



## Butler University Digital Commons @ Butler University

Scholarship and Professional Work - Business

College of Business

2014

# Entrepreneurial Orientation and International Scope: The Differential Roles of Innovativeness, Proactiveness, and Risk-Taking

Li Dai


Vladislav Maksimov

Brett Anitra Gilbert

Stephanie A. Fernhaber

*Butler University*, [sfernhab@butler.edu](mailto:sfernhab@butler.edu)

Follow this and additional works at: [http://digitalcommons.butler.edu/cob\\_papers](http://digitalcommons.butler.edu/cob_papers)

 Part of the [Business Administration, Management, and Operations Commons](#), [Entrepreneurial and Small Business Operations Commons](#), [International Business Commons](#), and the [Management Sciences and Quantitative Methods Commons](#)

### Recommended Citation

Dai, Li; Maksimov, Vladislav; Gilbert, Brett Anitra; and Fernhaber, Stephanie A., "Entrepreneurial Orientation and International Scope: The Differential Roles of Innovativeness, Proactiveness, and Risk-Taking" (2014). *Scholarship and Professional Work - Business*. Paper 266.

[http://digitalcommons.butler.edu/cob\\_papers/266](http://digitalcommons.butler.edu/cob_papers/266)

This Article is brought to you for free and open access by the College of Business at Digital Commons @ Butler University. It has been accepted for inclusion in Scholarship and Professional Work - Business by an authorized administrator of Digital Commons @ Butler University. For more information, please contact [fgaede@butler.edu](mailto:fgaede@butler.edu).

# **Entrepreneurial orientation and international scope: The differential roles of innovativeness, proactiveness, and risk-taking**

**Li Dai**

**Vladislav Maskimov**

**Brett Anitra Gilbert**

**Stephanie A. Fernhaber**

## **Abstract:**

This research integrates the international business and entrepreneurship literatures by examining the independent influences of innovativeness, proactiveness, and risk-taking on the ability of a firm to broaden its scope across international markets. For each dimension of entrepreneurial orientation, a cost–benefit framework is applied to highlight the trade-offs associated with different levels in the internationalization context. Based on a unique dataset of 500 SMEs spanning 10 industries, the results reflect the consequences of being “stuck in the middle” with respect to their strategic posture on innovativeness and proactiveness, but reveal a nuanced role for risk-taking behavior. The non-uniform and non-linear relationships from the findings contribute to a better understanding of when the individual dimensions of entrepreneurial orientation help or hinder entrepreneurial firms in the internationalization process.

**Keywords:** Internationalization; International scope; Cost–benefit framework; Entrepreneurial orientation; SMEs

## **1. Introduction**

Firms are increasingly finding it important to generate sales abroad. In fact, internationalization across multiple foreign markets, more commonly known as international scope, is a significant achievement that reflects a firm's ability to navigate environments that often differ from each other in terms of resources, institutions, and levels of competition (Zahra and George, 2002). The successful pursuit of international scope has the potential to produce benefits including economies of scale, greater returns on investment, and an improved competitive stance (Autio et al., 2000 and Sapienza et al., 2006). However, entering foreign markets also entails significant challenges in terms of identifying and developing opportunities (Shrader et al., 2000). A set of attributes commonly acknowledged as helpful for overcoming obstacles in the internationalization process is a firm's entrepreneurial orientation (Jones and Coviello, 2005).

Entrepreneurial orientation reflects a firm's innovativeness, proactiveness, and willingness to undertake risks<sup>4</sup> (Lumpkin and Dess, 1996). Many studies have examined the relationship between entrepreneurial orientation – as a uni-dimensional construct – and various indicators of internationalization, generally finding support for its influence (e.g., De Clercq et al., 2005 and Knight, 2000). However, the sub-dimensions of entrepreneurial orientation comprise resource-intensive postures with unique cost–benefit trade-offs (Covin and Slevin, 1991), which have the potential to differentially influence how firms internationalize (Kreiser and Davis, 2010). Indeed, the prevalent treatment of entrepreneurial orientation as a uni-dimensional construct does not show how strategic decisions surrounding each dimension may affect a firm's entry into new foreign markets, which constrains our ability to understand the precise role of entrepreneurial orientation in helping firms achieve outcomes such as international scope.

Accordingly, in this research we develop a cost–benefit framework to examine how the individual dimensions of entrepreneurial orientation may exert separate influences on firm international scope. Using a sample of 500 small and medium-sized enterprises (SMEs) spanning 10 industries, our study contributes to extant research in several ways. First, we integrate the international business and entrepreneurship literatures by illustrating the multifaceted role of entrepreneurial orientation in firm internationalization. Second, we apply the cost–benefit framework to show the importance of incorporating multi-dimensional and non-linear assumptions in the international entrepreneurship context (Zhou, 2007). Lastly, we move beyond the traditionally studied variables of international intensity and speed to provide insights on the drivers of international scope, which, despite being an important indicator of a firm's international activity (Jones and Coviello, 2005), remains under-examined (Jantunen et al., 2005).

## **2. Theory & hypotheses**

Many firms engage in international entrepreneurship to bolster their competitiveness (Narula and Hagedoorn, 1999). International entrepreneurship is the “discovery, enactment, evaluation, and exploitation of opportunities – across national borders – to create future goods and services” (Oviatt and McDougall, 2005: 540). As an inherently entrepreneurial process involving various resourceful behaviors to create value beyond domestic boundaries (McDougall and Oviatt, 2000), the development of international scope shapes to a large extent the costs and benefits firms

experience in venturing abroad. Specifically, internationalization for a firm involves significant costs that arise from increased uncertainty in obtaining adequate returns (Zahra et al., 2001), as well as pressures to understand customers and overcome its foreignness in newly entered countries (Shrader et al., 2000). At the same time, each newly entered market has the potential to improve a firm's competitive position by facilitating the recognition and exploitation of opportunities (Bloodgood et al., 1996 and Wiklund and Shepherd, 2003). While these benefits increase with each country entered, so too do the associated costs.

The pursuit of international scope, i.e., seeking opportunities across a large number of countries, is an exceptional achievement that reflects a firm's ability to develop global geographic diversification, organizational flexibility, and overseas opportunities (De Clercq et al., 2005 and Ripollés-Meliá et al., 2007). Yet, international scope has often been overlooked in empirical inquiries (Zahra and George, 2002), which generally seek to explain international market entry (e.g., Oviatt and McDougall, 2005 and Sapienza et al., 2006), sales intensity (e.g., Autio et al., 2000 and Preece et al., 1999), learning capabilities (e.g., Sapienza et al., 2005 and Zhou, 2007), or intent (e.g., De Clercq et al., 2005). This gap in the literature limits our ability to understand how firms create value while overcoming various challenges associated with operating in multiple country contexts (Coviello and McAuley, 1999). To explore this dynamic indicator of firm internationalization, we theorize on several characteristics that affect the extent to which firms can continually extend their international reach in spite of the obstacles inherent to this process.

### **2.1. A cost–benefit view of entrepreneurial orientation for international scope**

Firms commonly broaden their international scope through entrepreneurial actions (McDougall and Oviatt, 2000), such as those engendered by an entrepreneurial orientation. Entrepreneurial orientation refers to a set of behaviors – namely innovativeness, proactiveness, and risk-taking – that have been found to influence international learning (De Clercq et al., 2005), speed of entry (Zhou, 2007), and performance (Zhang et al., 2012). Often deemed important in the internationalization process (Knight and Cavusgil, 2004 and Knight and Cavusgil, 2005), entrepreneurial orientation should help foster international scope in firms. However, due to their resource-intensive nature (Covin and Slevin, 1991), each dimension of entrepreneurial orientation has the potential to generate significant costs (Wales et al., 2013). For example, innovativeness involves upfront investments (Kreiser et al., 2013), proactiveness entails high search, learning, and retaliation costs (Bell, 1995), and risk-taking requires greater slack for potential losses (Shrader et al., 2000).

Prior research has generally assumed uniformity across these sub-dimensions of entrepreneurial orientation, without considering their distinct influences (Hughes and Morgan, 2007). However, because each sub-dimension may be characterized by cost–benefit trade-offs (Wales et al., 2013), a firm that assumes all three entrepreneurial postures to the highest extent may become hampered in the pursuit of international scope due to increasing strains on its resources. Given that even firms with limited resources still manage to continually venture abroad (Oviatt and McDougall, 1994 and Zahra et al., 2001), it is important to explore the possibility that expansion into multiple countries may be accomplished by adopting different levels of the three entrepreneurial orientation behaviors. Moreover, there is evidence showing low correlations – and even lack of co-variation

– between the three dimensions (Kreiser et al., 2002), which suggests that it may be “more appropriate to study antecedences and consequences of entrepreneurial orientation at the level of the dimensions” (Rauch et al., 2009: 779).

It is also known that firms may experience non-linear returns to entrepreneurial acts due to the costs associated with “coordinating, directing, and managing their venturing and innovation initiatives in multiple foreign markets” (Zahra and Garvis, 2000: 486). Indeed, potentially diminishing returns have been found to characterize the entrepreneurial orientation dimensions (Kreiser et al., 2013 and Wales et al., 2013). Therefore, in line with other research presenting non-linear relationships between entrepreneurial orientation dimensions and various indicators of firm performance (e.g., Su et al., 2011 and Tang et al., 2008), such as information processing (Miller and Friesen, 1984) and learning (Zhao et al., 2011), it is also important to explore non-linear influences when assessing the independent effects of the innovative, proactive, and risk-taking orientations on a firm's ability to achieve international scope.

## **2.2. The independent effects of innovativeness on international scope**

Venturing into countries that differ significantly from a firm's home country and potentially from other countries already entered may require a firm to modify its products to meet the unique needs of new markets (Louter et al., 1991). For this reason, innovativeness is commonly thought to influence a firm's ability to internationalize (c.f. Miller and Friesen, 1984 and Steensma et al., 2000). Innovativeness reflects a firm's tendency to experiment, promote novel ideas, and depart from established practices (Lumpkin and Dess, 1996), which often fosters new products, techniques, and technologies that appeal to many country markets (Cassiman and Golovko, 2011). In addition, internationalization requires firms to acquire knowledge related to “a country's product standards, industry norms, customer needs, as well as the practices and capabilities of local competitors” (Sapienza et al., 2005: 445). Because innovativeness helps firms assess foreign market preferences (Li and Atuahene-Gima, 2001), achieving high levels of innovativeness should facilitate the adaptation of their products for multiple foreign markets.

While innovativeness is conducive for establishing a strong international presence, there are also substantial costs associated with innovating (Hornsby et al., 2009). For example, the extent of trial and error that underlies innovation has the potential to limit the ability of firms to meet short-term financial obligations (Kreiser et al., 2013), and in turn drain resources from other value-creating activities critical to venturing abroad (Rosenbusch et al., 2011). At high levels of innovativeness, a firm has greater capacity to spread these upfront costs across foreign markets and in turn realize benefits for pursuing international scope (Zahra and Garvis, 2000). Conversely, at low levels of innovativeness, products are less resource-intensive, which may likewise facilitate a firm's internationalization efforts by directing its resources toward the exploitation of standardized, competitively priced products that require little customization abroad (Choi et al., 2008). In other words, it is possible for firms with low innovativeness to also achieve a high international scope by emphasizing cost-minimizing standardization and reliance on existing competencies (Autio et al., 2000 and Ripollés-Meliá et al., 2007).

At moderate levels of innovativeness, however, a firm's ability to broaden its international scope may be eroded. Because the benefits from innovating are largely contingent on commercialization (Hughes and Morgan, 2007), exercising only moderate levels of innovativeness may be insufficient to warrant the commercialization efforts needed to enter multiple foreign markets. As such, a moderately innovative firm is “stuck in the middle” with respect to its innovative efforts, and unable to assume the high costs of innovation needed to compete with highly innovative rivals abroad. Yet, the upfront investment costs needed to achieve even moderate levels of innovation may leave such a firm with limited resources to commit to expanding abroad (Branzei and Vertinsky, 2006). At the same time, its competitive position and subsequent ability to internationalize across multiple countries may be impeded relative to less innovative firms with lower costs (Porter, 1980). Therefore, we suggest that:

## **H1.**

The relationship between firm international scope and innovativeness is U-shaped, such that scope will be highest for firms with high or low levels of innovativeness, and lowest for those with moderate levels of innovativeness.

### **2.3. The independent effects of proactiveness on international scope**

In order to establish and maintain their presence in multiple foreign markets, firms must proactively identify opportunities in each successive market (Knight and Cavusgil, 2004). Proactiveness reflects a willingness to engage in bold moves such as introducing new products or services ahead of competitors and acting in anticipation of future demands to create, change, and shape the environment (Keh et al., 2007). These attributes reflect the intrinsically aggressive nature of highly proactive firms, which enable them to “skim” foreign markets and attain a greater international reach than the competition (Pérez-Luño et al., 2011). Often planning ahead to allocate managerial and financial resources for internationalization efforts (Diamantopoulos and Inglis, 1988), proactive firms are also more sensitive to foreign market needs and are as a result poised to exploit overseas opportunities that fit their capabilities (Morris et al., 2011). The propensity of these firms to exploit such opportunities even in the presence of barriers further aids their development of international scope (De Clercq et al., 2005).

However, there are costs associated with the time and resources needed to be proactive, particularly in the international context. Specifically, each new market entry requires firms to obtain market knowledge from foreign suppliers, customers, and partners (Sapienza et al., 2005 and Yu et al., 2011). A highly proactive firm will seek out this knowledge independently. However, a firm with low proactiveness can also acquire this knowledge by servicing a key customer's foreign market operations (Rosenbusch et al., 2011). This approach would reduce the search costs associated with identifying and screening potential foreign partners (Bell, 1995). Often reliant on being “pulled” into international markets via existing networks rather than “pushing” themselves into new markets through their own initiatives (Coviello and Munro, 1997), firms with low proactiveness are indeed able to efficiently enter a large number of foreign markets (Gassmann and Keupp, 2007 and Zahra and Garvis, 2000). Relative to highly proactive firms, these firms benefit from

minimal search costs when expanding into new countries (Johanson and Vahlne, 2009), and may similarly achieve high levels of international scope.

At moderate levels of proactiveness, firms may lack the intentionality and market knowledge needed to identify market opportunities abroad (De Clercq et al., 2005 and Peng and York, 2001). Yet, unlike their reactive counterparts, moderately proactive firms may nonetheless prefer to investigate market feasibility before venturing into a foreign country (Autio et al., 2000). As such, moderate levels of proactiveness may constrain a firm's capacity to aggressively develop a presence overseas, but also limit its readiness to merely follow other firms abroad. These firms are thus liable to incur non-trivial search costs that stem from researching potential markets and subsequently implementing appropriate strategies (Leonidou et al., 2007). Therefore, we expect that being moderately proactive precludes these firms from the search efficiency that the least proactive firms are able to realize, but also renders them ill-prepared to compete against their highly proactive counterparts in the pursuit of international opportunities. Formally stated:

## **H2.**

The relationship between international scope and proactiveness will be U-shaped, such that scope will be highest for firms with high or low levels of proactiveness, and lowest for those with moderate levels of proactiveness.

### **2.4. The independent effects of risk-taking on international scope**

As a firm ventures abroad, it is exposed to considerable risks. To begin with, obtaining adequate returns in multiple foreign markets represents a significant challenge (Zahra et al., 2001). In addition, there are risks associated with the institutional environment of each country entered (Busenitz et al., 2000), as well as uncertainty with respect to the entry mode firms should employ (Shrader et al., 2000), and the strength of foreign competition they will face (Miller and Friesen, 1984). A readiness to execute strategies that entail significant chances of costly failure may thus be necessary for firms to initiate expansion across international markets (Vermeulen and Barkema, 2002). Specifically, risk-taking – or the willingness to depart from tried-and-true paths and undertake initiatives with uncertain outcomes (Wiklund and Shepherd, 2003) – should be important for the achievement of international scope (Zahra et al., 2001).

While a certain tolerance for risk-taking is necessary to motivate international expansion (Pérez-Luño et al., 2011), there are costs associated with a high risk-taking orientation. For example, firms willing to assume high risks are more likely than their risk-averse counterparts to undertake costly diversification into new products or industries as they venture abroad (Sapienza et al., 2005). A high risk-taking orientation is also associated with a tendency to be optimistic and perceive opportunities rather than threats in any given situation (Neck and Manz, 1996), which can lead firms to over-commit resources abroad. Because costly investments engendered by high risk-taking can erode the profitability needed to enter more markets (Vermeulen and Barkema, 2002), adopting this disposition may threaten a firm's survival abroad and detract from its ability to pursue suitable markets elsewhere, to the impairment of its international scope.

Therefore, despite being necessary for venturing overseas, risk-taking if taken to the extreme has the potential to weaken a firm's competitive position abroad (Zahra et al., 2001). In contrast, a risk-averse firm may prefer to internationalize to familiar country contexts (Johanson and Vahlne, 1977), which would nevertheless limit its expansion into a large number of foreign markets. In fact, low risk-takers are expected to generally forgo even potentially valuable opportunities abroad (Hughes and Morgan, 2007). These arguments suggest that it is neither high nor low levels of risk-taking that facilitate expansion across international markets, but rather a moderate level between these extremes that would allow firms to achieve international scope (De Clercq et al., 2005). That is, moderate risk-taking may be sufficient for encouraging internationalization without over-extending a firm in markets entered. Thus, we expect the relationship between risk-taking and international scope to resemble the inverted-U relationship between risk-taking and performance (e.g., Begley and Boyd, 1987), with moderate levels of risk-taking leading to the highest levels of international scope. Accordingly, we propose that:

### **H3.**

The relationship between firm international scope and risk-taking is inverse U-shaped, such that scope will be highest for firms with moderate levels of risk-taking, and lowest for those with high or low levels of risk-taking.

## **3. Methods**

### **3.1. Sample**

The sample for this study consists of 500 SMEs that responded to the National Federation of Independent Businesses (NFIB) National Small Business Poll on International Trade. This survey is conducted regularly to assess underexplored issues in entrepreneurial firms. SMEs represent an ideal context in which to test our hypotheses, given that they bridge the traditional focus of international entrepreneurship research on new ventures with the study of internationalization in established firms. The sample is drawn from the national Dunn & Bradstreet files using a two-step procedure. In the first step, a random stratified sample of SMEs was selected to account for the highly skewed distribution of firms employing between one and nine individuals. In the second step, a random sample was drawn from the available SMEs with fewer than 250 employees. The NFIB's random stratified sampling procedure allowed for an adequate representation of SMEs across each of the size categories, which is naturally skewed towards smaller enterprises. In total, 204 interviews involved firms with one to nine employees, 201 with 10–19 employees, and 205 with 20–249 employees. Our sample comprises a proportionate number of SMEs from the apparel, wood, paper, printing, chemical, stone, metals, machinery, instruments, and electronics industries.

Although the NFIB survey employs self-reported responses, the sampling procedure and use of the SME's key decision maker as the informant limit the threat of bias in the data.<sup>5</sup> In SMEs, where managerial power is more concentrated than in larger firms, entrepreneurs are at the core of the decision-making process, making the entrepreneurial orientation of key decision makers equivalent to that of the firm (Lumpkin and Dess, 1996). Empirical evidence demonstrates the reliability of self-reported, single-respondent surveys of owners or chief executives from firms with 250 or fewer employees, confirming that their knowledge of the business is highly correlated



with archival figures (Chandler and Hanks, 1993). The measurements of the predictor and criterion variables were also separated in the survey items, which further reduces the risk of common method variance (Podsakoff et al., 2003).

Because only 500 of the 610 SMEs that responded to the survey provided complete information on the variables, we compared the 500 SMEs in our sample to those excluded. The SMEs in the two groups did not differ significantly with respect to their age, size, international sales in the last three years, sales growth in the last two years, innovativeness, or risk-taking. The only significant difference between the two groups of SMEs related to their levels of proactiveness. The excluded SMEs were more proactive, with a mean of 3.43 compared to 3.10 for the SMEs in our sample. Overall, our data do not appear to be affected by response bias.

### 3.2. Dependent variable

International scope is measured as the number of foreign countries in which SMEs received sales during a three-year period. Domestic SMEs received a value of “0” for international scope. Values on this variable ranged from 0 to 25. The measure reflects the extensiveness of an SME's internationalization activities (Preece et al., 1999).

### 3.3. Independent variables

The three dimensions of entrepreneurial orientation were measured with the traditional nine-item scale developed by Covin and Slevin (1989). One item for risk-taking was omitted by NFIB. To ensure discriminant validity, we performed a factor analysis of the remaining items for the multi-item constructs of innovativeness, proactiveness, and risk-taking. Items with loadings lower than 0.40 were removed from the analysis, including one item for proactiveness. As Anderson et al. (2009) and Rauch et al. (2009) noted, the removal of an item from Covin and Slevin's (1989) original entrepreneurial orientation scale is not uncommon and does not affect its content validity. Similarly modified versions of the entrepreneurial orientation scale have been employed in the literature (Knight, 1997 and Steensma et al., 2000). Accordingly, we utilized three items for innovativeness, two for proactiveness, and two for risk-taking. Table 1 shows the item loadings, which we averaged for each observation to obtain the values for these variables.

**Table 1**  
Results of the principal-components analysis with varimax rotation.

Item name	Risk-taking	Environmental hostility	Proactiveness	Innovativeness
Innovativeness 1				0.568
Innovativeness 2				0.790
Innovativeness 3				0.549
Proactiveness 1			0.841	
Proactiveness 2			0.630	
Risk-taking 1	0.848			
Risk-taking 2	0.618			
Environmental hostility 2		0.581		
Environmental hostility 3		0.809		
Environmental hostility 4		0.688		
Eigenvalue	2.863	1.864	1.085	1.000

Note: All factor loadings less than 0.40 were excluded from the table.

To ensure that our dimensions adequately reflect those measured in prior research, we computed Cronbach's alphas to compare with those from studies that treated entrepreneurial orientation as a uni-dimensional construct. We obtained a reliability coefficient of 0.732 for the entrepreneurial orientation scale, which is comparable with Morris and Paul's (1987) Cronbach's alpha of 0.765. As reported in Appendix A, which contains the detailed items, the Cronbach's alpha was 0.579 for innovativeness, 0.572 for proactiveness, and 0.593 for risk-taking.<sup>6</sup>

### **3.4. Control variables**

A firm's international scope can be influenced by factors other than our entrepreneurial orientation dimensions of interest. We control for these factors using variables developed from the items in Appendix A. Industry dummies are included to account for the possibility that firms from certain industries are exposed to more opportunities in foreign markets than are firms from other industries (Autio et al., 2000). In addition, we control for firm age because older firms will have had more opportunities to internationalize and grasp the process (Johanson and Vahlne, 1977), while younger firms possess the flexibility and learning capabilities needed to adapt to foreign markets (Durand and Coeurderoy, 2001). Furthermore, as larger firms may have more resources and a greater capacity to manage foreign expansions, we include a control for firm size, measured as the number of employees at the time of survey and log transformed to account for skewness in the data. Given the positive role of alliance partners in SME internationalization (Coviello and Munro, 1995 and Coviello and Munro, 1997), we control for the number of alliances held by each firm.

Another factor known to affect whether SMEs enter foreign markets – as well as their subsequent success (Zahra and Garvis, 2000) – is environmental hostility. While some of this influence may be captured in the industry dummies, other forces may exist in the broader institutional environment both within and across countries that are not adequately reflected in the industry variables. As such, we include a measure of environmental hostility to assess the extent to which key decision makers in the SME perceived their business environment to be hostile. Out of the five-point Likert scale items from the NFIB survey, only three loaded together, as shown by the factor analysis reported in Table 1. To derive our measure of environmental hostility (Cronbach's alpha of 0.578), we computed the average of these three items for each firm.

### **3.5. Analysis**

International scope is a count variable with a limited set of values. To account for the 287 observations (more than 50% of our sample) with a value of zero for our dependent variable, we employed zero-inflated Poisson regression. To test the predicted non-monotonic influences of the entrepreneurial orientation dimensions on international scope, we applied non-linear models. Consistent with prior research (Cohen et al., 2003), we centered each independent variable at the mean before creating its quadratic term. In running our models, we first entered the control variables, followed by the independent variables, and lastly the squared independent variables.

## **4. Results**

### **4.1. Hypothesis tests**

Table 2 presents the descriptive statistics and correlations. The SMEs in our study represent a broad cross-section of manufacturing sectors in the U.S., increasing the generalizability of our results. The most represented industry is metals ( $N = 98$ ) and the least represented is electronics ( $N = 19$ ). The 213 SMEs with international sales had on average entered six foreign countries. The SMEs in our sample are relatively mature, with the average age being 19, and small, with an average of 20 employees. The correlations confirm that the three dimensions of entrepreneurial orientation examined are positively and significantly correlated with international scope ( $p < 0.01$ ). The highest correlation is 0.44 and the lowest is 0.21, indicating that while there is some shared variance among the three dimensions, the majority of their variance adds uniquely to the entrepreneurial orientation of the SMEs. International scope is positively and significantly correlated with firm age ( $p < 0.05$ ), size ( $p < 0.01$ ), and number of alliances ( $p < 0.01$ ), but exhibits no correlation with environmental hostility. Larger SMEs of various ages generally display a greater entrepreneurial orientation ( $p < 0.01$ ).

**Table 2**  
Descriptive statistics, Pearson correlations, and Cronbach alphas.

Variables	Mean	S.D.	Min	Max	1.	2.	3.	4.	5.	6.	7.
1. Firm age	19.22	13.56	1	92							
2. Firm size	19.91	23.15	1	160	0.09						
3. Number of alliances	5.79	8.07	0	47	-0.03	0.21					
4. Environmental hostility	3.14	1.25	1	5	-0.04	0.09	-0.13				
5. Innovativeness	2.29	1.28	1	5	-0.02	0.19	0.22	-0.02	(0.58)		
6. Proactiveness	3.10	1.42	1	5	-0.02	0.17	0.25	-0.09	0.42	(0.57)	
7. Risk-taking	2.16	1.29	1	5	-0.08	0.17	0.11	0.02	0.44	0.21	(0.59)
8. International scope	2.59	7.56	0	25	0.11	0.30	0.29	0.01	0.19	0.18	0.13

Note: Correlations greater than 0.09 are significant at the  $p < 0.05$  level, and those greater than 0.12 are significant at the  $p < 0.01$  level. Cronbach's alphas are reported in parentheses where applicable.

Table 3 shows the results of the regression analyses for all three hypotheses. Model 1 includes the control variables and generated a significant  $\chi^2$  ( $p < 0.001$ ) of 254.44. We selected the wood industry as the reference category due to its overall domestic orientation (only 18 out of 76 firms from the wood industry in our sample had any international sales). Compared to the wood industry, SMEs in the apparel, chemical, machinery, instrument, and electronics industries were more likely to have high international scope, while SMEs in the paper, printing, stone, and metal industries were equally likely. All control variables with the exception of environmental hostility are positively and significantly related to international scope.

**Table 3**

Zero-inflated Poisson regressions on SME international scope (N = 500).

Variable	Model1		Model2		Model3	
Constant	0.370 <sup>†</sup>	(0.198)	0.367 <sup>†</sup>	(0.201)	0.201	(0.225)
First-order terms						
Innovativeness			0.047	(0.030)	-0.003	(0.038)
Proactiveness			0.046 <sup>†</sup>	(0.027)	0.043	(0.027)
Risk-taking			-0.008	(0.028)	0.051	(0.039)
Quadratic terms						
Innovativeness squared					0.047*	(0.020)
Proactiveness squared					0.041 <sup>†</sup>	(0.022)
Risk-taking squared					-0.058**	(0.020)
Controls						
Firm age	0.010***	(0.002)	0.010***	(0.002)	0.010***	(0.002)
Firm size (log)	0.188***	(0.031)	0.179***	(0.032)	0.190***	(0.033)
Number of alliances	0.010***	(0.003)	0.007*	(0.003)	0.007*	(0.003)
Environmental hostility	-0.025	(0.026)	-0.020	(0.026)	-0.014	(0.027)
Industry variables						
Apparel industry	0.718***	(0.186)	0.733***	(0.186)	0.807***	(0.190)
Paper industry	0.314	(0.210)	0.310	(0.212)	0.253	(0.215)
Printing industry	0.098	(0.220)	0.137	(0.220)	0.180	(0.223)
Chemical industry	0.346*	(0.177)	0.356*	(0.177)	0.436*	(0.180)
Stone industry	-0.487	(0.400)	-0.445	(0.397)	-0.374	(0.402)
Metal industry	-0.008	(0.180)	0.014	(0.182)	0.048	(0.183)
Machinery industry	0.675***	(0.166)	0.660***	(0.167)	0.740***	(0.169)
Instrument industry	1.071***	(0.169)	1.025***	(0.172)	1.077***	(0.175)
Electronics industry	0.900***	(0.191)	0.886***	(0.194)	0.938***	(0.195)
Log likelihood	-939.47		-932.88		-925.68	
Wald $\chi^2$	254.44***		263.51***		277.91***	
$\chi^2$ change			9.07*		14.4**	

Notes:

Standard errors are in parentheses. Coefficients are unstandardized. Wood is the reference industry.

<sup>†</sup>  $p \leq 0.10$ .\*  $p \leq 0.05$ .\*\*  $p \leq 0.01$ .\*\*\*  $p \leq 0.001$ .

In Model 2, we added the first-order terms for innovativeness, proactiveness, and risk-taking. As a result, the  $\chi^2$  increased significantly ( $p < 0.05$ ) to 263.51. The coefficient for proactiveness is positive and marginally significant ( $p < 0.10$ ), while the coefficients for innovativeness and risk-taking are not significant. In Model 3, we added the quadratic terms for innovativeness, proactiveness, and risk-taking, generating a significantly higher  $\chi^2$  of 277.91 ( $p < 0.01$ ). While the first-order term of innovativeness is non-significant, its quadratic term is positive and significant ( $p < 0.05$ ), providing support for H1. As illustrated by the U-shaped curvilinear relationship in Fig. 1a, international scope begins at a modest level and decreases slightly for firms with higher innovativeness, before increasing again. The inflection point, where the impact of innovativeness on international scope changes slope, is 2.3 on a self-reported scale ranging from 1 to 5.

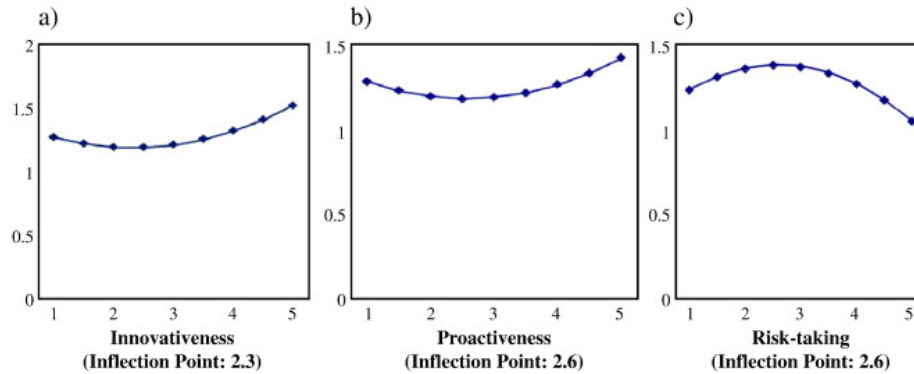


Fig. 1. Entrepreneurial orientation sub-dimensions and SME international scope.

H2 predicts that both the most and least proactive firms will achieve greater international scope than those with moderate levels of proactiveness. While the first-order term of proactiveness is not significant, its quadratic term is positive and marginally significant ( $p < 0.10$ ), offering some support for H2. As shown in Fig. 1b, proactiveness induces moderate levels of international scope at low levels, and as the levels increase, international scope initially declines before becoming positive again. The inflection point, at which proactiveness begins to positively contribute to international scope, is 2.6.

H3 predicts that moderate risk-taking helps firms achieve higher levels of international scope. Again, the first-order term of risk-taking is not significant; however, its quadratic term is negative and strongly significant ( $p < 0.01$ ), providing strong support for H3. As Fig. 1c shows, risk-taking is initially positively related to international scope, but begins to suppress international scope at an inflection point of 2.6.

## 4.2. Robustness checks

In addition to Harman's one-factor test, we followed the recommendations of Podsakoff et al. (2003), and employed a second technique to ensure that our results were not materially affected by common method bias. In this procedure, each measurement item is allowed to load on both its intended theoretical construct and a latent common method variance factor. The significance of the structural parameters of the base model is compared to the significance of the structural parameters of a model that includes the latent common method variance factor. We then created a new variable by averaging all items in the model and including it in our original tests. The results from this analysis reveal that the signs and significance levels of the predicted main relationships remain the same. Similar to our original findings, the first-order terms were not significant, while the quadratic terms were positive and significant for both innovativeness ( $p < 0.05$ ) and proactiveness ( $p < 0.10$ ), and negative and significant for risk-taking ( $p < 0.01$ ). These results support our conclusions from Harman's one-factor test, and further confirm that our findings are not materially affected by common method bias.

Given the debate in the literature about whether entrepreneurial orientation is a uni-dimensional or multi-dimensional construct, we conducted an ad-hoc analysis to determine the role of the former on firm international scope. The entrepreneurial orientation variable was constructed by taking the mean of the seven items outlined in Appendix A, which we centered before including

in the analysis. We ran two models, one similar to Model 2 in Table 3, where the variables for innovativeness, proactiveness, and risk-taking were replaced with the first-order term of entrepreneurial orientation, and one similar to Model 3 in Table 3, where the variables for the three dimensions were replaced with the first-order and quadratic terms of entrepreneurial orientation. The results indicate that the overall effect of entrepreneurial orientation is positive and significant ( $p < 0.05$ ). In the subsequent model including the quadratic term, the first-order term is positive and marginally significant ( $p < 0.10$ ), while the quadratic term was not significant. These results confirm our position that firm outcomes differ depending upon whether the entrepreneurial orientation construct is assumed to be uni- or multi-dimensional.

We also randomly split the sample into two sub-samples on the basis of a unique identifying number for each observation in our sample and re-ran Models 2 and 3 from Table 3 to ensure that our results are not spurious. In Model 2, innovativeness was negative and significant ( $p < 0.10$ ), proactiveness was positive and significant ( $p < 0.05$ ), and risk-taking was positive and significant ( $p < 0.01$ ). In Model 3, the first-order term of innovativeness was negative and significant ( $p < 0.05$ ), and its quadratic term was positive and significant ( $p < 0.10$ ), indicating a significant U-shaped curvilinear effect. The first-order term of proactiveness was positive and significant ( $p < 0.05$ ), as was its quadratic term ( $p < 0.05$ ), suggesting a strong exponentially increasing effect. Lastly, the first-order term of risk-taking was positive and significant ( $p < 0.05$ ), and its quadratic term was negative and significant ( $p < 0.10$ ), indicating an inverted curvilinear effect. We performed this procedure five more times and obtained similar results. Overall, these outcomes support the main results in Table 3 and strengthen our confidence in the findings.

In a final set of robustness checks, we examined the potential influence of technological intensity on firm internationalization. Firms in more technologically intensive industries may have a greater need to spread the cost of innovation over a larger international customer base (Kotabe, 1990). They may also be presented with more opportunities in foreign markets (Autio et al., 2000). The results from Model 1, presented in Table 3, confirm this expectation. The firms in high-tech industries (chemicals, machinery, instruments, and electronics) have significantly higher international scope than firms in the wood industry, which is predominantly domestic. Firms in low-tech industries (paper, printing, stone, and metals) have similar international scope as the firms in the wood industry. The only exception is the apparel industry, in which firms despite their low tech orientation have higher international scope than firms in the wood industry. This finding may be explained by the fact that apparel firms are more likely to be pulled overseas, given a greater dependence on partners than firms in other industries (Uzzi, 1996).

To estimate the effect of the technological context in greater detail, we split the sample into high-tech (chemicals, machinery, instruments, and electronics) versus low-tech (apparel, wood, paper, printing, stone, and metals) industries and re-ran our analyses separately for each sub-sample. In terms of international scope, the high-tech sample includes 187 firms and accounts for 110 of the non-zero observations, while the low-tech sample includes 313 firms and accounts for 103 of the non-zero observations. The results for the high-tech sub-sample nearly replicated the results for the entire sample. While the first-order terms are not significantly different from zero, the second-order terms for innovativeness, proactiveness, and risk-taking are significant and in the same

directions as those reported in Table 3. The only differences come from the increased level of significance for innovativeness ( $p < 0.01$ ), and a decreased level of significance for risk-taking ( $p < 0.05$ ). These results underscore the important role of innovativeness for increasing the international scope of high-tech firms, as well as a slightly reduced detriment of risk-taking to high-tech firms in their efforts to internationalize.

The results from the low-tech sub-sample provide a somewhat different perspective. While the coefficients for the second-order terms have the same signs as the ones reported in Table 3, none of them are significant. We did, however, find the first-order terms for proactiveness ( $p < 0.01$ ) and risk-taking ( $p < 0.10$ ) to be significant. These notable results point to proactiveness as the main driver of higher international scope for low-tech firms, while showing risk-taking and especially innovativeness to be less important in this context. Comparing the results from the two sub-samples suggests that achieving higher international scope calls for different entrepreneurial traits for high-tech versus low-tech firms, where innovativeness should be the emphasis among the former group, and proactiveness for the latter. Overall, these supplemental analyses further bolster our primary contribution, which is that innovativeness, proactiveness, and risk-taking have different effects on outcomes such as international scope.

## **5. Discussion**

### **5.1. Summary of findings**

To enter new foreign markets, firms must apply their limited resources towards pursuing opportunities in situations commonly fraught with risk and uncertainty (Knight and Cavusgil, 2004). Since firms increasingly look to international markets as a way to reduce their dependence on domestic markets (Musteen et al., 2013), it is important to understand what enables them to venture into multiple foreign markets. In this paper, we developed a theoretical framework that delineates the costs and benefits associated with the entrepreneurial orientation dimensions of innovativeness, proactiveness, and risk-taking to determine to the extent to which each enables or hinders complex initiatives such as achieving international scope. We tested our hypotheses using SMEs engaged in international entrepreneurship, which represent an important context given their relevance to both the international business and entrepreneurship domains.

Our analysis of the potential trade-offs associated with the sub-dimensions of entrepreneurial orientation demonstrates that both high and low degrees of innovativeness and proactiveness increase firm international scope. Moderate positions on these dimensions, on the other hand, do not impart, but rather detract from the capacity of firms to pursue new country markets. In the case of risk-taking, the opposite relationship is true: moderate levels of risk-taking produce greater levels of international scope than do either low or high levels. Without assessing the independent effects of each dimension, it is difficult to extend theory regarding the drivers of entrepreneurial decision-making (Lumpkin and Dess, 1996), particularly in contexts such as internationalization, where one characteristic may be more salient than others (Zhou, 2007). Pérez-Luño et al. (2011) similarly disaggregated the entrepreneurial orientation dimensions and found that both proactiveness and risk-taking were positively related to innovation generation, while risk-taking was moderated by environmental dynamism. Our results are also complementary to those found

in Kreiser et al. (2013), who showed that in small firms, innovativeness and proactiveness displayed positive U-shaped relationships with SME perceived sales growth, while risk-taking assumed a predominantly negative U-shaped relationship.

Our non-linear findings suggest that firms seeking to venture into many foreign markets should either adopt a low innovation strategy to minimize development costs or strive to become sector leaders by investing upfront in leading-edge innovations. Assuming polar positions with respect to the proactiveness dimension can likewise be beneficial for international scope. That is, while being highly proactive enables firms to identify as well as assemble the resources required to exploit opportunities overseas (Lee et al., 2001), being reactive helps them expand abroad by taking advantage of opportunities that are presented without assuming the search costs typically associated with identifying new opportunities (Coviello and Munro, 1995 and Coviello and Munro, 1997). Our findings concerning risk-taking point to the benefits of a moderate stance, as high levels of risk-taking raise the stakes of international activities while low levels discourage venturing abroad altogether.

## **5.2. Research contributions**

Covin et al. (2006: 80) observed that “intellectual advancement pertaining to entrepreneurial orientation will likely occur as a function of how clearly and completely scholars can delineate the pros and cons of alternative conceptualizations of the entrepreneurial orientation construct.” Given the need to incorporate entrepreneurial behavior into models of internationalization (Jones and Coviello, 2005), we developed theory to advance knowledge on entrepreneurial postures that foster the development of firm international scope. Despite increased scholarly efforts to understand internationalization in the domain of international entrepreneurship (Gassmann and Keupp, 2007), it is rare to see studies that explicitly assess the role of entrepreneurial drivers in the pursuit of international scope by small firms. This gap is noteworthy because the ability of these firms to compete increasingly depends on their capacity to grow and expand internationally (Narula and Hagedoorn, 1999). To shed light in this context, we designed our research to “build on past achievements of international business researchers by importing concepts from the field of entrepreneurship” (Jones and Coviello, 2005: 285).

Collectively, our results and post-hoc analyses show that aggregating the entrepreneurial orientation dimensions into one combined measure as has been done in prior research can result in their independent influences being distorted or canceled out altogether (Jantunen et al., 2005). Whereas our analyses using the uni-dimensional construct only point to entrepreneurial orientation as exerting positive influence, the models we employed using the multi-dimensional construct reveal richer relationships between each of the dimensions and firm international scope (Covin et al., 2006 and Lumpkin and Dess, 2001). By uncovering the differential influence of innovativeness, proactiveness, and risk-taking on the ability of firms to expand across foreign markets, our analyses suggest that attaining absolute “high” values on any particular dimension is not a precondition for achieving high levels of international scope. Indeed, risk-taking had suppressing effects at certain levels. Furthermore, technological intensity matters in this context, as our findings illustrate that being innovative is more critical for high-tech firms, while being proactive is the key to successfully expanding abroad for low-tech firms.



By conceptualizing entrepreneurial orientation as a “process aspect of entrepreneurship” (Lumpkin and Dess, 1996: 162), we also challenge the general assumption of linear relationships in prior studies on entrepreneurial orientation and internationalization (Covin et al., 1990). Moreover, by establishing the cost–benefit trade-offs, our efforts to delineate the level of international scope associated with each dimension of entrepreneurial orientation reinforce its role as a managerial disposition rooted in decision-making (Covin and Wales, 2012). As such, this research aligns entrepreneurial orientation research with contemporary views in scholarly inquiry and extends the theoretical foundations of both the international entrepreneurship and management literatures (e.g., Covin and Slevin, 1989 and Miller and Friesen, 1984).

This study enhances our understanding beyond the motivation of entrepreneurial firms to internationalize, towards the entrepreneurial behaviors that enable them to do so. The results lend empirical support to the organizational learning view that *learning* and *commitment* are strongly related to the identification and exploitation of opportunities (De Clercq et al., 2005 and Johanson and Vahlne, 2009). Specifically, our findings in the international context suggest that being highly innovative and proactive both involve learning that facilitates the pursuit of overseas opportunities, with the former producing technological sophistication and the latter foreign market knowledge. The evidence furthermore indicates that moderate risk-taking fosters sufficient organizational commitment to generate international scope, without inducing over-commitment of a firm's resources in foreign markets. As an important effort to integrate the international business and entrepreneurship fields, our investigation of the entrepreneurial orientation dimensions as separate antecedents to SME international scope extends the typical focus of the international entrepreneurship literature from new ventures to more established firms that seek to internationalize across a large number of country markets (Jones and Coviello, 2005).

### **5.3. Managerial implications**

Our study holds important implications for firms contemplating expansion into new foreign markets. The key take-away is that it is not necessary for a firm to be innovative, proactive and risk-taking at high levels to broaden its international scope. Rather, firms need to adopt strategic postures based on moderate risk-taking, combined with either high or low levels of innovativeness and proactiveness. The findings suggest that low levels of innovativeness and proactiveness enable firms to increase their international scope by leveraging commoditized products in foreign markets and following network partners internationally (Coviello and Munro, 1995, Coviello and Munro, 1997 and Yu et al., 2011). Regardless of whether a high or a low stance is assumed on these two entrepreneurial orientation dimensions, however, it is important for firms to avoid becoming overextended in the international arena by increasing resource commitments in too many markets, or shifting their levels of innovativeness or proactiveness to the point where these entrepreneurial attributes that initially benefit internationalization later become hindrances.

### **6. Limitations & future research**

Our study has several limitations that present opportunities for future research. First, as our sample comprises U.S.-based SMEs, future work assessing the impact of entrepreneurial orientation on SMEs from other countries can provide additional insights (c.f., Bell, 1995). Beyond continued

inquiries into the nuances of the entrepreneurial orientation positions for increasing international scope in various industries, our models need to theoretically and empirically reflect the complexity of entrepreneurial drivers. Given our non-uniform and non-linear results, it is highly possible that the effect of each sub-dimension differs across firms, industries, and environmental contexts. As such, continued inquiry into these relationships in a comparative context will significantly enhance our understanding of the role these dimensions play in the internationalization of entrepreneurial firms (Jones et al., 2011). The field would also benefit by determining whether our results hold for firms of various ages and sizes.

Second, consistent with other studies (c.f. Rauch et al., 2009), we employed self-reported Likert scale items to examine the effects of the three entrepreneurial orientation dimensions. As these scales do not readily convert into tangible values, we cannot venture the exact numerical estimates for each dimension that help or hinder the internationalization process. Since entrepreneurial perceptions of innovativeness, proactiveness, and risk-taking provide the foundation for strategic decisions (Lumpkin and Dess, 1996), future research that is able to operationalize actual levels of these dimensions would further enhance our understanding of entrepreneurial firms. Case study research may be useful for exploring whether firms adjust their levels of entrepreneurial orientation in different contexts, the extent to which each dimension then fosters internationalization, and the corresponding consequences of such strategic moves.

Finally, whereas much of extant research reports a positive relationship between internationalization and innovativeness, our results show that the least innovative firms achieved greater international scope than moderately innovative ones. Our finding thus corroborates Knight and Cavusgil's (2005) work showing that while a technology strategy helps firms achieve high levels of performance, firms can also achieve strong performance by employing low-cost strategies. The differences we detected for the effect of innovativeness between low- and high-tech firms furthermore suggest that for some firms, the benefits to innovativeness may be over-emphasized with respect to internationalization. Given that the impact of innovativeness is in fact context-dependent (Rosenbusch et al., 2011), future research is needed to identify the unique configurations of this and other entrepreneurial attributes that enable firms to expand their foreign presence, taking into account in particular the cost–benefit trade-offs. Studies that aim to clarify entrepreneurial orientation and its boundaries across a variety of firm contexts will also provide value to the field. We hope that this work motivates future researchers to further improve our understanding of the practices that contribute to successful international entrepreneurship.

## **Acknowledgments**

The authors are grateful to Jeremy Short and Dan Li for comments provided on earlier versions of this work. All errors remain our own.

## **Appendix A. Questionnaire items**

The phone questionnaire employed by The Gallup Organization on behalf of NFIB included a two-step process to capture variations in innovativeness, proactiveness, risk-taking, and environmental hostility. The first step asked respondents to identify whether their firm's entrepreneurial behavior corresponded to either extreme of the measured EO item or was neutral between the two extremes. If respondents indicated one of the two extremes, they were further asked whether the specific behavior described the firm's actions strongly or less strongly. We combined the answers from these two steps to form a five-point Likert scale for each item. When the respondent selected the first extreme and indicated that it described the firm's actions strongly, we assigned a value of 1. When the

respondent selected the first extreme and indicated that it described the firm's actions less strongly, we assigned a value of 2. When the respondent selected the neutral option in the first step of the process, we assigned a value of 3. When the respondent selected the second extreme and indicated that it described the firm's actions less strongly, we assigned a value of 4. And when the respondent selected the second extreme and indicated that it described the firm's actions strongly, we assigned a value of 5.

Entrepreneurial orientation	(Cronbach's alpha = 0.732)
Innovativeness	(Cronbach's alpha = 0.569)
A. My business places a strong emphasis on:	
1. Tried & tested practices, equipment, & products or services, OR	
2. Innovation, technological leadership, & R& D	
3. Equally the same	
A1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
B. In the last three years, my business has marketed (reverse coded):	
1. Many new products or services, OR	
2. No new products or services	
3. Equally the same	
B1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
C. In the last three years, changes in my products or services have been:	
1. Mostly of minor nature, OR	
2. Usually quite dramatic	
3. Equally the same	
C1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
Proactiveness	(Cronbach's alpha = 0.575)
D. My business typically:	
1. Responds to actions my competitors initiate, OR	
2. Initiates action to which my competitors then respond	
3. Equally the same	
D1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
E. My business is the first to introduce new products or services, administrative techniques etc.:	
1. Often, OR	
2. Seldom	
3. Equally the same	
E1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
F. Strongly	
G. Not so strongly	
Risk-taking	(Cronbach's alpha = 0.587)
F. My business is inclined toward:	
1. Low risk projects with normal rates of return, OR	
2. High risk projects with a chance of very high returns	
3. Equally the same	
F1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
G. Due to the nature of the business environment in which I operate, it is best to:	
1. Explore potential opportunities gradually through cautious, incremental behavior, OR	
2. Take bold, wide-ranging actions to achieve the firm's objectives	
3. Equally the same	
G1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
Environmental hostility	(Cronbach's alpha = 0.596)
H. The business environment in which I operate is:	
1. Safe with little threat to my firm's survival and well-being, OR	
2. Risky with one false step meaning potential disaster	
3. Equally the same	
H1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	
I. The business environment in which I operate is:	
1. Rich in marketing and investment opportunities, OR	
2. Stressful, exacting, hostile, and hard to survive in	
3. Equally the same	
I1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?	
1. Strongly	
2. Not so strongly	

J. My business:

1. Can control and manipulate the business environment to its advantage, OR
2. Initiatives amount to little against the economic and technological forces aligned against me
3. Equally the same

J1. (If 1 or 2 above) Does that describe your business strongly or not so strongly?

1. Strongly
2. Not so strongly

The following measures were based on a single item:

Foreign country scope: In the last three years, in approximately how many different countries have you made sales to customers?

Total number of alliances: Measured as the sum across all categories below:

How many (A–J) agreements with other businesses does your firm currently hold?

- a. Licensing
- b. Export or import trading
- c. Franchise
- d. Marketing
- e. Distribution
- f. Production
- g. Product or service-based research and development
- h. Process-based research and development
- i. Purchaser or supplier, such as just-in-time or Total Quality Management
- j. Outside contractor agreements lasting more than one year

Firm size: How many people, full-time and part-time, does your business currently employ, not including yourself?

Firm age: How long have you owned or operated this business?

Industry classification: What type of products do you manufacture?

- a. Food products
  - b. Apparel, textiles, leather products
  - c. Wood products, furniture, fixtures
  - d. Paper and allied products
  - e. Printing
  - f. Chemicals, petroleum, rubber, plastics
  - g. Stone, glass, clay, cement
  - h. Metal fabrication
  - i. Machinery and equipment
  - j. Instruments, medical and optical goods, measuring devices
  - k. Electronics
- 

## References

- B.S. Anderson, J.G. Covin, D.P. Slevin. Understanding the relationship between EO and strategic learning capability: an empirical investigation. *Strategic Entrepreneurship Journal*, 3 (3) (2009), pp. 218–240
- E. Autio, H.J. Sapienza, J.G. Almeida. Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43 (5) (2000), pp. 909–924
- T.M. Begley, D.P. Boyd. Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses. *Journal of Business Venturing*, 2 (1987), pp. 79–93
- J. Bell. The internationalization of small computer software firms: a further challenge to “stage” theories. *European Journal of Marketing*, 29 (8) (1995), pp. 60–75
- J. Bloodgood, H.J. Sapienza, J.G. Almeida. The internationalization of new high-potential ventures: antecedents and outcomes. *Entrepreneurship Theory and Practice*, 20 (1996), pp. 61–76
- O. Branzei, I. Vertinsky. Strategic pathways to product innovation capabilities in SMEs. *Journal of Business Venturing*, 21 (1) (2006), pp. 75–105
- L.W. Busenitz, C. Gomez, J.W. Spencer. Country institutional profiles: unlocking entrepreneurial phenomena. *Academy of Management Journal*, 43 (2000), pp. 994–1003
- B. Cassiman, E. Golovko. Innovation and internationalization through exports. *Journal of International Business Studies*, 42 (1) (2011), pp. 56–75
- G.N. Chandler, S.H. Hanks. Measuring the performance of emerging businesses: a validation study. *Journal of Business Venturing*, 8 (5) (1993), pp. 391–408
- Y.R. Choi, M. Lévesque, D.A. Shepherd. When should entrepreneurs expedite or delay opportunity exploitation? *Journal of Business Venturing*, 23 (3) (2008), pp. 333–355

- P. Cohen, J. Cohen, S.G. West, L.S. Aiken. *Applied Multiple Regression/Correlation Analysis for the Behavioral Science* (3rd ed.) Erlbaum, Hillsdale, NJ (2003)
- N.E. Coviello, A. McAuley. Internationalization and the smaller firm: a review of contemporary empirical research. *Management International Review*, 39 (3) (1999), pp. 223–256
- N.E. Coviello, H.J. Munro. Growing the entrepreneurial firm: networking for international market development. *European Journal of Marketing*, 29 (7) (1995), pp. 49–61
- N.E. Coviello, H.J. Munro. Network relationships and the internationalization process of small software firms. *International Business Review*, 6 (4) (1997), pp. 361–386
- J.G. Covin, D. Miller. International EO: conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice* (2013) <http://dx.doi.org/10.1111/etap.12027>
- J.G. Covin, D.P. Slevin. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10 (1) (1989), pp. 75–87
- J.G. Covin, D.P. Slevin. A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice*, 16 (1991), pp. 7–25
- J.G. Covin, W.J. Wales. The measurement of EO. *Entrepreneurship Theory and Practice*, 36 (4) (2012), pp. 677–702
- J.G. Covin, D.P. Slevin, T.J. Covin. Content and performance of growth-seeking strategies: a comparison of small firms in high- and low technology industries. *Journal of Business Venturing*, 5 (6) (1990), pp. 391–412
- J.G. Covin, K.M. Green, D.P. Slevin. Strategic process effects on the EO–sales growth rate relationship. *Entrepreneurship Theory and Practice*, 30 (1) (2006), pp. 57–81
- D. De Clercq, H.J. Sapienza, H. Crijns. The internationalization of small and medium-sized firms. *Small Business Economics*, 24 (4) (2005), pp. 409–419
- A. Diamantopoulos, K. Inglis. Identifying differences between high- and low-involvement exporters. *International Marketing Review*, 5 (2) (1988), pp. 52–60
- R. Durand, R. Coeurderoy. Age, order of entry, strategic orientation, and organizational performance. *Journal of Business Venturing*, 16 (5) (2001), pp. 471–494
- O. Gassmann, M.M. Keupp. The competitive advantage of early and rapidly internationalising SMEs in the biotechnology industry: a knowledge-based view. *Journal of World Business*, 42 (3) (2007), pp. 350–366
- B.A. George, L. Marino. The epistemology of EO: conceptual formation, modeling, and operationalization. *Entrepreneurship Theory and Practice*, 35 (5) (2011), pp. 989–1024
- J.S. Hornsby, D.F. Kuratko, D.A. Shepherd, J.P. Bott. Managers' corporate entrepreneurial actions: examining perception and position. *Journal of Business Venturing*, 24 (3) (2009), pp. 236–247
- M. Hughes, R.E. Morgan. Deconstructing the relationship between EO and business performance at the embryonic stage of firm growth. *Marketing Management*, 36 (2007), pp. 651–661
- A. Jantunen, K. Puumalainen, S. Saarenketo, K. Kyläheiko. EO, dynamic capabilities and international performance. *Journal of International Entrepreneurship*, 3 (3) (2005), pp. 223–243
- J. Johanson, J.E. Vahlne. The internationalization process of the firm — a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies* (1977), pp. 23–32
- J. Johanson, J.E. Vahlne. The Uppsala internationalization process model revisited: from liability of foreignness to liability of outsidership. *Journal of International Business Studies*, 40 (9) (2009), pp. 1411–1431
- M.V. Jones, N.E. Coviello. Internationalization: conceptualizing an entrepreneurial process of behaviour in time. *Journal of International Business Studies*, 36 (3) (2005), pp. 284–303
- M.V. Jones, N.E. Coviello, Y. Tang. International entrepreneurship research (1989–2009): a domain ontology and thematic analysis. *Journal of Business Venturing*, 26 (6) (2011), pp. 632–659

- H.T. Keh, T.T.M. Nguyen, H.P. Ng. The effects of EO and marketing information on the performance of SMEs. *Journal of Business Venturing*, 22 (4) (2007), pp. 592–611
- G.A. Knight. Cross-cultural reliability and validity of a scale to measure firm EO. *Journal of Business Venturing*, 12 (3) (1997), pp. 213–225
- G.A. Knight. Entrepreneurship and marketing strategy: the SME under globalization. *Journal of International Marketing*, 8 (2) (2000), pp. 12–32
- G.A. Knight, S.T. Cavusgil. Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35 (2) (2004), pp. 124–141
- G.A. Knight, S.T. Cavusgil. A taxonomy of born-global firms. *Management International Review*, 45 (Special Issue 3) (2005), pp. 15–35
- M. Kotabe. Corporate product policy and innovative behavior of European and Japanese multinationals: an empirical investigation. *The Journal of Marketing* (1990), pp. 19–33
- P.M. Kreiser, J. Davis. EO and firm performance: the unique impact of innovativeness, proactiveness, and risk-taking. *Journal of Small Business & Entrepreneurship*, 23 (1) (2010), pp. 39–51
- P.M. Kreiser, L.D. Marino, K.M. Weaver. Assessing the psychometric properties of the EO scale: a multi-country analysis. *Entrepreneurship Theory and Practice*, 26 (4) (2002), pp. 71–94
- P.M. Kreiser, L.D. Marino, D.F. Kuratko, K.M. Weaver. Disaggregating EO: the non-linear impact of innovativeness, proactiveness and risk-taking on SME performance. *Small Business Economics*, 40 (2) (2013), pp. 1–19
- C. Lee, K. Lee, J.M. Pennings. Internal capabilities, external networks, and performance: a study on technology-based ventures. *Strategic Management Journal*, 22 (6/7) (2001), pp. 615–640
- L.C. Leonidou, C.S. Katsikeas, D. Palihawadana, S. Spyropoulou. An analytical review of the factors stimulating smaller firms to export: implications for policy makers. *International Marketing Review*, 24 (6) (2007), pp. 735–770
- H. Li, K. Atuahene-Gima. Product innovation strategy and performance of new technology ventures in China. *Academy of Management Journal*, 44 (6) (2001), pp. 1123–1134
- P.J. Louter, C. Ouwerkerk, B.A. Bakker. An inquiry into successful exporting. *European Journal of Marketing*, 25 (6) (1991), pp. 7–23
- G.T. Lumpkin, G.G. Dess. Clarifying the EO construct and linking it to performance. *Academy of Management Review* (1996), pp. 135–172
- G.T. Lumpkin, G.G. Dess. Linking two dimensions of EO to firm performance: the moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16 (5) (2001), pp. 429–451
- P.P. McDougall, B.M. Oviatt. International entrepreneurship: the intersection of two research paths. *Academy of Management Journal*, 43 (5) (2000), pp. 902–906
- K.D. Miller, P.H. Friesen. *Organizations: A Quantum View* Prentice Hall, Englewood Cliffs, NJ (1984)
- M.H. Morris, G.W. Paul. The relationship between entrepreneurship and marketing in established firms. *Journal of Business Venturing*, 2 (3) (1987), pp. 247–259
- T. Morris, C.M. Pavett. Management style and productivity in two cultures. *Journal of International Business Studies*, 23 (1992), pp. 169–179
- M.H. Morris, J.W. Webb, R.J. Franklin. Understanding the manifestation of EO in the nonprofit context. *Entrepreneurship Theory and Practice*, 35 (5) (2011), pp. 947–971
- M. Musteen, D.K. Datta, M.M. Butts. Do international networks and foreign market knowledge facilitate SME internationalization? Evidence from the Czech Republic. *Entrepreneurship Theory and Practice* (2013)  
<http://dx.doi.org/10.1111/etap.12025>

- R. Narula, J. Hagedoorn. Innovating through strategic alliances: moving towards international partnerships and contractual agreements. *Technovation*, 19 (5) (1999), pp. 283–294
- C.P. Neck, C.C. Manz. Thought self-leadership: the impact of mental strategies training on employee behavior, cognition, and emotion. *Journal of Organizational Behavior*, 17 (1996), pp. 445–467
- B.M. Oviatt, P.P. McDougall. Toward a theory of international new ventures. *Journal of International Business Studies*, 25 (1) (1994), pp. 45–64
- B.M. Oviatt, P.P. McDougall. Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship Theory & Practice*, 29 (5) (2005), pp. 537–553
- M.W. Peng, A. York. Behind intermediary performance in export trade: transactions, agents, and resources. *Journal of International Business Studies*, 32 (2) (2001), pp. 327–346
- A. Pérez-Luño, J. Wiklund, R.V. Cabrera. The dual nature of innovative activity: how EO influences innovation generation and adoption. *Journal of Business Venturing*, 26 (5) (2011), pp. 555–571
- P.M. Podsakoff, S.B. MacKenzie, J.Y. Lee, N.P. Podsakoff. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88 (5) (2003), pp. 879–903
- M.E. Porter. *Competitive Strategy: Techniques for Analyzing Industries and Competition*. Free Press, New York (1980)
- S.B. Preece, G. Miles, M.C. Baetz. Explaining the international intensity and global diversity of early-stage technology-based firms. *Journal of Business Venturing*, 14 (3) (1999), pp. 259–281
- A. Rauch, J. Wiklund, G.T. Lumpkin, M. Frese. EO and business performance: an assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33 (3) (2009), pp. 761–787
- M. Ripollés-Meliá, M. Menguzzato-Boulard, L. Sánchez-Peinado. EO and international commitment. *Journal of International Entrepreneurship*, 5 (3) (2007), pp. 65–83
- N. Rosenbusch, J. Brinckmann, A. Bausch. Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing*, 26 (4) (2011), pp. 441–457
- H.J. Sapienza, D. De Clercq, W.R. Sandberg. Antecedents of international and domestic learning effort. *Journal of Business Venturing*, 20 (4) (2005), pp. 437–457
- H.J. Sapienza, E. Autio, G. George, S. Zahra. A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review*, 31 (4) (2006), pp. 914–933
- R.C. Shrader, B.M. Oviatt, P.P. McDougall. How new ventures exploit trade-offs among international risk factors: lessons for the accelerated internationalization of the 21st century. *Academy of Management Journal*, 28 (3) (2000), pp. 1227–1247
- H.K. Steensma, L. Marino, K.M. Weaver, P.H. Dickson. The influence of national culture on the formation of technology alliances by entrepreneurial firms. *Academy of Management Journal*, 43 (2000), pp. 951–973
- Z. Su, E. Xie, Y. Li. EO and firm performance in new ventures and established firms. *Journal of Small Business Management*, 49 (4) (2011), pp. 558–577
- J. Tang, Z. Tang, L.D. Marino, Y. Zhang, Q. Li. Exploring an inverted U-shaped relationship between EO and performance in Chinese ventures. *Entrepreneurship Theory and Practice*, 32 (1) (2008), pp. 219–239
- B. Uzzi. The sources and consequences of embeddedness for the economic performance of organizations: the network effect. *American Sociological Review*, 61 (1996), pp. 674–698
- A.H. Van de Ven, D.L. Ferry. *Measuring and Assessing Organizations*. Wiley Interscience, New York (1980)
- F. Vermeulen, H. Barkema. Pace, rhythm, and scope: process dependence in building a profitable multinational corporation. *Strategic Management Journal*, 23 (7) (2002), pp. 637–653
- W.J. Wales, P.C. Patel, V. Parida, P.M. Kreiser. Non-linear effects of EO on small firm performance: the moderating role of resource orchestration capabilities. *Strategic Entrepreneurship Journal*, 7 (2) (2013), pp. 93–121

- J. Wiklund, D. Shepherd. Knowledge-based resources, EO, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24 (13) (2003), pp. 1307–1314
- J. Yu, B.A. Gilbert, B.M. Oviatt. Effects of alliances, time, and network cohesion on the initiation of foreign sales by new ventures. *Strategic Management Journal*, 32 (4) (2011), pp. 424–446
- S.A. Zahra, D.M. Garvis. International corporate entrepreneurship and firm performance: the moderating effect of international environmental hostility. *Journal of Business Venturing*, 15 (5) (2000), pp. 469–492
- S.A. Zahra, G. George. International entrepreneurship: the current status of the field and future research agenda M. Hitt, D. Ireland, M. Sexton, M. Camp (Eds.), *Strategic Entrepreneurship: Creating an Integrated Mindset*, Blackwell, Oxford (2002), pp. 255–288
- S.A. Zahra, J. Hayton, J. Marcel, H. O'Neill. Fostering entrepreneurship during international expansion: managing key challenges. *European Management Journal*, 19 (4) (2001), pp. 359–369
- X. Zhang, X. Ma, Y. Wang. EO, social capital, and the internationalization of SMES: evidence from China. *Thunderbird International Business Review*, 54 (2) (2012), pp. 195–210
- Y. Zhao, Y. Li, S.H. Lee, L.B. Chen. EO, organizational learning, and performance: evidence from China. *Entrepreneurship Theory and Practice*, 35 (2) (2011), pp. 293–317
- L. Zhou. The effects of entrepreneurial proclivity and foreign market knowledge on early internationalization. *Journal of World Business*, 42 (3) (2007), pp. 281–293