Small businesses’ internationalization
International readiness in the context of Asian countries

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Abstract
Purpose – The purpose of this paper is to examine whether international readiness, including innovation, competition, technology-orientation and opportunity perception, impacts on internationalization of small businesses differently in Asian countries compared to the complete Global Entrepreneurship Monitor (GEM) sample.
Design/methodology/approach – This study uses data from the Adult Population Survey – GEM carried out in 69 countries yielding a cross-country total of 198,339 entrepreneurs. A binomial logit regression model is used to examine the data.
Findings – The results show that there are differences for Asian countries compared to the whole sample regarding innovation-related drivers. In Asian countries, for small businesses, internationalization is less sensitive to product innovation and to opportunities’ perception than for the rest of the countries.
Practical implications – This study has practical relevance as it provides numerous clues regarding the question of how small business (or new ventures) might enhance chances to become successful exporters.
Originality/value – This study addresses an area that is believed to be less studied. The study compares the proposed relationships between two data sub-samples that represent the Asian countries and the complete GEM sample. The paper concludes with a discussion of the main contributions and limitations and suggests future research avenues.
Keywords Cross-cultural management, GEM data
Paper type Research paper

Introduction
It is generally recognized that internationalization is a key strategic option for the continuous growth of firms. Faced with increasing competition and lack of opportunities in their home markets, many firms, and small businesses in particular, are forced to search for new marketing opportunities abroad. The successful quest for international activities has the potential to foster a vast number of benefits for firms including, but not limited to, increasing returns on investment, improving the competitive stance of the firm and, from a global perspective, the improvement of the economy by generating employment opportunities and foreign exchange, contributing to economies of scale and experience, and reducing the national deficit (Sapienza et al., 2006; Leonidou et al., 1998; Pinho, 2007).
As such, many countries promote measures to foster the internationalization of domestic companies, including smaller businesses.

Small and medium enterprises (SMEs) have a major role in the majority of countries according to the World Bank (Worldbank.org). These businesses account for up to 45 percent of total employment and up to 33 percent of national income (GDP) in emerging economies; however, this importance is significantly higher when informal SMEs are considered. In Asian countries, according to a 2014 report of the Asian Development Bank (2015), SMEs and micro-enterprises represented an average of 96 percent of total enterprises across the region, with an average of 5 percent growth.

In line with Child et al. (2017), despite the growing importance of SME’s internationalization, there is still no good understanding of the international business
models they follow. These authors emphasize three major factors: the industry to which SMEs belong, the level of domestic market development and the international experience of the key decision maker. In turn, Falahat et al. (2015), building on extant literature, conceptualized the major factors that contribute to rapid internationalization of small firms, emphasizing the importance of network capability and marketing competences. Irrespective of the determining factors, small businesses can obtain important competitive advantages through their capacity to control unique resources, often based on idiosyncratic knowledge or innovation, which helps them to drive sales outputs in multiple countries (Knight and Cavusgil, 2004). Innovation is an important antecedent of internationalization in the sense that innovative firms often filter a region’s stock of knowledge and resources to turn them into promising internationalization opportunities (Acs et al., 2003; Amorós et al., 2014).

However, entering foreign markets also entails significant challenges in terms of identifying and developing new products and market opportunities (Shrader et al., 2000; Kylaheiko et al., 2011). Small businesses have limited resources and capabilities, and therefore the internationalization process of these firms differs significantly from that of established large corporations with huge resource endowments (Ruzzier et al., 2006). Compensating for the lack of firm-level resources, research identified individual-specific resources, such as knowledge, experience, or personal networks as important to sense and seize new opportunities abroad (Alvarez and Busenitz, 2001).

Relying on the contribution of Amorós et al. (2016), this study investigates the effects of what these authors termed “international competitiveness readiness” on the internationalization of small businesses. As these authors note, international readiness requires that the firm is able to manage a set of distinctive resources and capabilities. In fact, the ownership of unique resources and capabilities is widely recognized as an important driver for a firm’s internationalization (Teece et al., 1997). Although commitment to exporting has been considered as an important predictor of international readiness, the possession of resources and capabilities, product innovation, technology orientation and opportunity recognition are particularly relevant (Amorós et al., 2016). This study contributes to relevant literature to the extent that it compares the effects of the aforementioned resources to the internationalization of small businesses by comparing Asian countries with the full Global Entrepreneurship Monitor (GEM) sample (www.gemconsortium.org/).

The GEM is the world’s most prominent study of entrepreneurship. It is based on a large scale international data collection effort to study entrepreneurship. The GEM has been used as a rich and relevant information source for international institutions such as the United Nations, World Economic Forum, World Bank, and the Organisation for Economic Co-operation and Development. In more detail, we address the following research question:

**RQ1.** To what extent does “international readiness” impact internationalization of Asian small businesses compared to the complete GEM sample?

As such, this study adds to the literature of small firms’ internationalization by discussing how innovation, competition, technology-orientation and opportunity perception of firms based in different domestic contexts may differ.

The remainder of this paper is organized as follows. The next section reviews relevant literature. Afterwards, we describe our methodological approach, and subsequently we present the main findings of this study. We then discuss our results and finish with implications for managers and for further research.

**Theoretical background**

The search for the key factors for small firms’ internationalization has been the subject of extensive debate in recent decades (Ruzzier et al., 2006). As previously mentioned, this
interest is easily explained by the fact that these firms have an important role for domestic economies, job creation and improvement in the trade balance, among others (Leonidou et al., 1998). According to Zucchella and Siano (2014), business growth and success today depend on the joint effect of internationalization and innovation; in fact, as these authors emphasized, internationalization is in itself a process of innovation.

Small businesses and international readiness

International readiness refers to the level of preparedness and propensity to internationalize (Tan et al., 2007, p. 302). Drawing on this concept, Amorós et al. (2016) argued that “international competitiveness readiness” integrates several dimensions, namely product innovation, competitors offering the same products and services, technological innovation, and perception of opportunities. Innovation is central for firms that aim to internationalize because it acts as a sustainable source of competitive advantage, which not only enables productivity improvement and accelerates growth (Weerawardena and O’Cass, 2004; Weerawardena et al., 2007) but also facilitates internationalization at a very early stage of the venture (Weerawardena et al., 2007; Knight and Cavusgil, 2004; Madsen and Servais, 1997).

This perspective is very much in line with the resource-based view (RBV) that considers resources, learning, and knowledge as important drivers of internationalization (Knight and Cavusgil, 2004). These authors highlight “the critical role of innovative culture, as well as knowledge and capabilities, in this unique breed of international, entrepreneurial firm” (Knight and Cavusgil, 2004, p. 24). In line with this, Alegre et al. (2012, p. 512) acknowledged that “the RBV is an influential theoretical framework for understanding the creation and sustainability of competitive advantage and has been widely used to explain the internationalization of firms.” These authors also advanced that internationalization and innovation have become crucial to firm’s competitiveness. Weerawardena et al. (2007) argued that, as born globals operate in all industries regardless of the level of technology, they must be innovative in all areas of value creation. That is, “innovation needs to be centrally located in any comprehensive attempt to model accelerated internationalization, regardless of the nature of the industry in which the firm competes” (Weerawardena et al., 2007, p. 296). In the same line, Knight and Cavusgil (2004) contended that successful born globals are associated with a unique product development and other dimensions of firm innovativeness.

The debate of product and technological innovation should be understood within a context in which firms have control of unique resources (Oviatt and McDougall, 1994; Peiris et al., 2012). While resources are essential in today’s volatile environment, constantly developing and updating their resource base is key for small business. Several authors recognize that small businesses have greater restrictions than large firms to develop innovations. However, there are conditions in this type of firms that do not require size but rather close cooperation and involvement from their members in large networks (Davidsson and Honig, 2003; Pinho and Prange, 2016).

As Amorós et al. (2016) observed, the ability of a firm to efficiently manage its resources depends on environmental factors, i.e., they recognize that there is a mix of internal and external factors that promote the competitiveness of a firm. Relying on the GEM report, these authors have also noticed that product and technology innovation can be considered as relevant internal factors in small business internationalization.

Product and technological innovations and internationalization

This study relies on the assumption that competitive advantage will have a substantial effect on internationalization. As Atuahene-Gima (1995) showed, there is a positive relationship between competitive advantages of new products and the export propensity of
Australian firms. Hence, internationalization has strong implications not only for product but also process innovations of small businesses. When small firms do not encounter favorable conditions in their home markets, this may provide a strong motivation for seeking out new foreign markets.

Product and technological innovations are related to the ability of a firm to seek new and better ways to identify, acquire, and implement ideas and tasks that come from different sources internal and external to the organization (Baregheh et al., 2009). High-technology-based firms are usually better placed to enter foreign markets, so that they have a potentially relevant role in their contribution toward international readiness. With regard to product innovation, Bloodgood et al. (1996) argued that the adoption of a product strategy by new ventures is positively related to the extent of their internationalization (Amorós et al., 2016). This point was also stressed by Leonidou and Spyropoulou (2007) who acknowledged that manufacturing a product with superior qualities and unique characteristics leads the firm to international markets. This can be justified by the fact that innovative and unique products are very likely to attract the attention of foreign customers and in the long run create competitive advantages in overseas markets. A positive association between the implementation of new technologies and internationalization has been found by Chetty and Hamilton (1993). This topic was also addressed by Fernandez-Olmos (2011) who argued that being able to create new or different products takes on more importance when the firm enters foreign markets.

With regard to technological innovations, it is claimed that the development of a special technological competence in the domestic market contributes strongly to internationalization. Leonidou and Spyropoulou (2007) offered three major reasons: the specific technology has already proved successful in the domestic market so that it is likely that it will reach the same success in foreign markets; the opportunity costs of exploiting this technology for internationalization are relatively small as the major costs with its development have already been absorbed domestically; and other companies do not have access to this technology, thus providing a shield against potential foreign competitors. In turn, Jones (2001) found that high-tech firms are commonly better prepared to face foreign markets, as they can more efficiently manage knowledge and learning and social capital that brings them better international growth opportunities when compared to non-exporting firms. The role associated with knowledge transfer and R&D assumes particular relevance. Hagsten and Kotnik (2017), for their part, examined the role of different ICT capacities (online presence, online transactions, broadband internet-enabled employees, and ICT-schooled employees) in the internationalization of SMEs. They concluded that the decision to export is, in most analyzed countries, related to online presence, while engaging in online transactions is relevant for export intensity.

In the GEM project, innovation is viewed as a product or a service that is unfamiliar (or innovative) to consumers and the use of technologies and procedures that enable the production of new products and services. In line with Amorós et al. (2016), this study assumes that if small businesses are experienced in utilizing new technologies, particularly in employing these technologies in new applications that fulfill new customer needs, they are more likely to internationalize early. Very often, small businesses consider internationalization as a relevant approach for recovering heavy investments in R&D, which is generally one of their key cost items (Kylaheiko et al., 2011, p. 512). This tenet has been confirmed in different sectors, including services (Meliá et al., 2010; Castaño et al., 2016) as well as in traditional sectors.

In line with Leonidou and Spyropoulou (2007), hard competition in the home market can put small firms in difficult situations, due to declining sales and profits, shrinking market shares, and limited growth opportunities. A possible
approach to minimize the problems caused by competitive pressures is to internationalize, particularly to those countries that are more receptive to the firm’s new products and technologies.

Opportunity recognition and internationalization
Several authors claim that an individual’s motivation to develop a new business may be fed by an opportunity recognition, i.e., a market opportunity deemed profitable or by the lack of alternatives, for example, the lack of job alternatives (i.e. necessity) (Shane and Venkataraman, 2000). An opportunity refers to the extent to which possibilities for small businesses exist and the extent to which entrepreneurs have the flexibility to influence their odds for success through their own actions (Gnyawali and Fogel, 1994). Ucbasaran et al. (2009), on their part, relying on cognitive and motivation theories, studied the nature of the relationships between entrepreneurs’ business ownership experience and the number of opportunities for creating or purchasing a business identified in a given period. Additionally, they examined how an entrepreneur business ownership experience relates to innovativeness of the opportunity being exploited. Opportunity recognition may be viewed as the chance to meet a market need through a creative combination of resources to deliver value (Schumpeter, 1934; Kirzner, 1973). It is also associated with an “entrepreneurial alertness” (Ardichvili et al., 2003), which portrays a situation in which the entrepreneur is sensitive toward technological, socio-political, economic changes of the environment as well as unmet market needs.

Entrepreneurship is an activity that involves the discovery, evaluation, and exploitation of opportunities to develop new products and services, ways of organizing, markets, processes, and organizing efforts that previously did not exist (Shane and Venkataraman, 2000). There is a research stream that underlines opportunity vs necessity entrepreneurship (Reynolds et al., 2005). While opportunity-driven entrepreneurs are more likely to feed ambition, necessity-driven entrepreneurs are more interested in fulfilling their basic needs and interested in fighting against the absence of a job, which is seldom conducive to innovation. As pointed by Amorós et al. (2016), competition and opportunities promote competitiveness in international business. As they noted, the external factor of “opportunities” stimulates firms into exporting, providing a number of possibilities for doing business internationally.

Dimitratos et al. (2016) argued that most studies in the field of international entrepreneurship embrace the opportunity-based view and assign particular importance to the timing of internationalization. These authors observed that the temporal dimension has captured the biggest share of attention in the international literature, although other authors emphasize that there are conflicting arguments in the explanation why some firms are able to internationalize earlier than others (Keupp and Gassman, 2009).

Additional explanatory factors: entrepreneur’s age, education, and firm’s size
Three additional variables (entrepreneur age, level of education, and size of the venture) were included in the analysis to control for peripheral effects that might influence either the methods used or the subsequent influence on internationalization. Besides, previous research suggests that these characteristics associated with the decision maker may influence internationalization (Amorós et al., 2016).

The influence of entrepreneurs’ age on the firm’s predisposition to internationalize has not been consensual in the literature. Several authors argued that young top-managers are usually associated with possessing less experience and knowledge, though these capabilities improve as they become older (Driesch et al., 2015). According to Driesch et al. (2015), over time, top-managers will improve their managerial skills and competencies, refine their attentiveness about the operating environment, and learn to embark on
organizational changes. In turn, Leonidou et al. (1998) acknowledged that the manager’s age has been considered an important predictor to explain the difference between exporting and non-exporting firms. As these authors noted, young managers tend to be more internationally minded and cosmopolitan than older managers. Brooks and Rosson (1982) re-iterated this point by stressing that young managers are more open and have a cosmopolitan mind-set, which favors an international orientation.

The level of education accomplished by the main decision maker was also considered an important additional variable affecting internationalization. According to Leonidou et al. (1998), a higher education degree impacts positively on open-mindedness, thus these managers are more likely to be interested in international-oriented activities. Likewise, Ilbeh (2003) acknowledged that firms whose major decision maker has a high (graduate) education level are more likely to show greater levels of entrepreneurial orientation. Other authors go further and claim that a high level of education is crucial for a successful internationalization orientation, as it improves managerial skills and knowledge, and enhances cognitive capabilities which are critical to face increasingly complex international markets (Reid, 1982; Schlegelmilch, 1986). Still others acknowledged that knowledge building through education helps in identifying entrepreneurial opportunities in response to a technological challenge (Shane, 2000). This is particularly helpful in the context of international markets.

Finally, firm size is used as a variable that may explain the internationalization (Amorós et al., 2016). Although several authors acknowledge that there are no definitive conclusions concerning the relationship between successful exporters and the firm’s size, it is commonly accepted that size strongly influences the export entry decision (Bonaccorsi, 1992).

Data and methodology
This research uses the GEM database in order to assess whether international readiness, a multidimensional construct including innovation, competition, technology-orientation, and opportunity perception of small businesses impacts the degree of internationalization differently in Asian countries compared to the complete GEM sample.

Sample profile
We obtained individual-level data taken from the 2012 GEM Adult Population Survey. This database contains various entrepreneurial measures that are constructed on the basis of surveys of – on average – some 3,000 respondents per country (69 countries in 2012).

In each participating country, the GEM project administered a standardized survey to a representative sample of adults (18-64 years old), yielding a cross-country total of 198,339 individuals. The GEM project is the largest international research initiative analyzing the propensity of a country’s adult population to participate in entrepreneurial activities and the conditions that enhance these entrepreneurship initiatives. The GEM project’s methodology provides indicators from individuals involved in different stages of entrepreneurship dynamics (Amorós and Bosma, 2014), including, for example, start-up efforts, nascent entrepreneurs (i.e. individuals involved in setting up a business), new firms (i.e. those that have paid salaries and wages for more than three months and less than three-and-a-half years), and established firms (i.e. those that have paid salaries and wages for more than three-and-a-half years). Therefore, the GEM database fits our study well because it is a comprehensive source of information that enables us to analyze and understand the internationalization of small businesses all over the globe (i.e. those with less than 50 employees). For detailed information about this study, see the paper on GEM’s methodology in Reynolds et al. (2005).

The empirical study considers two separate regressions: one uses all observations available (all 69 countries), another uses only GEM’s Asian countries (China, India,
Data analysis

Regression model

With regard to the dependent variable, the degree of internationalization of small businesses, it can be examined as the proportion of customers living outside of the country which is a proxy variable (Amorós et al., 2016). This is considered an ordinal variable, with a rank order of more than 90, 75-90, 50-74, 25-49, 10-24, or under 10 percent or less, or none. In this study, we used a boundary to differentiate an international venture from a domestic venture based on the related literature. Moreover, we used the percentage of firm sales generated by exports and have chosen 50 percent of a firm’s total turnover (Knight and Cavusgil, 2004; Amorós et al., 2014) as the cutoff value to operationalize small business internationalization. Given its binary nature, we analyzed the effect of firms’ individual characteristics and their markets’ context on the likelihood that the dependent variable will take the value of 1 (international small business) as opposed to a value of 0 (non-international small business) through logistic regression models. The binomial logit model regressions estimate the probability of an event happening.

The outcome $Y_i$ is coded as 0 or 1. The variables $X_1$ to $X_r$ are the selected factors driving internationalization of small business. The internationalization probability depends on the individual firms’ characteristics as well as on their markets’ context characteristics and is denoted by $P_i$. The logistic model expresses the log odds, i.e., the logit of $P_i$ as a sum of a linear function of the explanatory variables and a random disturbance $u_i$:

$$\text{Logit}(P_i) = a_0 + \sum_{h=1}^{r} a_h X_{hi} + u_i \quad (1)$$

<table>
<thead>
<tr>
<th>Variable Description: the respondent is asked to answer the following question</th>
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<tbody>
<tr>
<td><strong>International readiness</strong></td>
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<tr>
<td>Technology</td>
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<tr>
<td>Innovation</td>
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<td>Competition</td>
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<td>Opportunity perception</td>
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<td>Firm’s internationalization</td>
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<tr>
<th><strong>Demographic variables</strong></th>
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<tbody>
<tr>
<td>Education</td>
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<tr>
<td>Gender</td>
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<tr>
<td>Size</td>
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Note: This operationalisation follows Amorós et al. (2016)
The actual magnitude of the marginal effect varies with the point of evaluation of $X_h$. In the literature, a very common interpretation of the coefficients is in terms of marginal effects on the odds ratio rather than on the probability. For the logit model $p/(1-p)$ measures the probability that $Y_i = 1$ relative to the probability that $Y_i = 0$ and is called the odds ratio. Suppose the $j$th regressor increases by one unit, the odds ratio has increased by a multiple $\exp(\beta_j)$. Thus, a logit model slope parameter of 0.2, for example, means that a one unit increase in the regressor multiplies the initial odds ratio by $\exp(0.2) \approx 1.22$ and the relative probability of internationalization of the small business increases by 22 percent.

Results
The surveyed small businesses (with less than 50 employees) exhibit a rate of internationalization of almost 5 percent (Table II). From the 22,680 entrepreneurs in this survey, 1,060 answered that their small business venture had more than 50 percent of sales exported. In our sample, small business managers are not on average younger than the others (42 years old for both groups international vs non-international).

More than 7.7 percent of the international small business managers have post-secondary or higher education (Table III). By contrast, approximately 4.2 percent of non-exporters attained this education level. From the 4,484 respondents (from small business) with post-secondary or higher education, 345 are international entrepreneurs. Among the 15,179 entrepreneurs who did not attain a post-secondary or higher education only 641 are international entrepreneurs. In order to gain a deep understanding of these differences, we compared international and non-international small businesses in Asian countries and for the entire sample (Table III). Data show that there are significant differences between these companies in the two samples: for both the entire sample and Asian countries, there are significant differences between the two types of companies for all the studied variables except for opportunity recognition.

There are also significant differences in sample means of the two groups (international vs non-international small businesses) in terms of market competition. When asked if “right now, are there no other businesses offering the same products or services to your potential customers?” 4.5 percent of non-international small businesses responded yes and more than 6.8 percent of the international small businesses responded affirmatively.

Almost 6.6 percent of respondents from international small businesses answered that all or some of their potential customers consider the firms’ product or service new and unfamiliar. By contrast, only 3.9 percent of non-international small business surveyed answered this.

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<tr>
<th>Variables</th>
<th>Observation</th>
<th>Mean/Prop</th>
<th>SD</th>
<th>Variables</th>
<th>Observation</th>
<th>Mean/Prop</th>
<th>SD</th>
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<tbody>
<tr>
<td>Intc</td>
<td>22,680</td>
<td>0.047</td>
<td>0.211</td>
<td>Intc</td>
<td>3,861</td>
<td>0.035</td>
<td>0.184</td>
</tr>
<tr>
<td>Age</td>
<td>22,665</td>
<td>42.011</td>
<td>12.220</td>
<td>Age</td>
<td>3,861</td>
<td>41.348</td>
<td>11.421</td>
</tr>
<tr>
<td>High ed</td>
<td>19,663</td>
<td>0.228</td>
<td>0.420</td>
<td>High ed</td>
<td>3,707</td>
<td>0.204</td>
<td>0.403</td>
</tr>
<tr>
<td>No competition</td>
<td>22,493</td>
<td>0.059</td>
<td>0.237</td>
<td>No competition</td>
<td>3,814</td>
<td>0.059</td>
<td>0.235</td>
</tr>
<tr>
<td>Innovation</td>
<td>22,200</td>
<td>0.277</td>
<td>0.448</td>
<td>Innovation</td>
<td>3,672</td>
<td>0.371</td>
<td>0.483</td>
</tr>
<tr>
<td>New technology</td>
<td>21.564</td>
<td>0.168</td>
<td>0.374</td>
<td>New technology</td>
<td>3,750</td>
<td>0.174</td>
<td>0.380</td>
</tr>
<tr>
<td>Opportunities</td>
<td>22,680</td>
<td>0.475</td>
<td>0.499</td>
<td>Opportunities</td>
<td>3,861</td>
<td>0.408</td>
<td>0.492</td>
</tr>
<tr>
<td>Number of employees</td>
<td>22,680</td>
<td>3.756</td>
<td>5.049</td>
<td>Number of employees</td>
<td>3,861</td>
<td>4.342</td>
<td>5.572</td>
</tr>
<tr>
<td>Size</td>
<td>22,680</td>
<td>0.870</td>
<td>0.861</td>
<td>Size</td>
<td>3,861</td>
<td>1.019</td>
<td>0.879</td>
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| Asian countries | 22,680 | 0.170     | 0.376 |}

Table II. Standard summary statistics
Even a wider gap is found when comparing how old technologies or procedures required for the product or service are for both groups of entrepreneurs. A proportion of 8.4 percent for international small businesses answered technology is less than five years old against only 4 percent for non-international ventures.

We also find evidence that small businesses operating in international markets have more employees on average than the others. In our sample, on average, an international venture has approximately six employees while the size of a non-international venture is smaller, with less than four employees.

The results of the logistic regressions are presented in Table IV. Estimates in these tables indicate the amount of increase in the predicted log odds of inter = 1 that would be predicted by a one unit increase in the predictor, holding all other predictors constant. For the independent variables which are not significant, the coefficients are not significantly different from 0, which should be taken into account when interpreting the coefficients (see the asterisks for the testing results on whether the coefficients are statistically significant). Because these coefficients are in log-odds units, they are difficult to interpret, so they are often converted into odds ratios (we can do this by hand by

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<tbody>
<tr>
<td>Age</td>
<td>41.737</td>
<td>42.024</td>
<td>0.455</td>
<td>40.785</td>
<td>41.368</td>
<td>0.560</td>
</tr>
<tr>
<td>High education</td>
<td>0.077</td>
<td>0.042</td>
<td>0.000</td>
<td>0.077</td>
<td>0.042</td>
<td>0.000</td>
</tr>
<tr>
<td>No competition (2G2)</td>
<td>0.068</td>
<td>0.045</td>
<td>0.000</td>
<td>0.068</td>
<td>0.045</td>
<td>0.000</td>
</tr>
<tr>
<td>Innovation (2G1)</td>
<td>0.066</td>
<td>0.039</td>
<td>0.000</td>
<td>0.066</td>
<td>0.039</td>
<td>0.000</td>
</tr>
<tr>
<td>New technology (2G3)</td>
<td>0.084</td>
<td>0.040</td>
<td>0.000</td>
<td>0.084</td>
<td>0.040</td>
<td>0.000</td>
</tr>
<tr>
<td>Opportunities (I2)</td>
<td>0.042</td>
<td>0.051</td>
<td>0.001</td>
<td>0.039</td>
<td>0.032</td>
<td>0.327</td>
</tr>
<tr>
<td>Number of employees</td>
<td>6.358</td>
<td>3.628</td>
<td>0.000</td>
<td>8.289</td>
<td>4.199</td>
<td>0.000</td>
</tr>
<tr>
<td>Size</td>
<td>1.307</td>
<td>0.850</td>
<td>0.000</td>
<td>1.649</td>
<td>0.997</td>
<td>0.000</td>
</tr>
<tr>
<td>Asian countries</td>
<td>0.035</td>
<td>0.049</td>
<td>0.000</td>
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Table III. Differences of means/proportions for the studied groups of small businesses

Table IV. Logit regressions for small businesses' internationalization

Notes: Robust standard errors in parentheses. **p < 0.05; ***p < 0.01
Discussion and conclusion
This study attempted to contribute to a deeper understanding of how international readiness impacts on small businesses’ internationalization in Asian countries compared to the entire GEM sample. In addition, a number of variables such as age, education, number of employees, and size were included in the analysis.

Our analysis shows that there are similarities and differences in the international readiness of Asian firms: for both the Asian countries and the entire sample, small businesses’ likelihood of internationalizing is impacted by the lack of competitors offering the same product/service to potential consumers and by the fact that they are using new technology. However, contrary to the entire GEM sample, innovation and business opportunity recognition are not significant predictors of the propensity to internationalize for Asian countries. Thus, our main results closely follow previous literature and show that international readiness is a statistically significant predictor of internationalization for the generality of the 69 countries included in the GEM database. However, for the Asian countries, only two proxies included, lack of competition and technology, are significant antecedents of internationalization.

In other words, our study shows that new technologies are important determinants of internationalization in all the studied groups of small firms. New machinery or other technologies have an average impact on the probability of small firms’ internationalization that range from 1.9 percent for the Asian firms to 2.5 percent for the entire sample[1]. Our results are in line with Leonidou and Spyropoulou (2007), Jones (2001), or Hagsten and Kotnik (2017) that postulate a positive relationship between the adoption of new technologies and firms’ internationalization propensity.

The lack of competition offering the same products to potential customers on average increases the odds ratio of becoming an internationalized firm by 48.59 percent. Asian countries entrepreneurs who do not face competition exhibit on average a 2.2 percent higher probability of being international entrepreneurs (against 1.6 percent for the entire sample). According to Leonidou and Spyropoulou (2007), external factors such as hard competition in the home market can put small firms in difficult situations and negatively affect small firms’ internationalization. Our results go further and show that this effect can more adversely affect Asian small firms than the others.

Product innovation seems to be more important for small firms’ internationalization for the global sample than for the Asian firms. In the GEM sample of small firms, on average, when firms’ products or services are new and unfamiliar to potential customers, the probability of the small firm being internationalized increases by almost 1.1 percent. But in Asian countries, for small firms with this characteristic, keeping all other predictors constant, the odds ratio of internationalization increases only near 0.6 percent when compared to the others. Authors such as Atuahene-Gima (1995) and Bloodgood et al. (1996) showed that developing new products could help firms’ internationalization and in our work we find evidence that this positive effect may be higher for other regions’ firms than for Asian firms.

Concerning the additional variables, the relative size of the small business positively and significantly affects its internationalization propensity. Also, internationalization of small firms is more likely when small business managers are more educated. The higher the degree of education of managers the more tendency the small business will demonstrate to internationalize their operations. These results are in line with previous literature findings (e.g. Reid, 1982; Leonidou et al., 1998; Bonaccorsi, 1992; Shane, 2000; Amorós et al., 2016) and are described in more detail in the next paragraphs.
Moreover, the odds ratio of internationalization when firms’ entrepreneurs have post-secondary or higher education increases by 56.5 percent, keeping all other predictors constant. A similar effect is found for the two different groups of countries’ firms studied. But, this effect seems to be relatively lower in Asian countries (when estimating average marginal effects at sample means), where higher education increases the probability of the firm becoming international by 1.1 percent (in contrast with 1.9 percent for all GEM sample).

Finally, the firm’s size contributes in all cases to an increase in the likelihood of the small firms exporting more than 50 percent of their sales. A one worker increase in size augments the probability of internationalization by approximately 2 percent regardless of the location of the firm (estimates of average marginal effects for all sample and for the two groups are all near 2 percent).

We also included entrepreneur’s age as a regressor in our models but it never became statistically significant so we excluded it from the selected regressions to include in Table IV.

Limitations and future research

With regard to major limitations, it is worth remembering the use of a proxy of international readiness to predict the possibility of a small firm becoming an early stage international new business, which is consistent with Amorós et al. (2016). Although other variables might be relevant, we were constrained by the data set of GEM. Several areas of research could also be explored in the future, particularly the need to take longitudinal studies among different small business firms coming from Asian and non-Asian countries. Our study uncovered a number of differences in the international readiness impact on the internationalization level of Asian firms. An exploration of the underlying reasons (institutional and/or other) for these differing findings among Asian small firms and the whole GEM sample is a promising research topic for further studies.

Future research should also focus on how to disseminate international competitive readiness to their partners, as well as how these firms can effectively implement their acquired international capabilities and resources and maximize their social networks.

Note

1. The marginal effects mentioned here (as well as those in next paragraphs) are calculated at sample means using coefficients’ estimates in Table IV.

References


**Further reading**


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