

Foreign Market Knowledge and Innovative Performance of Emerging Economy Firms

Abstract

We investigate how the internationalization of firms from an emerging economy influences the innovative performance of those firms. While it is widely acknowledged that innovation is vital for firms in emerging economies seeking to ‘catch-up’, there are competing views on the role played by internationalization on such firms’ ability to develop new products, file patents, and gain sales from new products. We address this issue by examining how the relationship between foreign market knowledge and innovative performance in emerging market firms is moderated by country breadth, i.e., the proclivity of the firm to expand into a variety of new countries in a given period of time. We test two competing theoretical perspectives on this relationship: diversity logic suggesting country breadth is beneficial to innovative performance, and time compression diseconomies logic suggesting the opposite. Drawing from sample of 92 Chinese firms, we show that foreign market knowledge has a positive impact on innovative performance, and that this relationship is positively moderated by country breadth. The findings provide support for a theory of innovation in emerging economy firms based on learning from diversity in foreign markets. Our study also suggests that managers in Chinese new ventures have developed effective capabilities in integrating and utilizing foreign market knowledge from a breadth of international sources.

Key words: Innovative performance, internationalization, China

INTRODUCTION

Accumulation of new market knowledge is one of the main benefits for firms operating in international markets (Cantwell & Piscitello, 2000; Kuemmerle, 1999). While early studies saw foreign expansion as a gradual process of knowledge accumulation (Johanson & Vahlne, 1977), scholars more recently have shown how firms can rapidly internationalize through networks (Johanson & Vahlne, 2009) and expand into multiple countries in a short space of time (Knight & Cavusgil, 2004). Rapid international expansion, however, can be detrimental to a firm's performance if it is not able to effectively coordinate its experiences (Barkema, Bell, & Pennings, 1996; Gaur & Lu, 2007; Makino & Delios, 1996). Indeed, the firm may draw erroneous inferences and learn incorrectly from early expansions when new to dissimilar circumstances (Makino & Delios, 1996; Zeng, Shenkar, Lee, & Song, 2013).

This potential hazard of internationalizing is particularly relevant to firms from emerging economies that seek not only sales growth in new markets but also market knowledge that will help them in their drive to be more innovative¹. These so-called late-comer firms are under pressure to develop innovative capabilities as their economy seeks to 'catch-up' and compete with developed economies (Guan, Mok, Yam, Chin, & Pun, 2006; Kumaraswamy, Mudambi, Saranga, & Tripathy, 2012; Luo & Tung, 2007; Sim & Pandian, 2003). Increasingly, such firms have pursued outward foreign direct investment (FDI) in order to achieve this, being encouraged by their governments as well as the openness of many developed markets (Deng, 2009). Scholars have noted that acquisition of foreign market knowledge gained through international expansion can facilitate innovation within the firm (Barkema & Vermeulen, 1998;

¹ The dependent variable in the current study is innovative performance and we define this as the ability of the firm to generate new patents, develop new products, and create sales based on new products

Cantwell & Piscitello, 2000; Kuemmerle, 1999; Zahra, Ireland, & Hitt, 2000; Zanfei, 2000). Foreign market knowledge is therefore important for emerging economy firms seeking to develop innovative capabilities (Li, Chen, & Shapiro, 2010). Nevertheless, when such firms are new to internationalization - lacking experience in operating in foreign markets - the link between foreign market knowledge and innovative performance is not always clear cut. Consequently, scholars have called for more research on the links between internationalization and innovative performance of emerging economy firms (Li et al., 2010; Luo & Tung, 2007; Zhang & Li, 2010).

We address this call in the current study by developing and testing a model that predicts how innovative performance in an emerging economy firm will be directly influenced by the foreign market knowledge it gains through its initial international expansion. We draw on the knowledge based view of the multinational enterprise (MNE) (Grant, 1996; Kogut & Zander, 1993; Zander, 2002) and organizational learning theory (Fiol & Lyles, 1985; Huber, 1991; March, 1991) to develop our hypotheses. Our model also accounts for a hitherto under-researched indirect moderating effect of country breadth, defined as the proclivity of the firm to seek expansion into a variety of new countries in a given period of time. Expressed another way, we assume that foreign market knowledge will be beneficial for innovative performance, should managers of emerging market firms seek to gain this knowledge through a few select countries, or extend their presence in a larger number of countries? To the best of our knowledge, this question has not been addressed in prior research. We present two competing theoretical perspectives on this issue, based, firstly, on the logic of diversity and, secondly, on the logic of time compression diseconomies. While the former emphasizes the role that diverse

experiences play in novelty and creativity that underpin innovation (Dell'Era & Verganti, 2010; Wanous & Youtz, 1986; Zahra et al., 2000), the latter argues that firms face constraints because of their limited capacity to handle and absorb the complexities that accompany international expansion (Jiang, Beamish, & Makino, 2013; Vermeulen & Barkema, 2002; Williams & Lee, 2009), accompanied by high coordination costs during initial expansion (Lu & Beamish, 2004).

Our fieldwork is based on a questionnaire survey of senior managers in 92 Chinese small to medium sized enterprises that have embarked on international expansion. China is an ideal setting to conduct this study. While commentators have noted that the competitive capability of China's firms is relatively weak, China has gone through incredible economic growth in the last several decades (Choi & Williams, 2012; Li et al., 2010) and its firms have become more innovative. With the erosion in the cost advantage of Chinese manufacturing, Chinese firms have needed to develop innovative capabilities to be more competitive in the Chinese market and abroad (Gu & Tse, 2010; Hu & Jefferson, 2004). The Chinese government has formulated a *going global* policy to encourage international expansion of Chinese firms in technology sectors (Buckley et al., 2007; Zhang, Li, & Schoonhoven, 2009).

The findings of our study show that foreign market knowledge has a significant and positive impact on innovative performance, and that this relationship is positively moderated by country breadth. We contribute to the literature on internationalization and innovative performance in emerging market firms by showing how knowledge gained through initial expansion in overseas markets is useful for innovative capability development. We also contribute to the debate on diversity and time compression diseconomies by showing how a

greater proclivity for expanding into new countries will boost, rather than constrain, innovation. This offers support for a theory of innovation in emerging economy firms based on learning from diversity in foreign markets. The results also have implications for managers in emerging market firms relating to the conditions under which international expansion and knowledge acquisition from international markets can be used for innovation.

THEORY AND MODEL DEVELOPMENT

In their seminal work on the internationalization process, Johanson and Vahlne (1977) argued that international expansion is a process of gradual knowledge accumulation. Firms collect knowledge about foreign markets through their increasing commitment and operations in the market. As firms operate abroad they learn about their clients, their needs, resources and limitations. Operations in international markets allow firms to accumulate international knowledge and experience that can be used to respond to opportunities and deal with foreign market uncertainties (Andersen, 1993). This stream of internationalization research draws on organizational learning theory to provide a foundation for explaining the international growth of firms. Experience and foreign market knowledge are seen as key success factors for multinational enterprises (MNEs) undertaking foreign direct investment, with benefits both for performance of foreign subsidiaries as well as the overall corporation (Barkema et al., 1996; Barkema & Drogendijk, 2007; Barkema, Shenkar, Vermeulen, & Bell, 1997).

The knowledge-based view of the MNE regards knowledge as a source of sustainable competitive advantage; knowledge acquired from foreign markets can be utilized to create and augment the competitive capabilities of the firm (Gupta & Govindarajan, 2000; Kogut &

Zander, 1993; Kuemmerle, 2002). Scholars in this tradition have suggested that the most important asset for firms is knowledge and the most important capabilities are how to learn and to utilize that learning (Grant, 1996; Petersen, Pedersen, & Lyles, 2008; Zander, 2002) . According to this view, the ‘organizational advantage’ (Ghoshal & Moran, 1996) of firms over markets arises from their superior capability in creating and transferring knowledge. While it has long been recognized that knowledge acquisition opens new ‘productive opportunities’ (Penrose, 1995) and enhances the firm’s ability to exploit these opportunities, it is less understood how this mechanism works for emerging economy firms (Horng & Chen, 2008; Jefferson, Huamao, Xiaojing, & Xiaoyun, 2006; Li et al., 2010). Research suggests that the development and growth of emerging economy firms would be dependent upon combining their own firm specific knowledge with that of external sources to augment home base knowledge or create competence through international expansion (Kuemmerle, 1999; Mathews & Cho, 1999). However, emerging economy firms differ from firms in developed economies, which generally leverage and exploit ownership-specific advantages in foreign countries (Dunning, 1998; Lecraw, 1983). The international expansion of firms from emerging economies is often triggered by “pull” factors such as the desire to acquire advanced technology, obtain managerial expertise to overcome their latecomer handicap (Luo & Tung, 2007). It has been noted that emerging markets firms are often superior in combining and integrating outside technologies and knowledge with their own knowledge base (Luo, Sun, & Wang, 2011). Dau (2013) proposed that emerging economy firms that operate in international markets increase their market-experiential knowledge by learning how to compete at international levels, making it easier to be competitive in their home market.

Baseline hypothesis: foreign market knowledge and innovative performance

Despite the fact that various approaches have been proposed to identify the drivers of innovation (Chandy & Tellis, 1998; Smith & Tushman, 2005), there is no over-riding theory of innovation (Choi & Williams, 2012). Organizational learning theorists (Barkema & Vermeulen, 1998; Lyles & Salk, 1996; Zahra & Garvis, 2000; Zahra et al., 2000) suggested that international expansion can enhance the learning of new skills and capabilities that significantly improve a firm's ability to innovate, take risks and develop new revenue streams. Innovations arise as a consequence of new combinations of knowledge and other resources accumulated over time (Cohen & Levinthal, 1990; Kogut & Zander, 1992, 1993; Schumpeter & Opie, 1955). Foreign market knowledge is the acquisition of information and experiential knowledge concerning foreign markets, competitors, customers, and potential cooperation partners. It reflects the 'foreign organizing' view of knowledge as emphasized in the internationalization process theory (Yli-Renko, Autio, & Tontti, 2002). Firms competing in international markets can draw from multiple knowledge bases in their research and development, manufacturing, and marketing operations to learn new skills that augment current capabilities (Zahra et al., 2000). Thus, success of international firms early in their evolution can be achieved by leveraging innovativeness, knowledge and capabilities (Knight & Cavusgil, 2004). Highlighted as an approach of learning and competence creation, international expansion has been suggested to provide fertile ground for firms to acquire knowledge and increase their innovative performance (Cantwell & Mudambi, 2005; Kuemmerle, 1999; Zanfei, 2000). Presutti et al. (2007) found that foreign market knowledge can enhance the breadth of firms' knowledge available to increase the potential for new sources

and ideas concerning innovative task performance as well as increase the willingness of firms to develop new R&D activity, which is usually considered as a way to generate and integrate internal knowledge source for innovation (Atuahene-Gima & Ko, 2001; Li et al., 2010; Zhou & Li, 2008).

Multinational firms from developed economies can generate the requisite knowledge for innovation internally through in-house research and development (R&D) and marketing and externally through channels such as strategic alliances and acquisitions (Ahuja & Katila, 2001; Chandy, Hopstaken, Narasimhan, & Prabhu, 2006; Danneels, 2002; Li et al., 2010; Zhou & Li, 2008). Emerging economy firms, as latecomers, typically face disadvantages that limit innovation. They do not have the internal knowledge or capabilities to engage in extensive R&D activities, and thus access to external, advanced foreign knowledge is crucial for firms in emerging economies to improve their innovative capabilities. To overcome these disadvantages, firms in emerging markets require access to superior foreign technology and customer knowledge, which is considered essential for fostering product innovation (Li & Atuahene-Gima, 2001). In line with the arguments above, we propose that the more foreign market knowledge which emerging economy firms gain through international expansion, the more likely they are able to develop and deploy their innovative capability. Therefore, we hypothesize:

H1: Foreign market knowledge has a positive impact on innovative performance of firms from an emerging economy.

Competing views on the moderating effect of country breadth

One of the key issues confronting firms in an emerging economy that seek to enhance their innovative performance through foreign market knowledge is how many countries to consider when attempting to access and capture this knowledge. Country breadth proclivity can be defined as the firm's predisposition to engage in a variety of countries at the same time. At one extreme, firms may concentrate their operations within one or two foreign markets. At another extreme, they may disperse their business operations across a large variety of foreign markets. Scholars have noted how these alternatives will yield different learning outcomes (Hashai, 2011; Vermeulen & Barkema, 2002). On the one hand, an emphasis on a large number of countries will generate diversity in experiences which may be beneficial for innovation. Diversity is recognized as a source of creativity and innovation that can provide a basis for competitive advantage (Barkema & Vermeulen, 1998). On the other hand, firms may encounter diseconomies of time compression (Vermeulen & Barkema, 2002), drawing erroneous inferences because they are not able to effectively coordinate an abundance of new knowledge from foreign markets. They will learn incorrectly from their early expansions when facing dissimilar circumstances, knowledge may be discerned as irrelevant and inappropriate (Zeng et al., 2013).

These potential advantages and disadvantages associated with country breadth puts the internationalizing emerging economy firms in a paradoxical situation (Bassett - Jones, 2005). At both extremes of country breadth, the firm is able to access foreign market knowledge (*Hypothesis 1* above). But to what extent will country breadth moderate the relationship between foreign market knowledge and innovative performance? We present two competing

perspectives on this based on the logic of diversity and on the logic of time compression diseconomies and knowledge coordination.

Firstly, in order to innovate, a firm must first search, identify and evaluate knowledge from different sources. International expansion exposes the firm to new environments that have different systems of organization, inducing firms to understand best practices in foreign markets (Dess et al., 2003). The diversity of foreign cultures, consumer groups, and political systems associated with international expansion broaden the firm's search for new knowledge (March, 1991). Operating in diverse circumstances increases the variety of events and ideas to which a firm is exposed (Huber, 1991), leading to a more extensive knowledge base (Barkema & Vermeulen, 1998). In addition, given that countries differ in their systems of innovation (Nelson, 1993), firms that venture across a large number of international borders could benefit from their exposure to these different innovation systems, enabling them to conceive new ideas, systems, processes, and products (Henderson & Cockburn, 1994). Previous empirical investigations have generally provided support for the argument that diversity in an organization's knowledge base is a source of innovation that can provide a basis for competitive advantage (Bassett - Jones, 2005; Dell'Era & Verganti, 2010; Wanous & Youtz, 1986). Zahra et al. (2000) suggested that knowledge diversity increases the depth, breadth, and speed of learning, leading to a greater number of product introductions. Fiol (1994) argued that diversity is important for collective learning and corporate innovation, as long as there is a shared way of framing differences within corporate communications. CEOs of internationally diversified firms have richer knowledge structures than CEOs of domestic firms (Calori, Johnson, & Sarnin, 1994). The greater diversity in the knowledge of managers and

other workers aggregates to richer knowledge structures at the level of the firm (Walsh, 1995), and stronger technological capabilities (Cohen & Levinthal, 1990). Grant (1987) suggested that multinationalism itself should confer advantage over non-multinational firms, because MNEs have opportunities to gain greater returns to intangible resources, to use market power, to spread their market risks, and to seek less expensive inputs and less price-sensitive markets (Kim, Hwang, & Burgers, 1993). Internationally diverse firms have access to the resources necessary to build innovation capabilities. For example, they are exposed to new and diverse ideas from multiple market and cultural perspectives (Hitt, Hoskisson, & Kim, 1997). The diversity of a firm's international business environment enhances its knowledge stocks through learning based on interactions with local knowledge bases. Scholars have shown how country breadth increases the speed of knowledge processing and reduces product development cycles (Zahra et al, 2000). Hence:

H2a: Country breadth positively moderates the relationship between foreign market knowledge and innovative performance of firms in an emerging economy.

An alternative view is that seeking country breadth by venturing into many different countries is a complicated process compared to concentrating on a limited number of geographic markets. The notion that prior experience may benefit subsequent activities by generating valuable knowledge is based on the premise that firms can effectively untangle causalities in prior activities and draw accurate inferences (Levinthal & March, 1993). Organizational learning theorists have acknowledged that this premise is often violated by factors such as ambiguity

and paucity of experience, as well as by the rational and cognitive limitations of individuals (Fiol & Lyles, 1985; Huber, 1991; Levinthal & March, 1993; Levitt & March, 1988; Zeng et al., 2013). One firm's ability to learn from another firm depends on the similarity of firms' (1) knowledge bases, (2) organizational structures and compensation policies, and (3) dominant logics (Lane & Lubatkin, 1998).

Furthermore, the literature on diversity's positive role in innovation tends to ignore the cost associated with the acquisition, assimilation, and transformation of new knowledge (Wales, Parida, & Patel, 2013). More internationalized firms will encounter higher volumes of knowledge and will suffer more from the resource-consuming cost implications of coordinating knowledge (Eriksson, Johanson, Majkgard, & Sharma, 1997; Lu & Beamish, 2004) than less internationalized firms. Escalating geographic dispersion can greatly increase managerial information-processing demands (Hitt, Hoskisson, & Ireland, 1994; Jones & Hill, 1988). Geographic dispersion increases coordination, distribution, and management costs. Firms have to learn how to operate in a variety of institutional and cultural settings and thus adapt their systems, processes, and organizational structures to the international setting. As a result, an increase in country breadth will lead to diminishing returns in firms' innovative performance.

Drawing from the notion of absorptive capacity, Vermeulen & Barkema (2002) proposed that the larger the geographic scope of an expansion process, the more time the firm needs to fully absorb the accompanying experiences. Firms expanding into many geographical markets suffer more from time compression diseconomies than firms that just disperse into several markets. The more countries involved in an expansion strategy, the more difficult it becomes to

absorb the experience, leading to diseconomies of time compression. Hence:

H2b: Country breadth negatively moderates the relationship between foreign market knowledge and innovative performance of firms in an emerging economy.

METHODOLOGY

Sample and data collection

We tested these hypotheses using a questionnaire survey of senior managers who were in charge of international businesses for their respective firms. We used China as our empirical context. This was an ideal setting as the Chinese government has instigated ‘go global’ (‘zou chu qu’) initiative aiming to encourage its firms to internationalize to promote the international competitiveness of Chinese firms (Buckley et al., 2007). Due to difficulty in collecting primary data from firms in China (Brouthers & Xu, 2002; Peng & Luo, 2000), we identified respondents through both formal and informal networks. We conducted a pre-test and pilot study ahead of the full data collection, and adopted a convenience sampling approach in each stage. For the pre-test and pilot study we conducted interviews with 20 managers of internationalizing Chinese firms based in Shanghai, and issued a draft version of the questionnaire to these managers. Based on the feedback we received, the measures were refined to ensure their relevance to the Chinese context.

A portion of the sample was collected with the help of Suzhou Chamber of Commerce and some of respondents were also identified through informal networks. The questionnaires were also distributed in China Small & Medium-sized enterprises (SMEs) forum supported by

Chinese Ministry of Commerce. The forum, held in Shanghai in September 2007, provided a platform for communication and interaction between government officials, business leaders and entrepreneurs in SMEs as well as promoting cooperation and development during the internationalization process of SMEs. The theme of this forum is innovation in internationalization paths and patterns of Chinese SMEs. At the conference, the survey was conducted through face-to-face interviews with delegates. This procedure allowed us to assess the suitability of the respondents for the study. It also offered respondents an opportunity to ask for clarifications about the variables under study. A cover letter in Chinese was used to explain the purpose of the survey and all of the respondents were informed of the voluntary nature of the survey and confidentiality of their responses. Each respondent was given a small gift as a token of our appreciation.

The questionnaire instrument was developed initially in English, using standard scales. We translated the questionnaire items from English to Chinese prior to data collection. Of 387 questionnaires issued, we received 168 completed questionnaires. We removed those from the analysis that had not undertaken foreign direct investment (i.e., merely engaged in exporting) and those firms with very low degree of internationalization (the ratio of foreign sales to total sales less than 5%) (Zahra et al., 2000). After eliminating observations with missing values, the sample size was 92 firms (an effective response rate of 23.8%). The characteristics of the sample are shown in Table 1. The sample was mixed in terms of industry (traditional manufacturing, information technology and services) and contained relatively young companies, with an average age of 8.54 years.

INSERT TABLE 1 HERE

Measurements

Table 2 describes the scale construction and item loadings. For all scales, Cronbach's α was above the minimum recommended level (Numally, 1978). We assessed the structure of each scale using a principal component factor analysis. Items loaded on their respective scales correctly and there were no high cross-loadings which would make item to construct associations ambiguous.

INSERT TABLE 2 HERE

Innovative performance: We followed prior research (Ahuja & Katila, 2001; Hagedoorn & Cloudt, 2003; Hitt, Hoskisson, Johnson, & Moesel, 1996; Yli-Renko, Autio, & Sapienza, 2001) by operationalizing innovative performance as the speed of new product development, number of annual new products, success rate of product innovation, number of annual patents, and sales of new products to total sales. Cronbach's α for this scale was 0.88.

Foreign market knowledge: Foreign market knowledge was operationalized using a four-item scale capturing the firms' knowledge about its foreign competitors, the needs of foreign clients/customers, foreign distribution channels, and effective marketing in foreign markets. This scale is adapted from an established scale in prior literature (Yli-Renko et al., 2002; Zhou, 2007). Cronbach's α for this scale was 0.86.

Country breadth: Country breadth refers to the proclivity of a firm to enter a high number of foreign markets. Three indicators were used to measure this: the number of countries entered (Fernhaber, Gilbert, & McDougall, 2008; Zahra et al., 2000) as well as top management inclination to continuously search for new markets and engage in new foreign markets (Zhou, 2007). Cronbach's α for this scale was 0.63.

We conducted a confirmatory factor analysis (CFA) to assess construct validity (Table 2). The measurement model provides a satisfactory fit to the data (Goodness-of-fit index [CFI]=0.966, Incremental fit index [IFI]=0.967, root mean square error of approximation [RMSEA]=0.06). Moreover, all factor loadings are highly significant ($p < 0.001$), and the composite reliabilities (CR) of all construct exceed the 0.70 benchmark (Fornell & Larcker, 1981). All average variances extracted (AVE) except one are greater than 0.50. Thus the measures demonstrate adequate convergent validity and reliability. We also calculated the maximum shared variance (MSV) between all possible pairs of constructs to determine whether they are lower than the AVE of the individual constructs. For each construct, the AVE is higher than MSV with the other constructs. The results indicate that our measures possess adequate reliability and validity.

Factor analysis also allows us to test for common method bias. A model with a single factor linking all 12 items from the dependent and independent variables was assessed. This model did not fit the data. Moreover, we conducted a rotated component analysis on these 12 items. We obtained 3 components, corresponding to our three constructs. We do not believe common method bias is likely to impact our interpretation of the results.

We also included controls for several variables that might affect the hypothesized relationships. We included firm age as a control variable, as this may have an influence on knowledge exploitation through experience effects (Autio, Sapienza, & Almeida, 2000; Zahra et al., 2000). Firm age was measured by the number of years the company had been in existence. We controlled for firm size, common in analysis of innovative performance (Cohen & Levinthal, 1989), measured by the natural logarithm of a firm full time employees. As

industries vary in knowledge acquisition (Yli-Renko et al., 2001), we controlled for industry (self-reported as the primary industry from which the company generated most of its sales). We controlled for the firm's stage of internationalization as firms with more committed involvement in the internationalization process might have gained more resources and skills, which could affect their innovative performance (Johanson & Vahlne, 1977). Following Autio (2000), we also controlled for the firm's speed of internationalization. This was captured as the time in years between a firm's founding and its first international sales. We also controlled for location because location can influence innovative performance through local knowledge acquisition (Christensen & Drejer, 2005). The locations were Shanghai, Jiangsu, Zhejiang, Guangdong, Beijing, Shangdong, Anhui, Liaoning and Tianjin.

RESULTS

Table 3 presents the means, standard deviations, and inter-correlations for all variables used in the study. All variables were normally distributed. As anticipated the correlation between firm age and size is positive and significant ($r=0.59$, $p<0.01$). Also, as one would expect, the older and larger firms in the sample were at a later stage of internationalization ($r=0.24$, $p<0.05$; $r=0.28$, $p<0.01$). We note that there is a positive and significant bi-variate correlation between innovative performance and foreign market knowledge ($r=0.47$, $p<0.01$) and between innovative performance and country breadth ($r=0.29$, $p<0.01$). The firms that emphasized greater country breadth were also larger, older, and at a later stage of internationalization. In the later case, the correlation was large ($r=0.54$, $p<0.01$). Nevertheless, we examined the variance inflation factor and tolerance values for all independent variables and found that the effect of

the correlated independent variables would not hamper the interpretability of the results.

INSERT TABLE 3 HERE

The results of the multiple regression analysis are shown in Table 4. Separate models were used to test the effects of control variables, direct effects, and moderating effect. With the full model, we note the multiple squared correlation coefficient increases from 0.22 to 0.25, and the change in the R square between the base and full models was also statistically significant, providing support for our moderating effect model. The best fitting model is model 3, containing control variables, direct effects and interaction term. In both models 2 and 3, foreign market knowledge is positive and significant. Thus H1 was strongly supported ($p < 0.001$). We also note a positive and significant moderating effect of country breadth on the relationship between foreign market knowledge and innovative performance. This provides support for H2a and not for H2b. The interaction plot for H2a is shown in Figure 1.

INSERT TABLE 4 HERE

DISCUSSION

Our study contributes to the literature on internationalization and innovative performance in emerging economy firms by showing how knowledge gained through initial expansion in overseas markets is useful for innovative capability in these types of firms. This reinforces conventional IB theory on the benefits of internationalization, not only for sales and financial performance, but also for capabilities in the firm that are aimed at technological innovation and new product development. We show that the notion that foreign market knowledge is beneficial

for innovative performance is not unique to firms from developed countries. Our findings address calls to examine this question in the context of emerging economies (Li, Chen, & Shapiro, 2010) and show that these types of firms – despite the constraints put on them as a result of history – are also able to use foreign market knowledge to boost their innovative performance.

We also contribute to the debate on whether theories of diversity or time compression diseconomies and coordination costs are more powerful in explaining innovative performance. At least in the Chinese setting, the positive influence of diversity through country breadth appears to outweigh any costs associated with time compression and knowledge coordination. Our results go some way to showing how emerging economy firms are able to become more innovative through access to foreign market knowledge, despite not having the long multi-decade experience of operating in many international markets in the same way that developed economy firms have. The findings suggest that such firms are able to access and integrate knowledge from diverse sources and that this capability has a positive influence on how foreign market knowledge drives innovation. This offers support for a theory of innovation in emerging economy firms based on learning from diversity in foreign markets. We show how a greater proclivity for expanding into new countries appears to boost, rather than constrain, innovation. The results also have implications for managers in emerging economy firms relating to the conditions under which international expansion and knowledge acquisition from international markets can be used for innovation. One implication is that firms should be aware of the acquisition of foreign market knowledge in their internationalization process and view it as vital for improving their innovative capabilities. They should actively engage in such

activities to speed up knowledge acquisition and capability building. Also, firms in emerging economies should pay attention to location choice for their foreign expansion and establish subsidiaries in the locations where they can tap into the available pools of knowledge. These results also show the critical importance of the ability to manage country breadth when firms seek expansion into a variety of new countries. Although diversity confer learning advantages over domestic firms, effective implementation and management of diversity are necessary to realize the benefit .

There are a number of limitations to the current study that can be addressed in future work. Firstly, the sample size is rather small, and although we collected 168 returns, 76 of these were not usable due to our requirement to examine only those firms that had control over foreign assets and that were older than 2 years. It is difficult to generalize from this final sample size and future research can continue this investigation by considering firms from other industries and locations in China. Secondly, we focused on Chinese firms. It is possible that firm internationalization and innovative capability development in other emerging economies follows a different development trajectory due to different institutional pressures (Dau, 2013; Lamin & Livanis, 2013). While China is a suitable setting to conduct this type of study, future work can compare China with the internationalization and innovation outcomes of firms in other emerging economies. Thirdly, we did not examine the structures and processes within the firm that enables it to access and integrate knowledge(Zander, 2002). While we show support for the argument that diversity through country breadth will have a positive impact on the relationship between foreign market knowledge and innovative performance, we do not show how the firms in our sample were able to acquire and integrate this knowledge such that

innovative capabilities in the home country could be bolstered. Future research could investigate these internal mechanisms to ascertain whether Chinese firms tend to use specific integrative mechanisms that are idiosyncratic to Chinese management or to emerging economy firms. We hope that these steps will help build our understanding of how firms in emerging economies can use their international strategy in order to become more innovative.

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TABLES

Table 1. Profile of firms in the sample

Variable	Distribution (%)
Industry	
- Traditional manufacturing	21.7
- Information Technology	59.8
- Service	9.8
- Medical	1.1
- Intermediary	1.1
- Other	6.5
Internationalization	
- within 2 years after start-up	46.7
- within 2-3 years after start-up	23.9
- within 4-5 years after start-up	12.0
- within 5-6years after start-up	8.7
- more than 6 years after start-up	8.7
Number of countries where firm has sales	
- 1-3 countries	51.1
- 4-6 countries	17.4
- 7-9 countries	8.7
- 9-11 countries	8.7
- More than 11 countries	14.1
Internationalization stage	
- Domestic marketing	7.6
- Pre-export stage	2.2
- Experimental involvement	32.6
- Active involvement	26.1
- Committed involvement	31.5

Table 2. Measurement items and validity assessment

Variables and Questionnaire Item (5 point scales)	Loadings
<i>Innovative Performance</i> (Cronbach's α =0.88, CR= 0.878, AVE= 0.594, MSV = 0.291)	
Speed of new product development	0.85
Number of annual new products	0.84
Success rate of product innovation	0.76
Number of annual patents	0.74
Sales of new products to total sales	0.78
<i>Country breadth</i> (Cronbach's α =0.63, CR= 0.707, AVE= 0.457, MSV = 0.398)	
Number of overseas markets in which firm has sales	0.63
Top managers' continuous search for new foreign markets	0.77
Top managers' engagement in seeking foreign markets	0.79
<i>Foreign market knowledge</i> (Cronbach's α =0.86, CR= 0.856, AVE= 0.598, MSV = 0.398)	
Top managers' knowledge about...	
...foreign competitors	0.74
...the needs of foreign clients / customers	0.83
...foreign distribution channels	0.79
...effective marketing in foreign markets	0.75

Table 3. Means, standard deviations, and correlations

Variables	Means	S.D.	1	2	3	4	5	6	7	8
1. Innovative performance	5.20	1.60								
2. Size	8.54	5.11	.09							
3. Age	2.36	1.71	.07	.59**						
4. Industry	3.72	1.16	-.12	-.15	-.09					
5. Intern. stage	2.08	1.32	.23*	.24*	.28**	-.13				
6. Intern. speed	2.74	1.47	.15	.13	.19	-.11	.15			
7. Location	2.18	1.96	.24*	.28**	.20	-.15	.17	.00		
8. Foreign market knowledge	3.37	.78	.47**	.16	.21*	-.04	.31**	.06	.14	
9. Country breadth	3.51	.71	.29**	.40**	.30**	-.08	.54**	.28**	.12	.53**
N=92 *** p<0.001, ** p<0.01, * p<0.05, + p<0.1										

Table 4. Regression results

		Innovative Performance (n=92)		
		1	2	3
<i>Controls</i>				
	Size	-0.01 (0.06)	-0.01 (0.06)	-0.03 (0.06)
	Age	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
	Industry	-0.03 (0.05)	-0.03 (0.04)	-0.02 (0.04)
	Intern. stage	0.12+ (0.07)	0.05 (0.08)	0.03 (0.08)
	Intern. speed	0.07 (0.06)	0.08 (0.06)	0.10+ (0.06)
	Location	0.09* (0.04)	0.07 (0.04)	0.07+ (0.04)
<i>Independent variables</i>				
	FMK		0.35*** (0.09)	0.39*** (0.09)
	CB		-0.02 (0.11)	-0.03 (0.10)
	FMK x CB			0.14* (0.07)
	Max. VIF	1.61	2.17	2.17
	F	1.82	4.14***	4.35***
	F Change	1.83	9.93***	4.60*
	Adj. R2	0.05	0.22	0.25

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1 Standard errors in parentheses.

FIGURES

Figure 1. Moderating effect of country breadth on the relationship between foreign market knowledge and innovative performance

