are unique to reverse-innovated products. The identification of such specific product factors is useful in assisting empirical testing of the model (e.g., design measurements for the constructs) as well as in guiding management decision making. Beyond identifying these factors, elaborating on the relationships between them is valuable and essential to proposing testable propositions.

3.1. Perceived degree of needed product adaptation and reverse launch

The degree of needed product adaptation is an assessment of the effort and resources required to modify the design specifics of the reverse-innovated product to fit the needs and desires of MNC’s home market. Product adaptation is often anticipated when transferring products across different national markets (Cavusgil & Zou, 1994). In some cases, such adaptation effort is minimal (e.g.,

when the reverse-innovated product is targeted at customers who hold the same preferences as the emerging market customers and use the product in similar situations). However, in other cases, the degree of product adaptation may vary to a large extent. For instance, the small-horsepower tractor is used for mainstream farming in India, while it is used for household mowing or recreational farming in the United States, and thus may require substantial extent of adaptations (Govindarajan et al., 2012).

Product adaptation requires additional investment of human and financial resources, as well as time. While an initial competitive advantage of a reverse-innovated product may be its low cost (Govindarajan et al., 2012), required additional investment means a possible loss of such an advantage. Besides the additional investment required, the MNC management also faces increased need for coordination among business units within the MNC’s network to assist adaptation efforts. Feasibility is sometimes an issue in modifying the product (Keegan, Still, & Hill, 1988; Li, Xue, & Gu, 2008). As the perceived degree of needed product adaptation increases, MNC management may be less motivated to make these required product adaptations and launch the reverse-innovated product into its home market, as the added costs may outweigh the benefits of a reverse launch. Given these considerations, we present the following testable proposition:

- P1.** The higher the management’s perceived degree of needed product adaptation, the lower the management’s intention to launch a reverse-innovated product in its home market.

3.2. Perceived risk of cannibalization and reverse launch

The risk of product cannibalization in the home market is a legitimate concern. Reverse-innovated products are often in the same industry as the MNC’s product mix in its home market (Govindarajan et al., 2012), and therefore can be seen as partial substitutes for the products in the MNC’s existing product portfolio. A distinct characteristic of reverse-innovated products is the ability to offer “good enough” product quality at a “much more affordable price” (Govindarajan et al., 2012; Govindarajan & Ramamurti, 2011). These products may offer a somewhat lower quality at a much lower price than their counterparts in the home market, becoming attractive to home-market customers who are value-sensitive and causing cannibalization of existing products sales. This rationale is consistent with game-theory implications (e.g., Desai, 2001; Moorthy, 1984). In fact, game theorists suggest that in a market where customers are segmented based on quality attributes, if lower-quality products are sufficiently attractive,

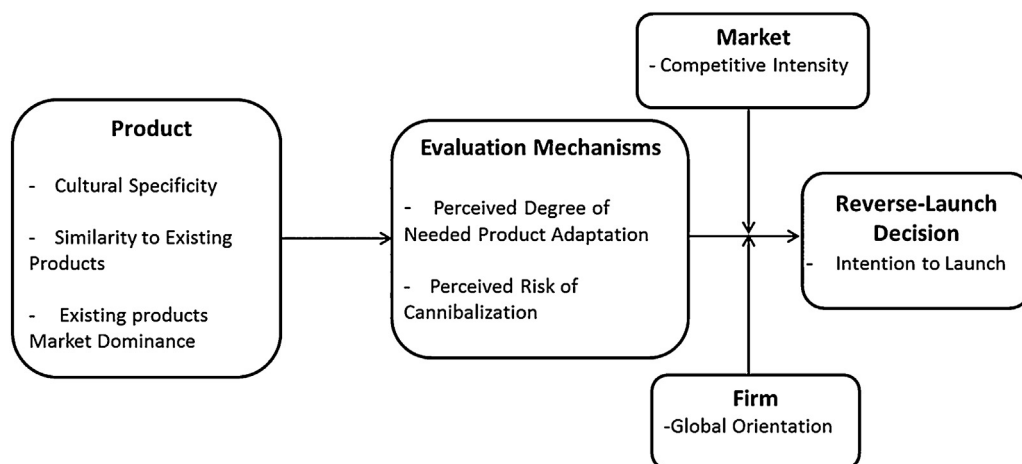


Fig. 1. Theoretical Framework.

customers who originally value higher quality may find it beneficial to buy lower-quality products rather than the higher-quality products targeted to them (Desai, 2001; Moorthy & Png, 1992). If an MNC happens to offer products that are exposed to high cannibalization risk because of the introduction of the reverse-innovated product to its home market, it is reasonable for the MNC management to take into account not only the potential profitability of the reverse-innovated products but also the implication of potential sales loss due to cannibalization when making reverse launch decisions.

Because of the concern over potential cannibalization, we argue that unless the incremental revenue generated from the reverse-innovated product launch exceeds the potential loss of the cannibalized product in its home market, it is likely that MNC management may choose not to launch the reverse-innovated product; therefore:

**P2.** The higher the management's perceived risk of cannibalization, the lower the management's intention to launch a reverse-innovated product in its home market.

### 3.3. The moderating role of global orientation of the firm

Global orientation refers to "the organization-wide emphasis on success on a worldwide basis rather than on a country-by-country basis" (Zou & Cavusgil, 2002, p46). It is conceptualized as part of a firm's organizational culture as it reflects the firm's value. Global orientation is conceived of as a means of evaluating an MNC's perception of the importance of the global market, subsidiaries' willingness to make sacrifices for better performance of the MNC as a whole, and the MNC's equidistant perspective (Ohmae, 1989; Zou & Cavusgil, 2002). Specifically, an equidistant perspective could take the forms of assigning equal status to different national origins or being equally open to ideas from other countries and cultures (Levy, Beechler, Taylor, & Boyacigiller, 2007; Ohmae, 1989). MNCs with high global orientation often view the entire world as their marketplace, instead of relying on individual markets or regions exclusively or independently (Levitt, 1983; Townsend, Cavusgil, & Baba, 2010).

Global orientation is a valuable organizational resource and is positively linked to a firm's global marketing strategy (Zou & Cavusgil, 2002). Explicitly, MNCs with high global orientation would be more proactive in exploring market opportunities around the world for overall firm growth opportunities (Levy et al., 2007; Nummela, Saarenketo, & Puumalainen, 2004). Therefore, a highly globally oriented MNC is more likely to proactively search for market expansion opportunities in developed markets (including its home country) for the reverse-innovated product. Such a proactive approach may yield information that is useful for preparing the launch of the reverse-innovated product. In contrast, firms with a polycentric orientation are more focused on developing products on a country-by-country basis and seek regional success (Levy et al., 2007).

Because of their strong motivation to expand globally, MNCs with high global orientation are more willing to devote the resources needed for the product adaptation. Given that the firm culture in a globally oriented MNC nourishes cooperation among subsidiaries to support headquarter initiatives, the management will also expect less resistance and easier coordination among subsidiaries for the proposed modifications to the reverse-innovated product. Following this line of reasoning, we contend the following:

**P3.** The negative relationship between the management's perceived degree of needed product adaptation and the management's intention to launch a reverse-innovated product

in its home market is weaker when the MNC's global orientation is high.

Driven by the goal of achieving success in the global marketplace, MNCs with high global orientation are more likely to feel the need for competitive preemption (Montgomery, Yip, & Villalonga, 1998). Given that the reverse-innovated product is successful in the emerging market, it is possible that the focal MNC's potential competitors are observing and trying to develop imitative products for markets, including the MNC's home market (Luo, Sun, & Wang, 2011). To prevent such competitive threat from coming to fruition, MNCs with high global orientation are likely to take an aggressive approach and accept the cannibalization risk in exchange for market takeover ahead of competitors (Nault & Vandenbosch, 1996). In addition, when an MNC has high global orientation, its home country subsidiaries are less likely to enact the not-invented-here resistance to the reverse-innovated product due to cannibalization concerns. Based on this potential, we propose the testable proposition that:

**P4.** The negative relationship between the management perceived risk of cannibalization and the management intention to launch a reverse-innovated product in its home market will be weaker when the MNC's global orientation is high.

### 3.4. The moderating role of market competitive intensity

Market competitive intensity refers to the degree to which a firm faces competition in a market (Jaworski and Kohli, 1993). The level of competitive intensity is reflected through factors such as the number of competing firms within a given industry, the aggressiveness of competing firms in pricing and advertising, as well as new product introduction (Slater & Narver, 1994). As researchers have noted, firms tend to be more aggressive in strategic moves such as introducing new products that meet customer wants and needs and create superior customer value to satisfy them before competitors do (Kohli & Jaworski, 1990).

Basing on this backdrop, we argue that, in markets characterized by intensive competition, MNCs may anticipate competitive attacks such as imitating the reverse-innovated product and introducing it in their home markets. To preempt such competitive moves, the MNC management is more likely to give the "go ahead" for launching a reverse-innovated product in its home market, even if the product requires substantial modification and may potentially take sales away from the MNC's existing products in its home market. Thus, we propose the following two propositions:

**P5.** The negative relationship between the management's perceived degree of needed product adaptation and the management's intention to launch a reverse-innovated product in its home market is weaker when the market competitive intensity is high.

**P6.** The negative relationship between the management perceived risk of cannibalization and the management intention to launch a reverse-innovated product in its home market will be weaker when the market competitive intensity is high.

### 3.5. Product characteristics and reverse launch evaluation mechanisms

Factors related to a reverse-innovated product may affect an MNC management's evaluation of the degree of needed product adaptation and the risk of cannibalization while considering launching the product to a specific market (Atuahene-Gima, 1995; Becker & Egger, 2007; Wakelin, 1998). Based on our literature



review, various aspects of the product characteristics may affect an MNC management's evaluations differently. Therefore, it's important to consider how these product factors relate to an MNC management's perception of degree of needed product adaptation and risk of cannibalization in its home market separately.

### 3.5.1. Product related factors and perceived degree of needed product adaptation

Cultural specificity of the reverse-innovated product pertains to the extent to which the product caters to the needs of a specific culture or subculture in the emerging market (Cavusgil & Zou, 1994; Cavusgil et al., 1993). The rationale for the effect of product cultural specificity is based on the notion that similarities or differences in economic, legal, culture, and individual customer values and lifestyles between two markets are often the primary driving forces for MNCs to diverge their marketing mix, including their product strategy (e.g., Hautsch & Klotz, 2003; Kogut & Singh, 1988). Moreover, as would be expected, the less similar the two markets are, the higher the degree of product adaptation needed to achieve desired performance (Roth & Morrison, 1990).

As discussed earlier, the main purpose of product adaptation is to make the reverse-innovated product more compatible with the developed market customers' needs and preferences (Guiltingan, 1999; Calantone, Chan, & Cui, 2006a; Cavusgil & Zou, 1994). Considering the differences between the emerging markets and MNCs' home markets with respect to the economy, culture, and infrastructure, as the reverse-innovated products become more culturally specific, the chances of the product diverging from the developed market customer's needs and/or the developed country's regulation requirements may increase, but that divergence may be reconciled through modification to the product design specifications (Keegan et al., 1988). In the extreme case, the divergence might be so great that it is impossible to adapt the reverse-innovated product to suit the developed-market needs, which means that the MNC has to develop the product from scratch for the developed market. Thus, we propose the following:

**P7.** The higher the product cultural specificity, the higher the management's perceived degree of needed product adaptation.

Similarity to existing products refers to the extent to which the reverse-innovated product is similar to the existing products in MNC's home market, in price, intended usage, functionality, and performance level (Mason & Milne, 1994; Mazumdar, Sivakumar, & Wilemon, 1996). When a reverse-innovated product is similar to existing products offered in MNC's home market, the likelihood that the reverse-innovated product would be able to meet customer needs is higher than when it is not. In the contrast, in the cases where a reverse-innovated product is different from existing products offered in the target market, MNCs often have to identify new customer segments and the needs and wants of those segments, and meet those needs and desires through product modification. Thus, we propose the following proposition:

**P8.** The greater the similarity between the reverse-innovated product and the MNC's existing products, the lower the management perceived degree of needed product adaptation.

### 3.5.2. Product related factors and perceived risk of cannibalization

The more similar two products are, the greater the possibility of mutual substitutability between them (Mazumdar et al., 1996). To assess the potential risk of product cannibalization, an MNC's management must compare characteristics of a reverse-innovated product to its product mix or portfolio in its home market in which it intends to introduce the reverse-innovated product. In other words, the management needs to consider how similar the reverse-innovated product is on various dimensions, including

price, functionality, and performance, to the existing products in a developed market (Mason & Milne, 1994; Mazumdar et al., 1996).

As indicated in the discussion above, the price of a reverse-innovated product is often much lower than that of the MNC's existing products offered in its home market, while the primary functionality of the two is often similar (Govindarajan et al., 2012), and the performance level of the primary operating function of the reverse-innovated product may be lower than its counterpart in the MNC's home market (Govindarajan & Ramamurti, 2011; Govindarajan et al., 2012). However, depending on how innovative the product development is, the degree of divergence on dimensions such as product features and intended product usage may vary to different degrees (Govindarajan et al., 2012). As the level of divergence between reverse-innovated product and the MNC's existing product offered in its home market decreases, the room for product differentiation decreases, and thus the potential risk of cannibalization may increase (Mazumdar et al., 1996).

Based on these arguments, it is contended that, as the similarity between the reverse-innovated product and the MNC's existing product offerings increases, MNC management's perceived risk of cannibalization increases because of the increased ability of the reverse-innovated product to substitute other existing products at a lower price. This contention is consistent with the product line extension literature, which posits that step-down line extension should avoid being too close to the core product so as to decrease the possible negative effects on the parent product (Desai & Hoyer, 1993; Mazumdar et al., 1996). Therefore, we hypothesize that:

**P9.** The greater the similarity between the reverse-innovated product and the MNC's existing products, the higher the management's perceived risk of cannibalization.

Market dominance is defined as the extent to which the MNC is perceived to be in a leadership position in the product category of the reverse-innovated product. (Eliashberg & Robertson, 1988). Market dominance could be reflected either by objective market share measures or by management perception of leadership (Eliashberg & Robertson, 1988; Heil & Robertson, 1991). A reverse-innovated product could add to the variety to existing product lines and thus may be brought into MNC's home market to strengthen its competitive power there. However, this might be contingent upon the MNC's current position in its home market (Heil & Robertson, 1991; Mazumdar et al., 1996).

MNCs with a dominant market position in their home markets would face greater potential loss from cannibalization unless the reverse-innovated product could either offer sufficient profit margin, which seems highly unlikely because of the low-cost design principle, or generate sufficient new revenue (e.g., through market demand expansion) to compensate for the loss (Mazumdar et al., 1996). There are three means by which a reverse-innovated product may generate sales: 1). through gaining on the competitor's customers; 2). through the MNC's own customers (in which case cannibalization risk is present); or 3) through new customers. Logically, MNCs with a dominant market position are more likely to face the risk of generating new sales at the expense of diverting their own customers than those who are in a 'follower' position in their home markets. Indeed, empirical research indicates that as the firm's market share increases, the risk of cannibalization increases when introducing new products to the market (Eliashberg & Robertson, 1988; Heil & Robertson, 1991). In contrast, MNCs with low market dominance only foresee minimal risk of lost sales due to cannibalization. Therefore, our final testable proposition is:

**P10.** The higher the existing product market dominance in the MNC's home market, the higher the management's perceived risk of cannibalization.

## 4. Implications

### 4.1. Theoretical implications

This paper contributes to the international marketing literature in several ways. First, it addresses a new and increasingly important phenomenon in international marketing: launching reverse-innovated products from emerging markets back to the MNC's home-country market. It recognizes the challenges and opportunities posed by reverse innovation for traditional MNCs. Understanding the implications of reverse innovation is important because more and more MNCs are beginning their reverse-innovation initiatives (*Businessweek*, 2011). We hope our research could help put the spotlight on the reverse-innovation phenomenon and open up more research in the broad reverse-innovation area.

Second, our research on reverse innovation is a response to a call for research that “develop[s] new theories to explain emerging international business phenomena” (Griffith et al., 2008, p. 1230). While the internationalization literature is informative for our understanding of why MNCs expand to countries outside of their home locations by leveraging firm-specific advantages, our research extends the theory by suggesting that an MNC is also likely to leverage product or technology advantages developed in the emerging markets by bringing products back into its home market. In other words, we integrate the internationalization theory with the reverse-innovation phenomenon and suggest that an MNC's leveraging of its firm-specific advantages may not be a linear process that involves only outward transfer but a circular one that also involves inward transfer.

Third, the theoretical framework developed in this paper clearly identified two important MNC concerns in deciding whether to introduce their reverse-innovated products back into its home market: the perceived degree of needed product adaptation and the perceived risk of cannibalization. These mechanisms will be useful not only to researchers who are interested in learning when and why MNCs are likely to launch their reverse-innovated products back into the developed markets but also to practitioners who are involved in making decisions. By focusing on these two mechanisms, researchers will gain a more complete view of the decision-making process of MNCs regarding reverse-innovated product launches, whereas managers will be able to follow the framework to analyze their specific situations and make a more comprehensive decision.

Fourth, the two firm- and market-related contingency factors shed light on how firm and market characteristics may interact with the management's evaluation of the decision criteria and impact the reverse-launch decision. Specifically, MNCs with high global orientation and those who operate in highly competitive markets tend to be more aggressive in bringing the reverse-innovated product to the developed market. Such contention may offer new insights on why globally oriented MNCs are more likely to achieve faster global expansion and gain competitive advantage in a competitive environment.

Finally, another important implication is that this paper specifies how key characteristics associated with reverse-innovated products influence an MNC's evaluation of the need for product adaptation and the risk of cannibalization. While much of the export development literature focuses on firm-level factors, such as firm size, age, and international experience as drivers for export decisions, our framework brings in exogenous elements such as product-related factors, which could be more useful in helping the MNC management decision making in a reverse-launch context.

### 4.2. Managerial implications

This work may offer valuable guidance for MNC managers in several aspects. To start, industrial observations have highlighted cases of successful reverse innovations (e.g., GE's MAC800 machine) as well as failed ones (e.g., Nokia's basic-feature phone). Hence, the proposed theoretical framework could potentially serve as a normative guide for helping an MNC make more informed decisions about whether to launch a reverse-innovated product in the developed-country markets. If management is biased by one factor and therefore fails to incorporate another factor, less than optimal actions might be undertaken regarding the reverse-innovated product (e.g., not launching the reverse-innovated product or waiting too long to launch it in the developed markets). Moreover, management is advised to evaluate the key reverse-innovated product characteristics, as these are effective cues that can directly affect the potential for the reverse-innovated product to be successful in the target developed-country market(s). For lower-level managers, such as MNC subsidiary managers in emerging markets who desire to lobby for commercializing the reverse-innovated product in the MNC's home market, an effective means of accomplishing that goal is to gather information relevant to the variables proposed in the current conceptual model. Such information could speak directly to headquarters management concerns and is likely to be more convincing than others.

## 5. Conclusions

Even though many MNCs are still expanding to emerging markets with standardized or adapted products, some MNCs are starting to develop products specifically for these markets. Once these products prove to be successful in these markets, MNC management would have to decide whether to introduce them back into its home-country market. This conceptual paper proposes two important mechanisms (i.e., the perceived degree of needed product adaptation and the perceived risk of cannibalization) through which managers make such decisions, by integrating the international business literature and the product management literature. In addition, the two firm- and market-related contingency factors (i.e., global orientation and competitive intensity) shed light on how firm and market characteristics may interact with the management's evaluation of the decision criteria and impact the reverse-launch decision. This research aims to draw more research attention to the reverse-innovation phenomenon and extends the internationalization theory by suggesting that MNCs may leverage product/technology advantage developed in emerging markets by introducing reverse innovated products back to their home countries. Finally, this paper provides a conceptual foundation on which future hypothetico-deductive research can be empirically tested. Insights gained from such empirical research would greatly enhance our understanding of the reverse innovation phenomenon.

## 6. Future research

As an exploratory step, the current paper provides a theoretical framework delineating an MNC's reverse-launch decisions in a reverse-innovation context. As a newly observed phenomenon, reverse innovation is rich in research possibilities, and further research in this area is essential. While the current work has built a theoretical foundation for an MNC's reverse-launch decisions, future research should attempt to collect data for testing the proposed hypotheses in this paper. Obtaining empirical supporting evidence will help affirm the value of our proposed theoretical framework. Future research should also identify ways to extend

our theoretical framework (e.g., the effect of factors other than product characteristics on an MNC's reverse-launch decisions). Future research should help identify, conceptualize, and test such factors. Another interesting area for future research is the tactic launch strategy of reverse-innovated products. While the current paper suggests that the target customer segment for the reverse-innovated product could be either the mass mainstream market or a niche market that shares similar product needs with emerging market customers, it is also important to examine how the MNC could practice appropriate pricing, branding, and promotion strategies to best maintain firm reputation, brand equity, and maximized profitability. In addition, performance implications of reverse-innovated products is another topic for future research. The literature has suggested that reverse innovation strategy is associated with an MNC's sustainable competitive advantage and long-term growth. It would be interesting to see how introduction of reverse-innovated products in the developed-country markets would affect the overall financial performance and strategic competitive position for MNCs.

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