



# International diversification and the market value of new product introduction

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## ABSTRACT

Although previous studies on international diversification are plentiful, they mainly focus on the effect of international diversification on overall firm performance, and the results are mixed. This study extends this line of research and explores the impact of international diversification on new product performance. Specifically, we ask if international diversification explains the stock market reactions to new product introduction (NPI) announcements. We find an inverted-U-shaped relationship between international diversification and the announcement returns of NPIs, revealing that the market value of NPIs initially improves and then declines with increasing international diversification. The results also show that intangible assets, such as technological and marketing capabilities, positively moderate the relationship between international diversification and the market value of NPIs. Our study not only highlights the importance of considering both sides of international diversification in affecting investors' assessments of corporate new product strategies, but also shows the possibility of internal capabilities in changing the fixed relationship between international diversification and the market value of new products.

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## 1. Introduction

According to the theory of foreign direct investment (FDI) (Caves, 1996; Dunning, 1988; Hymer, 1976) and portfolio theory (Jacquillat and Solnik, 1978; Lessard, 1973, 1976; Solnik, 1974), international diversification will lead to higher firm value. However, existing studies examining the impact of international diversification on firm performance have yielded inconclusive results. The results on the relationship between international diversification and firm performance has been found to be positive (Delios and Beamish, 1999; Grant, 1987; Rugman et al., 2008), negative (Collins, 1990; Zaheer and Mosakowski, 1997), U-shaped (Capar and Kotabe, 2003; Gaur and Kumar, 2009; Lu and Beamish, 2001), inverted-U-shaped (Brock et al., 2006; Garbe and Richter, 2009; Gomes and Ramaswamy, 1999; Hitt et al., 1997) and horizontal-S-shaped (Contractor et al., 2003; Lu and Beamish, 2004; Ruigrok et al., 2007).

To better understand the influence of international diversification, we extend this line of research by studying the impact of international diversification on new product performance. Specifically, we test if international diversification explains the stock

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market responses to new product introduction (NPI) announcements. NPIs are an important dimension of innovation output.<sup>3</sup> Firms with the ability to introduce new products are signaled as those with the opportunity for differentiation and future earnings (Chaney et al., 1991; Kleinschmidt and Cooper, 1991; Subramaniam and Venkatraman, 2001). In order to improve the performance of NPIs, many firms are engaged in international diversification activities (Kogut and Zander, 1993; Peng and Wang, 2000). Previous studies have documented that international diversification comes with both benefits and costs (Contractor et al., 2003; Lu and Beamish, 2004; Ruigrok et al., 2007). We suggest that these benefits and costs might create both opportunities and challenges for firms to develop new products, and hence influence investors' assessment of the new products introduced by firms.

International diversification may have positive effects on NPIs. For example, it allows firms to reach outside their domestic boundaries, providing them with more opportunities to gain new ideas in terms of the types of new products that can be developed (Hitt et al., 1997). Internationally diversified firms also have better access to the resources resident in foreign countries that may be necessary for producing these new products (Craig and Douglas, 2000; Peng and Wang, 2000). Furthermore, international diversification creates the benefit of economies of scale by efficiently leveraging the initial investments on new products over a broader market base (Subramaniam and Venkatraman, 2001).

In spite of the beneficial effects of international diversification, we suggest that international diversification may also entail disadvantages when it comes to introducing new products. For instance, cross-national distances increase the difficulty for internationally diversified firms to transfer technological knowledge between countries. Differential environmental settings among countries might also constrain the firm's ability to absorb and apply resources towards new product development. In such cases, new products are expected to be less worthwhile for introducing firms with international diversification activities.

In addition to investigating the direct impact of international diversification on the stock market reactions to NPI announcements, we postulate that investors' assessments of the value of new products may depend on a firm's internal capabilities. Extending previous research documenting the importance of technological and marketing capabilities in determining new product success (e.g., Cooper and Kleinschmidt, 1987; Yeoh and Roth, 1999), we argue that both marketing and technological capabilities assist in enhancing the benefits of international diversification while simultaneously restricting its drawbacks with regard to the introduction of new products.

We test our hypotheses by measuring the stock market responses to NPI announcements using the event-study methodology framework. The events of NPI announcements are collected for the period 1997–2005. Under the assumption of the efficient markets hypothesis (Fama, 1970), NPI announcements bring unanticipated information into financial markets that may change the market value assessments of the announcing firms. In response to the new information, changes in stock prices occur, which represent investors' revision of their expectation with regard to the net present value of a firm's risk-adjusted expected cash flow generated by the new products, or stated differently, the investors' expectation of the wealth impact of NPIs.

This paper is organized as follows: Section 2 provides the theoretical background and develops the hypotheses. Section 3 introduces the sample and methodology. The empirical results are presented in Section 4. Finally, Section 5 contains the discussion and concluding remarks of this study.

## 2. Theoretical background and hypotheses

International diversification has been suggested by FDI theory and portfolio theory to provide firms with benefits ranging from the ability to realize scale economies (Grant, 1987; Porter, 1986), the possibility to spread investment risks over different countries (Kim et al., 1993), the potential to arbitrage factor cost differentials across multiple locations (Kogut, 1985) and the opportunity to access resources resident in foreign countries (Hitt et al., 1997). However, there is considerable theoretical evidence that international diversification comes with both benefits and costs. We suggest that these benefits and costs that accompany foreign expansion may create both opportunities and challenges for firms in terms of developing new products, and thereby affect the stock market reactions to NPI announcements. In this section, we review various theoretical domains in order to identify the channels through which international diversification might influence value creation for firms in the context of NPIs.

### 2.1. Effects of international diversification

International diversification provides several advantages towards developing new products. First, international diversification offers opportunities for firms to gain new and diverse ideas from a variety of perspectives (Hitt et al., 1997). Being exposed to heterogeneous customers, technology, cultures, and competitive practices, internationally diversified firms are able to learn from the experience in foreign operations to find new solutions to bettering product design and improving the quality of manufacturing know-how (Craig and Douglas, 2000). For example, the launch of a new cordless telephone by Sanyo, which had been adjusted to better meet the phone use habits of American consumers (Barkema and Vermeulen, 1998), consequently expanded the company's sales in the U.S. market.

<sup>3</sup> Prior studies have used several ways to measure the performance of innovation, which includes R&D intensity (Hill and Snell, 1988; Hitt et al., 1997), number of NPIs (Cardinal and Opler, 1995; Hitt et al., 1996) and number of patents (Francis and Smith, 1995). Though they have provided valuable insights, the measures they developed have some limitations in capturing the true value of innovation (Chaney et al., 1991; Schankerman and Pakes, 1986). For example, R&D intensity is more related to the input value of innovation but does not directly measure the output value of innovation. Furthermore, numbers of NPIs or patents only measure the quantity of inventive output without considering the quality of innovation. As well, patent counts often represent a very noisy measure of the underlying value of innovation because most patents are not worth anything. The measure used in our study allows us to directly measure the wealth effect of innovation, rather than only considering the quantity of inventive output as has been done in prior studies.

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