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***Entrepreneurial Orientation and International Opportunity Development by SMEs: The Mediating Role of Decision-Making Logic***

Masoud Karami, Arto Ojala & Sami Saarenketo

***Abstract***

Research on international entrepreneurship has studied entrepreneurial orientation's influence on the international performance of small and medium-sized firms (SMEs), but scholars need to learn more about the mechanisms that allow a firm to translate its entrepreneurial orientation into new opportunities to enter foreign markets. In this study, we employ effectuation theory to investigate this association and to enhance the understanding of international opportunity development by resource-poor SMEs. Our analysis of 164 SMEs in New Zealand supported the mediating role of effectual and causal decision-making logics in the association between entrepreneurial orientation and international opportunity. Our study contributes to the literature on international entrepreneurship and entrepreneurial orientation and helps SMEs to successfully translate their entrepreneurial orientation to foreign market entries.

***Keywords:*** entrepreneurial orientation, effectuation, causation, international opportunity, SME

## ***Introduction***

Developing opportunities to enter foreign markets is a considerable challenge for small and medium-sized enterprises (SMEs) due to their lack of resources and experience (Chen, Hsu, and Chang; George, Wiklund, and Zahra 2005). However, SMEs in small countries have to enter foreign markets eventually due to the limited size of their domestic market. Entering international markets increases uncertainty, bringing both opportunities and challenges for internationalising SMEs, and requires firms to adopt more entrepreneurial orientation (EO) (Coviello et al. 2011; Li, Wang, and Du 2020). Under conditions of uncertainty, firms' EO becomes especially important as firms have to constantly seek, evaluate, and fit their operations to changes in the market (Hakala, Sirén, and Wincent 2017; Sarasvathy, Kumar, York, and Bhagavatula 2014; Nakku et al. 2020). In other words, present international markets require risk-taking, innovative approaches, and proactiveness in firms' decision-making endeavours (Covin and Miller 2014; Freeman and Gavusgil 2007).

Framing the internationalisation of SMEs as an entrepreneurial process (Chetty, Ojala, and Leppäaho 2015; Coviello, McDougall, and Oviatt 2011) helps to understand how SMEs entrepreneurially develop opportunities to enter foreign markets (Chetty, Karami, and Martin 2018). Therefore, in this study we apply the international entrepreneurship (IE) perspective and investigate how SMEs' owners and executives (Hambrick and Mason 1985) make decisions to develop foreign market entry (FME) opportunities. We conceptualise international opportunity development simply as developing "the chance to conduct exchange with new partners in new foreign markets" (Ellis 2011, p. 101) by discovering or creating new opportunities (Alvarez and Barney 2007) to enter foreign markets. In our conceptualisation, international opportunity is defined as *market opportunity*, specifically an FME opportunity (Reuber, Knight, Liesch, and Zhou 2018). We follow Covin and Lumpkin's (2011) suggestion to use opportunity theory (Alvarez and Barney 2007) to explain the association between firm-level EO and international opportunity development.

In entrepreneurship theories, a firm's decision-making is based on either effectual or causal decision-making logic (Sarasvathy 2001). According to effectual logic, an entrepreneur as a decision-maker "takes a set of means as given and focuses on selecting between possible effects that can be created with that set of means" (Sarasvathy 2001, p. 245), whereas according to causal logic, an entrepreneur "takes a particular effect as given and focuses on selecting between means to create that effect" (Sarasvathy 2001, p. 254). Effectual logic considers the

logic of control instead of the logic of prediction—that is, entrepreneurs simply start with their existing means and the level of risk that they can afford and feel comfortable with (Sarasvathy 2001). Meanwhile, causal logic is more related to evaluating the expected return and planning to gain the maximum return on efforts and investments (Read, Sarasvathy, Dew, and Wiltbank 2016). We consider both logics in explaining how resources-poor SMEs develop different FME opportunities.

The relationship between EO and entrepreneurial decision-making logic is important because EO is a manifestation of a firm's decision-making logic, strategic behaviour, and managerial philosophy (Anderson, Covin, and Slevin 2009; Wales 2016), revealing a firm-level decision-making tendency towards entrepreneurial activities (Covin and Wales 2018). Furthermore, EO is crucial in theoretically separating firms based on their entrepreneurial *strategy-crafting* behaviours and processes (Wales 2016). Although EO and the effectual and causal decision-making logics play a critical role in SMEs' internationalisation efforts (Karami and Tang 2019; Jantunen, Puumalainen, Saarenketo, and Kyläheiko 2005), we know little about how EO motivates SMEs' FME opportunity development and how decision-making logics mediate the association between SMEs' EO and FME opportunity development. By explaining this mediation mechanism, it would be possible to understand the indirect relationship between a firm's EO and its international performance (Wales, Wiklund, and McKelvie 2015; Wales 2016), which is a key issue in IE and EO studies. Our study responds to a call for research focusing on relevant mediators to explain the indirect association between EO and a firm's performance (Altinay, Madanoglu, De Vita, Arasli, and Ekinci 2016; Poudel, Carter, and Lonial 2019; Wales 2016). We hypothesise and test the relationship between EO, decision-making logic, and international opportunity development to enter foreign markets by SMEs. To investigate this relationship, we propose the following research question: Do both effectual and causal decision-making logics act as mechanisms for translating a firm's EO to FME opportunities? By focusing on this question, our study makes a twofold contribution to IE literature. First, we investigate EO's role in entrepreneurial international market entry. Second, we show how effectual and causal logics function as mediation mechanisms between EO and SMEs' international opportunity development. These contributions are important because introducing theoretically relevant mediation mechanisms between EO and firms' performance is a significant step in EO theorising (Wales 2016; Wiklund and Shepherd 2011).

## *Literature Review*

### **Entrepreneurial Orientation and International Opportunity Development**

EO is one of the most established constructs in entrepreneurship literature (Dess, Lumpkin, and Covin 1997; Wales 2016) to explain the variance in firm performance (e.g. González-Benito, González-Benito, and Munoz-Gallego 2009; Wales 2016). EO is a firm-level decision-making tendency towards entrepreneurial behaviour (Covin and Wales 2018), and is defined as a firm's strategic posture related to decision-making and processes that result in new market entry (Lumpkin and Dess 1996). The main elements of EO are innovativeness, proactiveness, and risk-taking (Anderson et al. 2009; Wales 2016).

Entrepreneurial management is known for opportunity-based firm behaviours (Dess et al. 1997). Therefore, opportunity orientation is characteristic of entrepreneurial firms that engage in new market entry (Covin and Miller 2014). Entrepreneurial alertness (Tang, Kacmar, and Busenitz 2012) plays an important role in this approach and is inherent to EO (Covin and Miller 2014). As argued by Covin and Lumpkin (2011), having firm-level EO entails managerial inclinations to engage in uncertain, entrepreneurial businesses. Therefore, an SME is categorised as being entrepreneurial when it shows certain patterns of behaviour over time that can be labelled as entrepreneurial (Wales 2016). Existing scholarship argues that adopting EO is an important means for SMEs to boost their competitive advantage and firm performance (Covin and Miller 2014; Nakku et al. 2020) because EO enhances firm performance by helping SMEs develop other important capabilities and recognise and develop more opportunities (Poudel et al. 2019). EO also helps SMEs adopt a problem-solving approach in dealing with new situations (Chandra et al. 2009). Scholars have observed that EO plays an increasingly positive impact on firm performance as firms mature (McGee and Peterson 2019) and that EO boosts the performance of SMEs in online business to business (B2B) markets (Li et al. 2020).

IE adopts the entrepreneurial perspective and investigates the internationalisation of firms as a process of international opportunity development (Coviello et al. 2011). According to this perspective, internationalisation is considered an unsolicited FME opportunity, as discussed by the process theory of internationalisation (Frishamar and Andersson 2009), or an entrepreneurial act of exploring, developing, and exploiting international opportunities, as discussed by international-new-venture theory (Coviello et al. 2011; Johanson and Vahlne 2009). There is consensus in IE literature that firms develop international opportunities in pursuit of better performance and competitive advantage (Coviello et al. 2011), a process in

which EO plays a central role (Covin and Miller 2014; Karami and Tang 2019). In this context, firm-level EO is important because it can help overcome individual aversion to a specific international opportunity by making the firm take risk and move forward (Lumpkin and Dess 1996) under uncertain situations (Karami and Tang 2019).

IE scholarship explains SMEs' expansion to new markets as an entrepreneurial act in pursuit of new international opportunities to cross the borders (Johanson and Vahlne 2009; Lumpkin and Dess 1996). It is an entrepreneurial act because EO encourages SMEs to act proactively and undertake risky and innovative decisions to experiment with new technologies and seize new product-market opportunities (Lumpkin and Dess 1996; Sarasvathy et al. 2014; Poudel et al. 2019). Considering the uncertainty of the internationalisation context (Johanson and Vahlne 2009; Sarasvathy et al. 2014), EO plays an important role in international opportunity development by SMEs (Hakala et al. 2016). Proactive, innovative, and risk-taking behaviours help to create and discover international opportunities (Sundqvist, Kylaheiko, and Kuivalainen 2012). Therefore, EO reflects how the development and exploitation of market opportunities drives firms' performance and growth objectives (Altinay et al. 2016; Baker and Sinkula 2009). As a result, a firm with higher EO is assumed to be more active in pursuing international opportunities (Hakala et al. 2016; Karami and Tang 2019).

EO has gained considerable attention in IE scholarship, and scholars have conceptualised international entrepreneurship orientation (IEO) as a distinct concept (Covin and Miller 2014; Knight and Cavusgil 2004) to explain the importance of EO in the internationalisation process (Ibeh and Young 2001). However, some scholars still focus on EO and consider internationalisation as a setting in which EO can be applied (Covin and Miller 2014). The latter approach assumes that the EO-performance association depends on the context in which it occurs (Walter, Auer, and Ritter 2006), with scholars investigating the factors that help firms decrease variance in relation to successful opportunity development in the context of internationalisation. Research in this area considers understanding the mechanisms by which firms can achieve this success to be an important step in improving EO theorising (Wales 2016).

Within IE research, some empirical studies have considered the influence of EO on international opportunity development (Covin and Miller 2014; Hakala et al. 2016; Thanos, Dimitratos, and Sapouna 2017). The main finding is that EO and its elements are inherently associated with international-opportunity-development behaviours (e.g. Dada and Fogg 2016;

Nakku et al. 2020; Thanos et al. 2017). Jantunen et al. (2005) found that EO stimulates opportunity identification in new markets by reconfiguring firms' extant resources and processes. They found that EO had a positive impact on firms' international performance. Frishammar and Andersson (2009) observed that SMEs with an innovative culture and dynamic capabilities can take advantage of FME opportunities (Jantunen et al. 2005). In the same line, Zhang, Tansuhaj, and McCullough (2009) argued regarding EO's importance for SMEs in leveraging resources to develop and exploit international opportunities. They showed that different dimensions of EO exert different levels of influence on SMEs' internationalisation. Chandra, Styles, and Wilkinson (2009) described a firm's EO as a driver of international-opportunity exploration. Hakala et al. (2016) observed that EO influences subsidiaries' international initiatives to enter new markets. Similarly, Thanos et al. (2017) found that international EO stimulates international opportunity exploration and exploitation. They argued that in highly hostile environments, risky, proactive, and opportunistic behaviours are necessary to tap into potential opportunities. Finally, Karami and Tang (2019) showed that SMEs' experiential learning and networking capability mediate the association between EO and performance. These empirical findings support the theoretical claim that there is an inherent relationship between EO and international opportunity exploration and exploitation (Karami and Tang 2019) because EO boosts firms' capabilities and resources (Covin and Miller 2014; Wales 2016). Against this background, we propose the following hypothesis:

H1. There is a positive relationship between EO and SMEs' international opportunity development.

### **Effectual Decision-Making and International Opportunity Development**

IE literature has increasingly focused on effectuation as a logic of entrepreneurial decision-making (e.g. Chetty et al. 2015; Frishammar and Andersson 2009; Sarasvathy et al. 2014), and internationalisation has become one of the major pillars of effectuation research (Matalamäki 2017). Karami et al.'s (2019) systematic literature review has shown the growing application of effectuation theory in research on SMEs' internationalisation and discussed the different aspects of effectual internationalisation research. According to their findings, effectual decision-making plays a crucial role in SMEs' internationalisation efforts due to the uncertainty of the internationalisation context (Sarasvathy et al. 2014), limited resources (Karami et al. 2019), and the unplanned nature of SMEs' internationalisation (Andersson 2011). Effectual networking (e.g. Cai, Guo, Fei, and Liu 2017), means orientation (e.g. Sarasvathy et al. 2014),

and effectual internationalisation research has emphasised unplanned international opportunity development (e.g. Cai et al. 2017).

Effectuation applies the logic of control when proceeding under uncertainty (Read et al. 2016)—that is, effectuation creates new opportunities by controlling existing means instead of predicting the environment and planning to actualise the predictions (Read et al. 2016; Sarasvathy 2001). By using this logic, entrepreneurs transform existing means, including their experiences, knowledge, and personal network ties, into new valuable resources that can be leveraged to create new opportunities to enter new markets (Cai et al. 2017; Li et al. 2016; Read et al. 2009). Affordable loss is crucial to this logic (Read et al. 2016). Affordable loss implies that effectuators consider the downside risk of their actions instead of calculating the return on their investment. They simply start with an affordable level of risk and feel comfortable with (Sarasvathy 2001). In this process, networking is critical as personal and social networks turn to business networks. Partners learn about each other and accessible resources and capabilities. This co-evolving process of turning personal networks into business networks is an important part of international opportunity development (Sarasvathy et al. 2014; Vahlne and Johanson 2017).

The existing network of relationships and a firm's position within a network can be either an important facilitator or constraint to entrepreneurial behaviours in internationalisation (Karami and Tang 2019; Nowiński and Rialp 2015; Shinnar and Zamantlı Nayır 2019). Firms with high EO are more eager to enter foreign markets (Covin and Miller 2014; Hakala et al. 2016; Karami and Tang 2019) and proactively look for opportunities to cross national borders (Knight and Cavusgil 2004). High EO encourages risk taking and proactiveness, further encouraging SMEs to join related networks in international markets (Karami and Tang 2019; Masiello and Izzo 2019; Nowinski and Rialp 2015) and develop trust in and commitment to partners (Johanson and Vahlne 2009; Rialp, Rialp, and Knight 2005). By applying the logic of effectuation, internationalising SMEs learn from each other within related networks in the host and home countries, a process that results in co-evolution and development of dynamic capabilities (Vahlne and Johanson 2017). This effectual process leads to committing resources to new international opportunities (Johanson and Vahlne 2009; Masiello and Izzo 2019).

Considering that EO is the propensity for proactiveness, innovativeness, and risk-taking (Freeman and Cavusgil 2007), EO can be considered an initial means for entrepreneurs, which transforms into a firm-level resource during the process of effectuation. Effectual partnership



and the quality of interactions within networks play an important role in this transformation of initial personal entrepreneurial propensity into firm-level EO during the effectuation process. It is useful to remember that effectuation theory has positioned itself as a resource-based-view (RBV) theory with an emphasis on initial means. However, there is an essential difference between effectuation theory and mainstream RBV research. For effectuation theory, it is the transformation of initial means to valuable resources during the process of effectual internationalisation that matters the most (Read et al. 2016). Indeed, there is no emphasis on having valuable, rare, and uncopyable resources (Barney 1991) at the beginning of the process. Therefore, through the process of effectuation, EO, along with a general aspiration for new market entry, becomes a strategic posture of the firm that accelerates risk-taking and proactiveness in developing international opportunities that may result in new market entries (Lumpkin and Dess 1996; McGee and Peterson 2019). Against this theoretical and empirical background, we propose the following hypothesis:

H2. Effectual decision-making mediates the relationship between EO and SMEs' international opportunity development.

### **EO, Causal Decision-Making, and International Opportunity Development**

Causal approaches are rooted in traditional neoclassical theories of decision-making (Chandler, DeTienne, McKelvie, and Mumford 2011). Causal approaches play a dominant role in research on internationalisation (Brother and Nakos 2005) and entrepreneurship (Macpherson and Jones 2010; Read et al. 2016). These approaches come under various labels, such as predictive strategies (Sarasvathy 2001), positioning strategies (Read et al. 2016), planning (Wiltbank, Dew, Read, and Sarasvathy 2006), and systematic international market selection (Brouthers and Nakos 2005), among others. According to the causal logic, internationalising SMEs plan for their FME and search and select their foreign markets (Brouthers, and Nakos 2005) according to their predetermined goals. As such, causal approaches rely on the logic of prediction, whereby firms plan to gain maximum return on their efforts and investments (Read et al. 2016). Therefore, prediction, business analysis, market research, and planning are of chief importance (Read et al. 2016; Sarasvathy 2001).

Effectuation theory has positioned itself as a *both-and* theory, arguing that depending on the level of uncertainty in the environment, both causation and effectuation can result in successful market entry (Read et al. 2016). Causal approaches to developing an opportunity to enter a foreign market would work under risky conditions when the future is predictable

(Sarasvathy 2001). Therefore, causation and effectuation have been applied in IE research to explain the entrepreneurial internationalisation of SMEs (Karami et al. 2019; Sarasvathy et al. 2014). There is a growing body of research that supports the applicability of both logics in SMEs' internationalisation (Karami et al. 2019). For instance, Ciszewska-Mlinaric, Obloj, and Wasowska (2016) observed that international new ventures apply both logics in the early stage of their internationalisation, and Chetty et al. (2015) concluded that entrepreneurs apply both logics and the interplay between them to enter foreign markets.

In support of the causal approaches to internationalisation and its association with EO, previous studies have argued that managers' EO may support the pursuit of international marketing strategies (Dess et al. 1997), which, in turn, would result in achieving firms' strategic objectives (Knight 2000; Miller and Friesen 1984). According to this perspective, EO has roots in the strategy literature that blends analysis, planning, and decision-making, along with other aspects of organisational culture (Rauch, Wiklund, Lumpkin, and Frese 2009), to improve performance. Based on this conceptualisation, Smart and Conant (1994) measured EO using causal dimensions, such as strategic planning activities, the identification of customer needs and wants, vision to reality, and identifying opportunities along with risk-taking and innovation. Knight and Cavusgil (2004) observed that while successful international opportunity development by born globals (BGs) is mainly an entrepreneurial process, BGs need a combination of entrepreneurial and marketing orientations for successful FMEs. For instance, they emphasised the market-planning process, the adaptation of the product, and the knowledge of competitors and customers, among other causal factors. Knight (2000) found that SMES with an EO are more likely to formulate and activate marketing strategies in their internationalisation efforts. In this vein, scholars have emphasised that EO helps with the formation of key routines in firms and reflects an innovative managerial mindset that adopts a complex of strategies aimed at enhancing a firm's international performance (Knight and Cavusgil 2004).

Empirical research has observed that causal approaches result in successful internationalisation and enhance the performance of internationalising SMEs. Chandra et al. (2009) observed that SMEs with more prior international experience and knowledge are more likely to deliberately search for opportunities in international markets. Brouthers and Nakos (2005) claimed that the systematic selection of foreign markets results in better international performance for SMEs compared to ad hoc international-market-selection methods. Furthermore, studies have shown that using formal methods in planning exports results in

active exports (Burton and Schlegelmilch 1987) and ongoing exports (Christensen, Da Rocha, and Gertner 1987). Scalars have also noted the importance of other causal approaches in firms' internationalisation efforts and have observed mechanisms such as export planning (Lado, Marti'nez-Ros, and Valenzuela 2004), regular visits to foreign markets (Katsikeas, Deng, and Wortzel 1997), and market-research activities in international markets (Cavusgil and Naor 1987). Consequently, we propose the following hypothesis:

H3. Causal decision-making mediates the relationship between EO and SMEs' international opportunity development.

## ***Methodology***

### **Sampling**

We used a survey to collect our data. Surveys are an established means of collecting data in entrepreneurship research that enables using multi-item scales to measure complex, latent constructs of interest (Maula and Stam 2019). We collected the data from manufacturing SMEs from different industries and regions in New Zealand (NZ) in order to obtain a representative sample of firms in different industries across the country. According to the NZ Ministry of Business, Innovation and Employment (2016), SMEs contribute 26 percent of the country's gross domestic production (GDP). Following the NZ Ministry of Economic Development, we defined SMEs as firms with less than 200 employees. This definition makes our results comparable with those on SMEs in Europe. The Kompass Database was used to identify the SMEs from the country's different industries and regions that have already entered foreign markets. After preparing an initial set of SMEs, we telephoned them and checked their websites to ensure that all selected SMEs met the selection criteria. As a result, subsidiaries of international companies, firms with parent companies overseas, foreign-owned companies, companies manufacturing in other countries, and SMEs with no current international activities were screened out. The screening process resulted in 820 SMEs. Five hundred and sixty firms did not want to participate in our survey due to lack of interest or being busy with different business activities at the time. Among the remaining SMEs, 96 firms did not complete the survey after three reminders. Therefore, the final sample of this study consisted of 164 complete answers, yielding a satisfactory effective response rate of 20 percent (164 out of 820).

## **Data Collection**

Data collection took place between September 2016 and February 2017. We collected the data from the founders and executives in charge of international business due to them being the decision-makers and the most informed people for the purposes of our query. Scholars have argued that the CEO/founder status is positively associated with EO (Deb and Wilkund 2017). We used Qualtrics as our online survey platform to collect the data. Using the online platform and the Kompass database allowed us to effectively cover the entire population and reduce the risk of unrepresentative samples (Sills and Song 2002). We employed several techniques to improve the response rate. All the techniques were based on the rationale of social exchange theory to clarify the perceived benefits and costs (Dillman 1991). First, we promised to share a brief summary of our findings with the respondents (Im and Rai 2008). Second, we sent pre-notice emails to sample respondents to ensure that they did not consider our survey emails to be unsolicited emails (Sheehan and Hoy 1999). We followed up these emails by telephone calls. Third, we ensured the confidentiality of the responses and assured the respondents that only aggregate results would be published, without any personal identifying information (Sills and Song 2002).

We used two techniques to control for non-response bias. First, we employed the independent *t*-test to compare the final sample of the respondents, the firms that agreed to participate but did not complete the survey, and the firms that did not want to participate and rejected our invitation (Sluis and de Giovanni 2016) in terms of firm age and size. The results revealed no significant differences, indicating no major threat of non-response bias. Second, we used the independent *t*-test to compare early and late responses to the substantive and the control variables of our study. Results showed no significant differences between the two groups (Armstrong and Overton 1977).

## **Controlling Common Method Variance**

Regarding the critical importance of controlling common method variance (CMV) in internationalisation and entrepreneurship studies (Chang, Witteloostuijn, and Eden 2010; Maula and Stam 2019), we took some ex-ante steps to control CMV. First, we included a theoretically unrelated variable within other substantive variables as a marker variable. The marker variable was subject to CMV and was presented in similar format to the other items in the survey (Simmering, Fuller, Richardson, Ocal, and Atinc 2015). Second, we employed some

reverse items as *built-in acquiescence checks* to reduce the effect of acquiescence responding (Meyer, Miller, Metzger, and Borkovec 1990). Third, we used different response anchors for different scales to reduce the possibility of careless responding (Podsakoff, MacKenzie, Lee, and Podsakoff 2003). Fourth, due to the process of data collection, the respondents agreed to participate in the survey voluntarily, which decreased careless responding (Meade and Craig 2012).

We also took several ex-post steps to further control the CMV. The first step was conducting Harman's single-factor test (Podsakoff, MacKenzie, and Podsakoff 2012). All items from the questionnaire were entered in one exploratory factor using the Varimax principal rotation and principal axis factoring extraction technique. As a result, eight factors emerged, explaining 52 percent of the total variance. The first factor accounted for 10.67 percent of the total variance, revealing that no single factor explained the majority of the variance. Second, we used AMOS software to run two models, a full measurement model that included the major constructs of the study and another model with all the major variables plus a method factor (Williams, Cote, and Buckley 1989). In this approach, CMV is an important issue only if the method-factor model could significantly improve the fit indices of the measurement model. The fit indices of the method-factor model (RMSEA= .09, CFI= .79, GFI= .77, NFI= .69, Chi square= 573.34, DF= 242) did not improve the fit indices of the measurement model (RMSEA= .09, CFI= .80, GFI= .77, NFI= .71, Chi square= 591.12, DF= 242). We also calculated the variance explained by both models by summing the squared loadings. Results indicated that the CMV accounted for only 4 percent of the total variance, less than the threshold of 25 percent (Williams et al. 1989). Considering all of these ex-ante and ex-post steps, we assumed that CMV was not a serious issue in our data.

## **Measures**

The questionnaire for this research was prepared mainly by using established scales. We used Likert scales were, and all items had the option "do not know/does not apply." These opt-out responses were treated as missing values because under certain circumstances, "do not know" can mean "I cannot decide whether I agree or disagree" or that the respondent does not understand the question. Before launching the main survey, we performed a pre-test with 20 founders and executives of the internationalising SMEs to get an idea about the time required to respond to the survey and to ensure the face and content validity of the items (Sills and Song 2002).

According to the feedback, we further adjusted the items, and concluded that it would take approximately 20 minutes to fill out the online survey.

*International Opportunity Development.* We adopted the following seven items from the Brettel, Mauer, Engelen, and Küpper (2012) scale, rewording them for the context of our study: (1) We reduce the risks of foreign market entry through domestic or international partnerships and agreements; (2) We approach potential partners actively to jointly shape the foreign market entry opportunity; (3) We jointly decide to develop opportunities with our partners on the basis of our competences; (4) New international business opportunities are often created by collaborating with our partners or customers; (5) Foreign market entry opportunities are generated by our entrepreneurial or innovative actions; (6) Our international market entry and expansion opportunities are driven by the collaboration with other firms; (7) Our expansion into foreign market(s) has been a result of our efforts to establish and develop relationships with the right people. All items were answered using a seven-point scale (1 = “strongly disagree” and 7 = “strongly agree”).

*Entrepreneurial Orientation.* We used Walter et al.’s (2006) scale: (1) In our firm, entrepreneurial behaviour is a central principle; (2) In our firm, people are not very dynamic (reversed); (3) In our firm, innovation is valued; (4) In our firm, people are willing to take risks; (5) In our firm, willingness for continuous improvement is a central principle; (6) In our firm, people are eager to be the first to market. All items were answered using a seven-point scale (1 = “strongly disagree” and 7 = “strongly agree”).

*Effectual and Causal Decision-Making.* We employed Wiltbank, Read, Dew, and Sarasvathy’s (2009) scale. This scale includes items for both effectual and causal logics and, therefore, provides a chance to juxtapose both logics of decision-making. We edited the items to make them suitable for the context of our study. In each question, (a) represented the effectual logic and (b) represented the causal logic. The items were as follows: (1) In assembling information on foreign market entry, you. . . (a) Talk to people (outside of your firm) you know to get their support in making this entry become a reality, (b) Study expert predictions of where the market is “heading”; (2) In developing a marketing approach for foreign market entry, you would. . . (a) Think of possible courses of action based on your prior experience, (b) Research competitors’ approaches; (3) When you think about the uncertainty of a foreign market, you move forward anyway because. . . (a) Your expertise allows you to face that uncertainty, (b) Your actions can decrease uncertainty in that market; (4) In managing your foreign market

development, you are driven by. . . (a) Creating new solutions for emerging opportunities, (b) Comparing your progress against your predetermined plans; (5) If you look at predictions for where potential markets are heading, you would. . . (a) Discount them as they do not incorporate the impact of your initiatives, (b) Use them to create forecasts of what your business might accomplish over time; (6) When entering foreign markets, it is important to base your strategy on. . . (a) What you are capable of given the resources available to you, (b) Relevant forecasts and analyses; (7) In learning about the expectations other people have for this industry, you. . . (a) Imagine the ways your firm will change aspects of the situation they are forecasting, (b) Form updated predictions of likely outcomes for the business. All items were answered using a seven-point scale (1 = “strongly disagree” and 7 = “strongly agree”).

*Control Variables.* We controlled several theoretically relevant firm-level variables with potential influence on our antecedent, mediating, and outcome variables (Aguinis, Hill, and Bailey 2019). *Firm age* was included as an important factor in internationalisation studies. Scholars argue that EO increases as firms mature (McGee and Peterson 2019). In addition, older firms might have more resources and network relationships. Therefore, firm age might influence SMEs’ tendency to enter foreign markets (Fernhaber, Mcdougall, and Shepherd 2009; Zahra, Ireland, and Hitt 2000). Furthermore, older firms might have more international-business experience and, therefore, more expertise that would help them successfully apply effectual logic when faced with uncertainty (Sarasvathy 2001). Scholars have also argued that EO’s benefits are related to a firm’s age in the sense that EO does not appear to be beneficial to young firms and becomes valuable as firms mature (McGee and Pererson 2019). We measured firm age by the years that a firm has been in the business. We also controlled firm size. Considering that larger firms’ access to more resources might impact their FME (Zahra et al. 2000) and that having more resources might also result in more causal approaches than effectual decision-making (Schweizer et al. 2010), we controlled firm size and measured it using a firm’s annual gross sales (Gerschewski, Rose and Lindsay 2015). *Internationalisation experience* as an important factor for SMEs’ international performance was measured by years of experience in foreign markets (Brouthers and Nakos 2005) as entrepreneurship and IE literature claims that experience is an important operant resource (Nambisan and Hunt 2015; Vahlne and Johanson 2017) impacting managers’ decision-making (Sarasvathy 2001; Schweizer et al. 2010). *Uncertainty* also plays an important role in managerial decision-making. More specifically, scholars clearly argued that whereas causal decision-making works in predictable environments, effectual decision-making works better under conditions of

uncertainty (Sarasvathy 2001). Finally, the impact of *industry* was controlled to see if there are any differences between high- and low-tech industries in terms of international opportunity development (Karami and Tang 2019). Using The Australia and New Zealand Standard Industrial Classification, we first divided firms into the following nine manufacturing-industry categories: (1) food, beverage, and tobacco products; (2) textile, leather, clothing, and footwear; (3) wood and paper products; (4) printing; (5) petroleum, chemical, polymer, and rubber products; (6) non-metallic mineral products; (7) metal products; (8) transport machinery and equipment; and (9) furniture and other manufacturing. Then, we divided them into low- and high-tech industries. High-tech firms are more likely to internationalise (Oviatt and McDougall 2005). Industries were divided based on the percentage of knowledge workers and RandD intensity (Tang et al. 2012). As a result, we considered industries 5, 6, 7, and 8 as high-tech and the rest as low-tech. We coded high-tech industries as “1” and low-tech industries as “0.”

### ***Analysis and Results***

We applied the partial-least-squares (PLS) technique to estimate our models and examine the hypothesised associations between EO, effectual decision-making, causal decision-making, and international opportunity development. We employed PLS as variance-based structural equation modelling (SEM) for several reasons. PLS models have advantages in exploring the relationships between latent variables and explaining the variance in dependent variables (Reinartz, Haenlein, and Henseler 2009) and work better with smaller sample sizes (Hair, Ringle, and Sarstedt 2013). Furthermore, PLS has minimal demands in terms of measurement scales and distributional assumptions (Wold 1982). We employed SmartPLS3 to test our hypotheses (Ringle, Wende, and Becker 2015).

### **The Measurement Model**

We began our analysis with the measurement model to test the validity and reliability of the items. First, we checked items loadings to their constructs. The shared variance between the variable and the error variance was less than the shared variance between the construct and its items. All loadings were above the accepted cut-off point of .7 (Hulland 1999). Second, we assessed Cronbach’s alpha for all substantive constructs. The alphas for all constructs were above the threshold of .7 (Nunnally 1978). Third, we tested composite reliability and ensured that the composite reliabilities of all constructs were well above the accepted threshold of .7 (Hair et al. 2013). Fourth, we tested the convergent validity of the constructs. The average



variance extracted (AVE) was tested to see how well the items of a construct explained its variance (Fornell and Larcker 1981). As a result, the AVE for all constructs was higher than the suggested threshold of .5 (Hulland 1999). For further assessment of discriminant validity, we calculated the square root of AVE (see Table 1). Finally, the measurement model showed acceptable fit (SRMR =.09, chi-square/df = 3.81) (Hu and Bentler 1998). However, it should be noted that interpretations of fit indices for PLS models should be handled with certain caution (Hair et al. 2013) because these criteria are in early phases of development and are not completely understood.<sup>1</sup>

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Insert Table 1 about here  
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### **The Structural Model**

We tested our hypotheses by examining the explained variance, significance, and size of coefficients in the structural paths. We used the bootstrapping technique (with 500 subsamples) to run supplementary procedures as suggested by Hair et al. (2013) and test the precision of the structural paths in the model (Efron and Tibshirani 1993). Hypothesis 1 proposed that there is a positive association between EO and international opportunity development. The path between EO and international opportunity development ( $\beta = .32$ ,  $t = 4.91$ ,  $p < .01$ ) was statistically significant. In order to test the mediation hypotheses, we entered the mediators (effectual and causal decision-making) to the structural model. As a result, mediators explained the majority of the variance in international opportunity development (.30). The explained variance adjusted ( $R^2$ ) for our mediators revealed an interesting result. None of our control variables had a significant impact on the opportunity-development construct.

In order to test the mediation model, we considered the following three conditions: 1) EO is significantly correlated with the international opportunity development; 2) EO is significantly correlated with effectual and causal decision-making (mediators); 3) the mediators are significantly correlated with international opportunity development; and 4) after adding the mediators to the model, the significant correlation between EO and international opportunity development will not exist anymore (Baron and Kenny 1986). Hypothesis 2 proposed that effectual decision-making mediates the positive association between EO and international opportunity development, and Hypothesis 3 suggested that causal decision-

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<sup>1</sup> <https://www.smartpls.com/documentation/functionalities/model-fit>

making mediates the positive association between EO and international opportunity development. As reported above, the direct relationship between EO and opportunity development was significant. Furthermore, the associations between EO and effectual decision-making ( $\beta = .39, t = 5.85, p < .01$ ) and between EO and causal decision-making were significant ( $\beta = .30, t = 4.87, p < .01$ ). These results meet the first and second conditions of the mediation models. The association between effectual decision-making and the dependent variable ( $\beta = .34, t = 3.29, p < .01$ ) and between causal decision-making and the dependent variable ( $\beta = .25, t = 2.38, p < .05$ ) were significant. These results meet the third condition of the mediation models. Finally, we entered the mediators to the structural model. As presented in Figure 1, the significant relationship between EO and international opportunity development became insignificant ( $\beta = .08, t = 1.18, p = .24$ ), indicating that the last condition for full mediation was met. Overall, the mediation hypotheses were supported.

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Insert Figure 1 about here  
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### **Robustness Checks**

We also performed two robustness checks. First, potential outliers in the dataset were controlled. We used the case-wise diagnostics technique, and the results showed no case with the standard residual higher than the suggested threshold of 3. Second, we controlled the possible existence of multicollinearity in our findings. As a result, the highest variance inflation factor was 2.28, which is well below the accepted threshold of 5, revealing that multicollinearity was acceptably weak.

### ***Discussion***

EO has received increasing attention in IE research. This is mainly due to EO's positive impact on firm performance (e.g. Wales 2016; Karami and Tang 2019) and its critical importance for international opportunity development (Coviello et al. 2011). To add to this line of inquiry, our study investigated EO's contribution to SMEs' successful internationalisation via international opportunity development. By investigating the role of causal and effectual decision-making in this process (Read et al. 2016), we shed light on the mechanisms by which SMEs' EO results in successful internationalisation.

Our study makes a significant contribution to both IE and EO literature. We detailed an important mediation mechanism by which EO results in entrepreneurial international opportunity development. This is an important step in improving EO theorising (Wales 2016; Walter et al. 2006). Our findings revealed that the logic of decision-making plays an important role in translating firm-level EO into successful opportunity development by internationalising SMEs. This is an important finding because one of the main motivations for EO research is the need to theoretically distinguish firms based on their entrepreneurial strategy-crafting behaviours and processes (Wales 2016).

Our findings clarified how effectuation helps with the transformation of initial means into valuable resources (Read et al. 2016) in the process of internationalisation. Effectual decision-making logic helps SMEs connect their EO as an existing means (Lechner and Gudmundsson 2014) to international opportunities. Importantly, scholars have suggested that RBV is as a promising framework in EO research (Covin and Miller 2014). While effectuation theory has positioned itself in RBV literature, researchers have argued that effectuation theory emphasises the importance of the process through which the existing means that might not be valuable at the beginning turn into valuable resources during the effectuation process (Read et al. 2016). This is an important distinction that makes the mediation role of effectuation even more significant. The importance of considering this dynamic process of turning SMEs' initial EO into useful resources through effectuation logic becomes even more evident when we consider the liability of internationalising SMEs' resources (Mathews and Zander 2007). Therefore, we consider effectual decision-making to be a dynamic capability (Evers, Andersson, and Hannibal 2012) that helps internationalising SMEs to better address uncertain conditions (Vahlne and Johanson 2017).

Another interesting finding is that causal logic is significantly associated with EO and international opportunity development. This may partly be due to the dynamic nature of the internationalisation process, which entails internationalising SMEs being dynamic through effectual networking, learning from experiences (Frishammar and Andersson 2009), and adopting appropriate decision-making logic according to the context (Sarasvathy et al. 2014).

### **Managerial Implications**

Our findings carry three major implications for SME owners and executives. First, our findings provide a clearer picture of the conditions under which owners and executives of SMEs decide to enter foreign markets. We found that SME owners and executives can make decisions using

different logics under different circumstances. Therefore, SME owners and executives should have a holistic understanding of the internationalisation process and the ability to apply both decision-making logics depending on the conditions. Our findings help SME owners and executives not rely too much on prediction-based planning and market research for FMEs. Sometimes, SME owners and executives might need to apply both logics simultaneously to proceed with the different stages of a single FME, or they might need to take the causal approach for one FME and an effectual approach for another. Broadening the analytical framework when making decisions could help decision-makers to better understand the situation and consider more factors and solutions in their decision-making.

Second, SME owners and executives should be aware that effectual logic is mostly about revisiting the concepts of resources, partnership, and learning. This logic helps understand the value of existing means, including experience and EO, and facilitates networking with other important players in the market. By adopting effectual logic in their decision-making, SME owners and executives would be able to utilise the existing firm-level EO more efficiently to learn from others in their networks and manage the perceived uncertainty of FMEs. It is important for SME owners and executives to realise that having an entrepreneurial culture is not enough to enter foreign markets successfully. They must invest in their firm-level EO to build trust and develop more and stronger network relationships to acquire new resources and learn from other firms. If SME owners and executives manage this transformation process successfully, they will become insiders to the relevant networks within which international opportunities form and evolve (Nowinski and Rialp 2015).

Third, SME owners and executives should know that engaging in the effectual internationalisation process could result in developing and evolving the existing EO within their firms by getting in touch with other firms within the network and learning from their routines and practices (Vahlne and Johanson 2017). EO can enhance the learning capability of an organisation, which, in turn, enhances firm-level EO (Altinay et al. 2016). By building trust between network members, SME owners and executives would expand their tacit knowledge and let each other gain new knowledge and insights about organisational culture, routines, and procedures. Considering that EO contributes to firm performance, nurturing EO is critical for the long-term growth and survival of firms. Owners and executives of internationalising SMEs should involve their employees in the process of effectual decision-making and networking to let them observe and learn from the process to improve their proactive thinking, risk-taking, and innovativeness.

## **Limitations and Future Research Directions**

Our study focused only on opportunity development and did not distinguish between creation and discovery opportunities (Alvarez and Barney 2007). Future research should consider both opportunities to develop a better picture of SMEs' internationalisation. Furthermore, researchers should explain the transformation of different opportunities during internationalisation (Chetty et al. 2018) and the role of EO in this transformation. Research on the transformation of different opportunities during the internationalisation process is rare, and IE scholars should investigate the role of EO in this important issue.

Second, international performance is a critical construct in IE scholarship (Coviello et al. 2011). Future research should investigate whether created international opportunities result in better performance. To do so, scholars should investigate opportunity exploitation. Investigating the exploitation of created or discovered opportunities by internationalising SMEs would help to better measure internationalising SMEs' performance. Scholars should look at the different aspects of SMEs' international performance (Gerschewski et al. 2015) to provide a better picture of the association between EO, decision-making logic, and firms' international performance.

Third, our study considered EO and not IEO. IEO as a distinct construct has gained significant acceptance in IE literature (Covin and Miller 2014). We measured EO due to our posture-based conceptualisation of EO as a common lens in IE research (Covin and Miller 2014), and we employed Walters et al.'s (2006) EO scale. Future research should distinguish EO from IEO and measure IEO to investigate the associations between IEO, international opportunity exploration and exploitation, and international performance. Furthermore, we considered EO as a construct and did not consider its different dimensions separately. Future research could subdivide EO into attitudinal (risk-taking) and behavioural (innovativeness and proactiveness) elements to better explain EO's impact on international market opportunity development (Reuber et al. 2018).

Fourth, this study's main concern was describing the mediation mechanism. Although we successfully explained decision-making logic's mediation role, the association between logic of decision-making and international opportunity development might be moderated by different factors. Future research should also consider moderators at different levels of analysis. An entrepreneur's background, identity, education, social capital, value system, aspirations, tastes, and beliefs (Read et al. 2016; Sarasvathy 2001) might be important personal-level

moderators. Scholars could investigate firm-level factors, such as limited resources (Frishammar and Andersson 2009), firm size (Zahra et al. 2000), previous experience, and networking capability (McGrath and O'Toole 2014). Finally, uncertainty, environmental turbulence (Sarasvathy et al. 2014), and the three pillars of institutions (cognitive, normative, and regulative; Scott 2008) could be important macro-level moderators.

Fifth, our research had some methodological limitations. Data were collected cross-sectionally. While cross-sectional data can provide a clear picture of relationships, it cannot show the dynamics of decision-making in the internationalisation process over time. Considering that effectuation relies on process ontology (Reuber et al. 2018), future research could apply a longitudinal-case-study approach (Ojala, Evers, and Rialp 2018) to better explain changes during the process of international opportunity development. Furthermore, we used PLS SEM modelling to capture the indirect relationship between EO and international opportunity development. Although PLS is an established technique, it also carries certain disadvantages. First, PLS uses the bootstrapping technique, which provides variable results, implying that researchers should be cautious while interpreting coefficients. Second, path coefficients were unstable due to the small size of the sample. Third, PLS does not provide all the important goodness of fit indices (Sosik, Kahai, and Piovosio 2009). Future studies could apply co-variance-based structural-modelling techniques or regression models to test the indirect associations.

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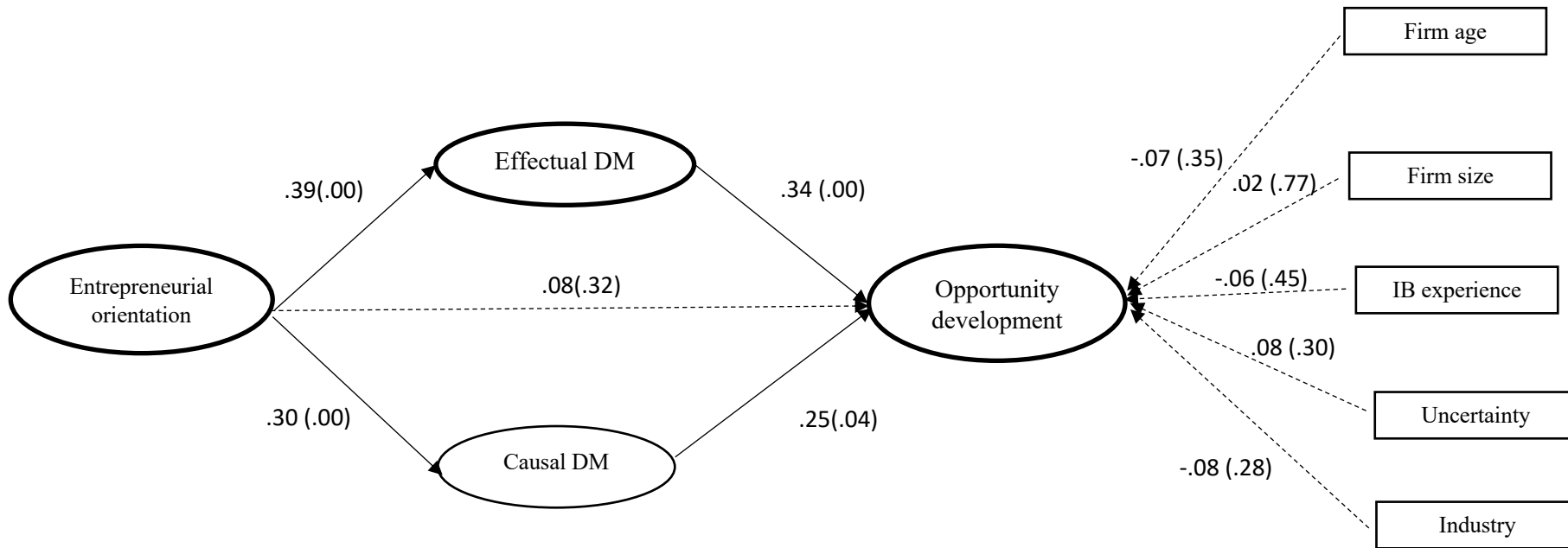
**Table 1. Means, Standard Deviations, and Correlations**

Variable	Composite reliability	AVE	Mean	S. D.	1	2	3	4	5	6	7	8	9
1. Firm age	-	-	28	22.9									
2. Firm size	-	-	4,776,387	15,526,439	.18								
3. IB experience	-	-	16.14	12.14	.64**	-.03							
4. Uncertainty	-	-	4.72	1.24	-.01	.14	-.10						
5. Industry	-	-	.45	.50	-.02	-.19*	.09	-.04					
6. EO	.87	.64	4.96	.84	-.1	.24*	-.03	.22**	.02	(.80)			
7. Effectual DM	.80	.51	5.70	.88	.01	.09	-.10	.21**	-.00	.29**	(.71)		
8. Causal DM	.84	.52	5.60	1.1	.09	.07	-.04	.20*	.00	.28**	.58**	(.72)	
9. International opportunity development	.88	.56	5.29	.97	-.05	.10	-.09	.27**	-.03	.35**	.41**	.42**	(.75)

\* Correlation is significant at the 0.05 level. \*\* Correlation is significant at the 0.01 level. Two-tailed test.



**Figure 1. The Mediation Structural Model with Control Variables (Standardized Parameter Estimates Are Shown with *P* Values in Parentheses)**



## APPENDIX 1. Measurement Items and Validity Assessment

Entrepreneurial orientation (Walter et al. 2006)	Factor loading	Composite reliability
		.90
In our firm, entrepreneurial behaviour is a central principle.	.80	
In our firm, people are not very dynamic.	.85	
In our firm, innovation is valued.	.88	
In our firm, people are willing to take risks.	.75	
In our firm, willingness for continuous improvement is a central principle.	.86	
In our firm, people are eager to be first to market.	.70	
Effectual decision-making (Wiltbank et al. 2009)	Factor loading	Composite reliability
		.77
In assembling information on foreign market entry, you: Talk to people (outside of your firm) you know to get their support in making this entry become a reality.	.88	
In developing a marketing approach for foreign market entry, you would: Think of possible courses of action based on your prior experience.	.73	
When you think about the uncertainty of a foreign market, you move forward anyway because: Your actions can decrease uncertainty in that market.	.70	
In managing your foreign market development, you are driven by: Creating new solutions for emerging opportunities.	.62	
If you looked at predictions for where potential markets are heading, you would: Discount them as they do not incorporate the impact of your initiatives.	.81	
When entering foreign markets, it is important to base your strategy on: What you are capable of given the resources available to you.	.81	
In learning about the expectations other people have for this industry, you: Imagine the ways your firm will change aspects of the situation they are forecasting.	.62	

Causal Decision-making (Wiltbank et al. 2009)	Factor loading	Composite reliability
		.82
In assembling information on foreign market entry, you: Research competitors' approaches.	.77	
In developing a marketing approach for foreign market entry, you would: Research competitors' approaches.	.53	
When you think about the uncertainty of a foreign market, you move forward anyway because: Your expertise allows you to face that uncertainty.	.67	
In managing your foreign market development, you are driven by: Comparing your progress against your predetermined plans.	.74	
If you looked at predictions for where potential markets are heading, you would: Use them to create forecasts of what your business might accomplish over time.	.78	
When entering foreign markets, it is important to base your strategy on: Relevant forecasts and analyses.	.81	
In learning about the expectations other people have for this industry, you: Form updated predictions of likely outcomes for the business.	.71	
Opportunity Development	Factor loading	Composite reliability
		.84
We reduce the risks of foreign market entry through domestic or international partnerships and agreements.	.63	
We approach potential partners actively to jointly shape the foreign market entry opportunity.	.88	
We jointly decide to develop opportunities with our partners on the basis of our competences.	.92	
New international business opportunities are often created by collaborating with our partners or customers.	.83	
Foreign market entry opportunities are generated by our entrepreneurial or innovative actions.	.85	
Our international market entry and expansion opportunities are driven by the collaboration with other firms.	.67	
Our expansion into foreign market(s) has been a result of our efforts to establish and develop relationships with the right people.	.80	