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The effects of institutional quality and diversity of foreign markets on exporting firms' innovation

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ABSTRACT

This study examines the role of the institutional quality and diversity of foreign markets on exporting firms' innovation performance. Building on the institutional economics theory, the institution-based view of international expansion, and the literature on international diversification, this study proposes that expanding into a foreign market with well-developed institutions helps exporting firms improve innovation performance and that a high degree of institutional diversity of multiple foreign markets positively influences firm innovation. The study also suggests that institutional diversity weakens the positive relationship between institutions and firm innovation. The findings provide support for the proposed hypotheses. Implications for both theory and practice are discussed.

1. Introduction

In an increasingly knowledge-based economy, not only is innovation a key strategy that helps firms compete and grow, but it also profoundly influences social and economic evolution (Eisenhardt & Tabrizi, 1995; Sorensen & Stuart, 2000). Understanding the factors that determine an organization's ability to introduce new products and innovate continuously is therefore a primary objective of innovation studies. During the past few decades, scholars have increasingly emphasized the importance of institutions in affecting technological development and firm innovation (Furman, Porter, & Stern, 2002; Lundvall, 1992; Mahmood & Rufin, 2005; Mowery, 1984; Nelson, 1988). For example, Mahmood and Rufin (2005) suggest that the quality of a country's market-supporting institutions plays an important role on firm innovation by facilitating or curtailing the flow of ideas and knowledge spillovers across firms. Although this body of work focuses on *how* a country's institutions affect firm innovation, it indicates little about how foreign market institutions affect firm innovation.

Institution-based research on international expansion explicitly deals with foreign market institutions and posits that the institutional settings of the foreign markets a firm enters significantly determine the efficacy of the firm's strategic choices. Scholarly works in this research stream have examined institutional environments of host countries (e.g., Delios & Henisz, 2003; Pantzalis, 2001) and the variety of institutional environments across multiple foreign markets (e.g., Kostova, 1999; Kostova & Zaheer, 1999). However, scant research has investigated foreign countries' institutional configurations that support innovation or explored how institutional quality in foreign countries affects exporting firms' introduction of radical and incremental innovation. This lacuna is surprising because radical and incremental innovation are two classic types of innovation, and both occupy a central position in innovation and directly affect firm survival, profitability, and growth (Autio, Sapienza, & Almeida, 2000; Doran & Ryan, 2014; Eisenhardt & Tabrizi, 1995).

Another related literature stream takes international diversification, or the extent to which a firm conducts value-adding activities in multiple different foreign markets, as its focal analysis. Here, scholars have attempted to determine whether and how a firm's international diversification affects its innovation and/or financial performance (e.g., Autio et al., 2000; Hitt, Hoskisson, & Kim, 1997; Sapienza, Autio, & Zahra, 2006; Zahra, Ireland, & Hitt, 2000). Unfortunately, research results are "particularly inconsistent, with almost any conceivable outcomes showing up in at least some of the studies" (Verbeke & Brugman, 2009, p. 266). Scholars have more recently acknowledged missing sound theoretical backing for an appropriate measure of international diversification

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(e.g., Hennart, 2007). The inconsistency is largely due to the restricted conceptual treatment of international diversification, which has not fully incorporated the diversity of institutional environments in various foreign markets.

This study addresses these fundamental concerns and brings disjointed research streams together by examining the roles of foreign market institutional quality and diversity on a firm's innovation. Knowledge, economic, political, cultural, demographic, administrative, and other institutions are essentially multi-faceted (Berry, Guillén, & Zhou, 2010). Given our specific interest in firm innovation performance, we focus on innovation-supporting institution, as prior studies have emphasized its critical role on firm innovation (Furman et al., 2002). Accordingly a foreign country's institutional quality refers to the level or development of institutions that support innovation in its market, and institutional diversity of foreign markets refers to the diversity or inconsistency of institutional quality in all foreign markets of an exporting firm. We emphasize that an exporting firm's innovation success depends not only on the development of institutions in a foreign market but also on the extent of diversity of institutional developments in all other foreign markets in which the exporting firm engages. Thus, this study focuses on (1) a foreign market's institutional quality, by building on the institutional economics research that highlights the role of country-level institutions on firm innovation, and (2) the institutional diversity of multiple foreign markets, by combining international diversification literature with institution-based research on international expansion.

This article makes several contributions to the literature. First, we expand the research on institutions and innovation, which has primarily focused on innovation-supporting institutions of the home market (Furman et al., 2002; Lundvall, 1992; Nelson, 1988), and we argue that a foreign market's institutional quality is a critical but under-researched context for understanding the role of institutions in promoting firm innovation. Second, scholars holding the institution-based view of international expansion have explored the complexity of foreign markets but associated it mainly with the probability of organizational survival or financial performance (Gaur & Lu, 2007; Xu & Shenkar, 2002); conversely, other scholars have examined the innovation implications of international diversification but have fallen short of accounting for institutional diversity in theorizations and measurement (Autio et al., 2000; Hitt et al., 1997; Sapienza et al., 2006). This study fills these gaps in the literature by proposing the varying degrees of institutional quality of foreign markets as a key construct. The study further operationalizes this construct and empirically shows its implications for firm innovation. Third, this study is one of the first to examine how the quality and diversity of foreign markets' knowledge institutions *jointly* affect a firm's innovation.

We selected China as the empirical setting for testing these propositions. Soon after its liberalization of trade and investment in the late 1970s, China rose to become one of the world's largest economies and is an important trading partner for many economies, both large and small, developed and less developed. During the past three decades, Chinese firms have rapidly expanded into the global market through exports, strategic partnerships, and mergers and acquisitions. While many Chinese firms have expanded to foreign markets with well-developed institutions, such as the United States, Germany, and the United Kingdom, many other firms have expanded to foreign markets with under-developed institutions, such as Indonesia, Myanmar, and Nigeria. Moreover, some Chinese firms have expanded simultaneously to foreign markets with well-developed institutions and markets with under-developed institutions, thus facing different systems of institutional environments. This raises several fundamental questions: Are there different patterns of innovation between firms expanding to well-developed institutions and those expanding to under-developed institutions? How does the institutional diversity of an exporting firm's foreign markets affect its innovation? Moreover, how does the institutional diversity of all a firm's foreign markets affect firm innovation?

2. Theoretical development

Not only does innovation expand a firm's existing technological knowledge set, but it also enhances its world knowledge set (Grossman & Helpman, 1991). Because innovation essentially involves the recombination of existing ideas (Weitzman, 1998), to innovate, a firm must engage in the task of managing the flow of resources and ideas. The flow of resources and ideas in a society is fundamentally affected by institutional configurations. Institutions are "the rules of the game in a society, or more formally, are the humanly devised constraints that shape human interaction" (, p. 3). Institutions are critical for firm innovation because they provide institutional contexts in which corporate governance can function effectively, facilitate the market transactions of firms and individuals (Meyer, Estrin, Bhaumik, & Peng, 2009), and shape the direction of the acquisition of knowledge and skills (Lin, Cai, & Li, 2001). Moreover, well-developed institutions ensure information transparency and contract enforcements and reduce agency costs, encouraging managers to adopt long-term strategic choices such as innovation (Mowery, 1984; Nelson, 1988).

2.1. Institutional quality of foreign markets

The institutional economics literature has long emphasized the role of institutions on firm-level technological development and innovation (Mahmood & Rufin, 2005; Nelson, 1988). In their influential work, Mahmood and Rufin (2005) develop a model of the role of institutional quality in facilitating or hindering firm innovation and systematically explore how institutional quality affects the flow of resources as well as knowledge spillover for firm innovation. We extend this research stream to firm internationalization and innovation. With accelerated globalization, both international trade and foreign direct investment have increased. As a result, the institutional environments a firm faces are no longer limited to the home market but also include those of foreign markets. It is important to consider the institutional quality of foreign markets to which a firm is expanding. These markets include host markets with developed institutions, host markets with under-developed institutions, and host markets between the two extremes (Mahmood & Rufin, 2005). The institutions of a host market not only determine the level of innovation but also influence firm-level comparative advantage and exporting (de Groot, Linders, Rietveld, & Subramanian, 2004; Dollar & Kraay, 2003; Francois & Manchin, 2006; Gao, Murray, Kotabe, & Lu, 2010; Levchenko, 2007). Compared with a domestic firm that is constrained to the home market, a firm expanding overseas is exposed to foreign markets whose institutions vary in their level of development—that is, various host countries have different levels of institution quality. As such, an exporting firm encounters a more complex institutional environment than a purely domestic firm (Kostova & Zaheer, 1999). The competitive advantage of an exporting firm now depends not only on its home-grown capabilities but also, and more importantly, on its ability to effectively cope with diverse institutional environments. Exporting firms that can take advantage of a host market with high-quality institutions will likely be more successful in developing new products than firms that fail to do so.

2.2. Institutional diversity across foreign markets

The comparative institutional literature suggests that organizations face institutional complexity when they confront