J Int Entrepr (2007) 5:65–83
DOI 10.1007/s10843-007-0016-0

# Entrepreneurial orientation and international commitment

**María Ripollés-Meliá · Martina Menguzzato-Boulard · Luz Sánchez-Peinado**

Published online: 27 November 2007


**Abstract** This paper contributes to the development of the field of international corporate entrepreneurship (ICE) by examining the influences that the time lapse between foundation and first international market entry may have on the development of an entrepreneurial orientation (EO). Moreover, the paper highlights the existence of a positive relationship between the development of an entrepreneurial orientation and both internationalization decision and dimensions (degree, scope) in established companies. Based on a sample of 155 Spanish firms, our findings suggest that an entrepreneurial orientation positively influences a firm's propensity to internationalize activities. The results obtained confirm the idea that fast entry into foreign markets is positively related to the development of an entrepreneurial orientation in established firms, and that firms with a marked entrepreneurial orientation have higher relative international sales and operate in a greater number of foreign countries.

**Keywords** International corporate entrepreneurship · Entrepreneurial orientation · Speed of the first international market entry

The authors wish to acknowledge the funding received from the Spanish Ministry of Science and Technology through the SEC2002-01878 project. This paper is also part of the "Analysis of Factors that Influence on Competitiveness and Business Performance of Global New Ventures" (GV/2007/102) research project, financially supported by the Valencian Government's Ministry of Business, Universities and Science.

M. Ripollés-Meliá (✉)
Dpto. de Administración de Empresas y Marketing, Facultat de Ciencias Jurídicas y Económicas, Universitat Jaume I, Campus del Riu Sec, s/n, 12071 Castellón, Spain
e-mail: mripolle@emp.uji.es

M. Menguzzato-Boulard · L. Sánchez-Peinado
Dpto. de Dirección de Empresas "Juan José Renau Piqueras", Facultat d'Economia, Universitat de València, Avda. dels Tarongers, s/n, 46022 Valencia, Spain

M. Menguzzato-Boulard
e-mail: Martina.Menguzzato@uv.es

L. Sánchez-Peinado
e-mail: Luz.Sanchez@uv.es

## Introduction

In the last decade, the new research stream "international entrepreneurship" (IE) has generated some interesting research issues. This research perspective has arisen as a result of the need to explain how firms that have to face the double liability of newness and foreignness manage to operate successfully in international markets almost from the start of their business activity. These firms are known as international new ventures (INV) or global new ventures (GNV). An important contribution of past IE research has focused on the recognition of the limitations arising from the sequential process of internationalization perspective to explain the exceptional speed with which certain new firms become internationalized. Another important contribution of this interface perspective has been to determine the various factors that allow us to explain how fast INVs become internationalized (for a review, see Zahra and George 2002; Coviello and Jones 2004; Rialp-Criado et al. 2002; Dana and Wright 2004; Zahra 2005). Recently, Oviatt and McDougall (2005) have presented an integrative model by combining all the possible relations between these factors.

Despite the fact that INVs or GNVs have been at the center of IE, recent studies point out the need to extend the boundaries to include previously established companies (McDougall and Oviatt 2000; Zahra and George 2002; Dess et al. 2003; Dimitratos and Jones 2005). International corporate entrepreneurship emerges as a new perspective in the study of firm internationalization. This new perspective is mainly characterized by the study of factors that can act as enablers of rapid firm internationalization, as well as accelerating the process of internationalization itself (Oviatt and McDougall 2005). Indeed, Bell et al. (2001) have examined factors that may have an effect on established firms when they decide to change from a gradualist approach and hasten the process of commitment to international activities. Such organizations are known as born-again global firms and they raise intriguing research questions, as yet unanswered by existing theoretical approaches.

Other researchers have also suggested that the speed with which a firm becomes internationalized can also influence its internationalization process (Oviatt and McDougall 1994). In this sense, internationalization speed can play a fundamental role in determining the international behavior of established firms, as it may help them to generate a more complete knowledge of the sources of international competition (Autio et al. 2000). However, the analysis of the effects of first market entry speed has not attracted the same research attention as other aspects of the international strategy followed by established firms (Autio 2005; Zahra 2005). Therefore, this study seeks to establish whether the time firms take to branch out into international operations has an effect on international behavior. More precisely, it analyzes whether the speed of the first international market entry influences the development of an entrepreneurial orientation in such firms, and if this orientation then contributes to greater international commitment.

In this paper, we aim to study the above relationships in a sample of Spanish firms, and in doing so, we also respond to the recommendation made by Zahra and George (2002), who propose that research should be extended through samples based in countries other than the USA to take IE research forward.

This paper is structured as follows: In the first section, we present a brief overview of IE research, highlighting the lack of previous studies focusing on the

particular issue proposed herein, and we put forward some hypotheses that we attempt to test in the next section. In the second section, we offer a description of the methodology used in the empirical study. Finally, we discuss the results obtained and present the main conclusions of the paper.

## Development of the hypotheses

### Entrepreneurial orientation and international activity

It is not an easy task to identify the main aspects that typify an entrepreneurial orientation. Firstly, researchers have defined this orientation on the basis of entrepreneurs' personal characteristics (see Shook et al. 2003 for a review), although some studies have highlighted that this stream of research does not allow researchers to identify entrepreneurial orientation, due to the difficulty involved in connecting specific personal characteristics with firm behavior (Woo et al. 1991). However, the cognitive perspective provides a promising alternative, insofar as it is concerned with the way managers think and how they arrive at decisions. As this paper studies entrepreneurship in established firms, we have preferred to use a firm-level conceptualization of entrepreneurial orientation (EO). Therefore, we use the characterization of EO proposed by Miller (1983), based on three dimensions: innovation, proactivity, and moderate risk-taking. Although some authors have identified other dimensions such as autonomy and competitive aggressiveness (Lumpkin and Dess 1996, 2001), the dimensions proposed by Miller (1983) have been widely studied and extensively used in the literature to encapsulate the idea of entrepreneurial behavior (Miller 1983; Covin and Slevin 1989, 1991; Morris and Sexton 1996; Covin and Miles 1999; Wiklund and Shepherd 2003, 2005; Covin et al. 2006), and even in other fields of study such as corporate strategy (Hitt et al. 2002) or marketing (Stokes 2000). In fact, these dimensions reflect the essential entrepreneurial behavior in established firms, i.e., the process of developing new business opportunities (Kreiser et al. 2002). Moreover, Miller (1983) also develops a measurement scale that has been used in a wide variety of research settings and has shown high levels of reliability and validity in numerous studies (Barringer and Bluedorn 1999; Becherer and Maurer 1997; Dickson and Weaver 1997; Kreiser et al. 2002; Wiklund and Shepherd 2003, 2005; Covin et al. 2006). More precisely, innovation can materialize both in the creation of new resources and in new ways of combining available resources (Zahra et al. 1999). In order for an innovative activity to be considered entrepreneurial, it must involve the search for new relations between existing resources and products in a way that expands the firm's resources and capabilities. Innovations that result only from the firm's desire to optimize existing resources cannot be considered entrepreneurial (Kirzner 1997; Eckhardt and Shane 2003).

Proactiveness refers to the firm's response to market opportunities and implies an opportunity-seeking perspective (Lumpkin and Dess 2001; Kreiser et al. 2002). A proactive approach implies taking the initiative in an attempt to shape the environment to gain a competitive advantage and to anticipate competitors' movements and market needs. It has therefore been defined as an organizational

process aimed at pursuing entrepreneurial opportunities regardless of the resources they currently control (Stevenson and Gumpert 1985; Stevenson and Jarillo 1990). Entrepreneurial actions therefore also involve taking calculated risks. Risk-taking propensity denotes the willingness to make investments in projects that have uncertain outcomes (Lumpkin and Dess 1996).

The international activity of the firm, that is, the development of a firm activity in foreign countries (either by exports or by direct investment) is per se an entrepreneurial act because it consists of identifying and exploiting new business opportunities in a new environment. Entering new foreign markets requires an innovative and proactive attitude in firms (Knight and Cavusgill 2004; Fletcher 2004). Moreover, international activity implies an additional risk because of the major probability of failure in an unknown general and competitive environment with potential manifold shifts.[1] Thus, we agree that internationalization can be considered as a form of entrepreneurship (Lu and Beamish 2001). We therefore propose that:

*Hypothesis 1* Internationalized firms will show a more entrepreneurial orientation than noninternationalized firms.

## Speed of the first international market entry and entrepreneurial orientation

For well-established firms, internationalization is an extension of their domestic activities. They develop and build up resources and capabilities at home and then have to extend resources and capabilities to an international market. Well-established firms typically must unlearn routines rooted in domestic operations before new, internationally oriented routines can be learned (Knight and Cavusgill 2004). Unlearning embedded routines becomes more difficult as firms get older because new knowledge that leads to new routines tends to enter into conflict either with existing operations or with the management's embedded mental models (Autio et al. 2000). Managers run the risk of limiting their search for new business opportunities in international markets to factors they are already familiar with. In addition, this information may only be assimilated into the organization if it does not run contrary to existing knowledge. Such behavior would put restraints on the firm's capacity to respond to new business opportunities arising in international markets (Zahra and George 2002; Eriksson and Chetty 2003). Well-established firms have systemized routines that are costly to change and that limit the firm's ability to innovate and respond quickly to environmental changes (Grant 1996).

The development of an entrepreneurial orientation is intrinsically linked to the existence of flexible, organic organizational procedures that pave the way both for a proactive search for new business opportunities and for prompt economic exploitation (Miller 1983; Covin and Miles 1999; Covin et al. 2006). Thus, the earlier the firm's internationalization process, the greater its willingness to explore and develop new business opportunities and act in an entrepreneurial way:

[1] In other words, economic, political, social, and legal shifts.

*Hypothesis 2* The speed of the first international market entry will contribute to the development of an entrepreneurial orientation in established firms.

## Entrepreneurial orientation and international degree

We stress that EO is not a strategic orientation possessed by a firm, and it cannot, thus, be expressed in absolute terms. Firms can manifest an entrepreneurial orientation in different degrees of intensity and frequency throughout their activities because some are of a more innovative, proactive, and risky nature than others, and varying entrepreneurial activities can be developed within the same firm (Covin and Slevin 1991; Morris and Sexton 1996). Moreover, not all firms show the same involvement in their international activity. Degree and scope can be considered as the most representative variables of a firm's international activity (Sullivan 1994, 1996). Degree refers to the firm's percentage of foreign turnover while scope reflects its geographic diversification. A firm's commitment in foreign markets will vary depending on these dimensions. The greater the international degree and scope, the greater the international commitment of the firm will be.

Firms developing an EO perceive new business opportunities more quickly than their competitors, and their proactive character and willingness to take higher risks facilitate the exploitation of these opportunities before their competitors. Knight and Cavusgill (2004) have argued that entrepreneurial orientation should be instrumental to the development and enactment of key organizational routines to succeed in international markets. Therefore, an entrepreneurial orientation can positively influence an increase in international activity for established firms.

*Hypothesis 3* A firm's entrepreneurial orientation positively influences an increase in international degree for established firms.

## Entrepreneurial orientation and international scope

Oviatt and McDougall (1994) state the importance of geographic diversification in the international behavior of new ventures in the IE literature. These authors claim that different types of INV can be identified according to the number of countries in which they operate (Geographically focused start-up and Global start-up). This classification has been corroborated by the specialized literature (Preece et al. 1998; Junkkari 2000; Luostarinen and Gabrielson 2002).

In general, the number of countries in which the firm operates influences organizational flexibility and the international risk assumed by the firm (Miller 1992), and it reflects how the firm is positioned in comparison with competitors and future opportunities (Papadopoulos 1987). The firm can diminish the risk of its international operations by maintaining a balanced configuration in its international portfolio in terms of the number of countries in which it operates (Miller 1992; Shrader et al. 2000). Multinationals use geographic dispersion as a strategy for managing international risk. The operational flexibility arising from geographic diversification can result in sustained competitive advantages in the long term

(Kogut 1989). This argument can be used to justify the delocalization observed in a great number of countries.

All these reasons can help researchers to understand geographic diversification in established firms. However, in our paper, we put forward a new argument: that international scope can also reflect the frequency with which the firm develops an EO in its international activities. In this sense, each entry into a new country can be considered as an entrepreneurial activity because it represents a deliberate decision to face a new environment. Therefore, we can state the existence of a positive relationship between entrepreneurial orientation and international scope. This relationship has been corroborated in the case of INVs (Ripollés et al. 1999; McDougall and Oviatt 2000; Knight and Cavusgill 2004). Thus, we propose that:

*Hypothesis 4* A firm's entrepreneurial orientation will positively influence international scope in established firms.

## Methodology

### Sample selection

To select our sample, we created a list of firms from the Dun and Bradstreet (2002) database[2] and ordered them in terms of turnover. Large firms are generally more internationalized and, consequently, the probability of finding suitable firms to run our analysis is higher in this type of firm. We selected the top 1,000 firms with the highest sales. The empirical study was carried out during March and April 2003. We collected data through an online questionnaire addressed to general managers or, in their absence, the person in charge of the firm's internationalization strategy. This suggestion was designed to avoid the questionnaire being passed on to someone not in possession of the necessary information in cases where replies were not given by the general manager. A total of 155 questionnaires were returned (sample error ±7.87%; statistical confidence level 95.5%).

### Sample characteristics

Table 1 summarizes the main characteristics of the final sample of firms related to size, international experience, and sales.

### Measurement of variables

#### *Dimensions of entrepreneurial orientation*

In this study, as mentioned above, we consider the concept of "entrepreneurial orientation" defined by Miller (1983) from the interrelation of three basic characteristics,

[2]This database contains references to 850,000 Spanish firms.

**Table 1** Characteristics of the sample

| Characteristic | Results |
|---|---|
| Most representative sectors | Construction industry<br>Commercial services (consultancy, etc.)<br>Chemical industry<br>Electricity, water, and gas services |
| Firm size | 63.87% of firms with sales volume >40 millions of euros<br>46.5% of firms with more than 500 employees |
| International experience | 77.42% of firms are international |
| Countries | 40.67% of international firms are present in more than 10 countries |
| International sales | 40.84% of international firms have international sales of between 25 and 50% |

One hundred fifty five Spanish firms (120 international firms). Sample error ±7.87%; statistical confidence level 95.5%

innovative attitude, willingness to take on controlled risks, and proactiveness, and we use Miller's scale in its extended form, taken from the specialized literature (Covin and Slevin 1989). This measure has been utilized in a wide variety of research settings and has shown high levels of reliability and validity in numerous studies (Barringer and Bluedorn 1999; Becherer and Maurer 1997; Dickson and Weaver 1997; Kreiser et al. 2002). This entrepreneurial orientation scale has three subdimensions, each of which contains three items (see Table 2, entrepreneurial orientation scale items).

We measure the model's reliability by calculating the composite reliability for each dimension. Composite reliability is a measure of internal consistency comparable to coefficient alpha (Fornell and Larcker 1981). All three scales demonstrated acceptable

**Table 2** Items of entrepreneurial orientation scale

| Dimensions | |
|---|---|
| Innovation | My company favors a strong emphasis on research, development, and innovation of products and technologies (V1) |
| | During the past 5 years, my company has entered new businesses and marketed new products (V2) |
| | My company makes usually significant changes in its lines of products or services (V3) |
| Proactiveness and competitive aggressiveness | In dealing with its competitors, my company typically responds to actions that competitors initiate and rarely initiates actions in the sector (V4) |
| | My company is usually the first one to introduce new products or services, administrative techniques, operating technologies, etc. (V5) |
| | My company typically seeks to avoid competitive clashes, preferring a "live-and-let live" posture (V6) |
| Risk taking | Owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behavior (V7) |
| | My company has a strong proclivity for high-risk projects with chances of very high returns (V8) |
| | When my company has to make a decision with a certain degree of uncertainty, it typically adopts a conservative posture with the aim to minimize the risk of making a mistake (V9) |

We asked managers to indicate their degree of agreement or disagreement with the above statements (1, very disagree; 2, disagree; 3, indifferent; 4, agree; 5, very agree)

levels of reliability, with coefficients in excess of 0.70 (see Table 3, estimated parameters of the confirmatory factor analysis and composite reliability).

We conducted a second-order confirmatory factor analysis to determine the convergent validity of the scale. Figure 1 reports factor loadings of the path coefficients and the *t* value for each of them using the EQS program. Table 4 shows the model fit indices.

An analysis of the fit indicators showed that all of them were above the recommended minimum acceptance levels. We then proceeded to verify whether the factor loadings were significant or whether any of the variables did not constitute good indicators of the latent variables or dimensions. As we can see in Fig. 1 that the *t* statistic is greater than 3.291 in all cases, and thus, the parameters are significant at $p<0.001$. In addition to this, the factor loadings are large (near to or greater than 0.6). Moreover, the Bentler–Bonett coefficient for our scale (see Table 3) exceeded the recommended value of 0.9, demonstrating convergent validity (Bentler and Bonett 1980). Therefore, our scale presents convergent validity.

Because our entrepreneurial orientation scale encompasses three dimensions or latent variables (innovation, proactiveness, and risk taking), discriminant validity must also be verified. Discriminant validity was assessed by correlation analysis. Correlations between the three subdimensions of the scale were calculated to assess the strength of the relationship between these dimensions. The results corroborate the discriminant validity of the scale because the three subdimensions show significant correlations with one another at levels lower than one (McEvily and Zaheer 1999) (correlation coefficient of 0.708** between F2 and F3, 0.598** between F2 and F4, and 0.649** between F3 and F4 for $p<0.01$). Moreover, the strong correlations between dimensions suggest the unidimensionality of the entrepreneurial orientation scale. After assessing the reliability and validity of our scale, we consider that a firm's entrepreneurial orientation can be obtained from the mean value of the scores given to the nine items.

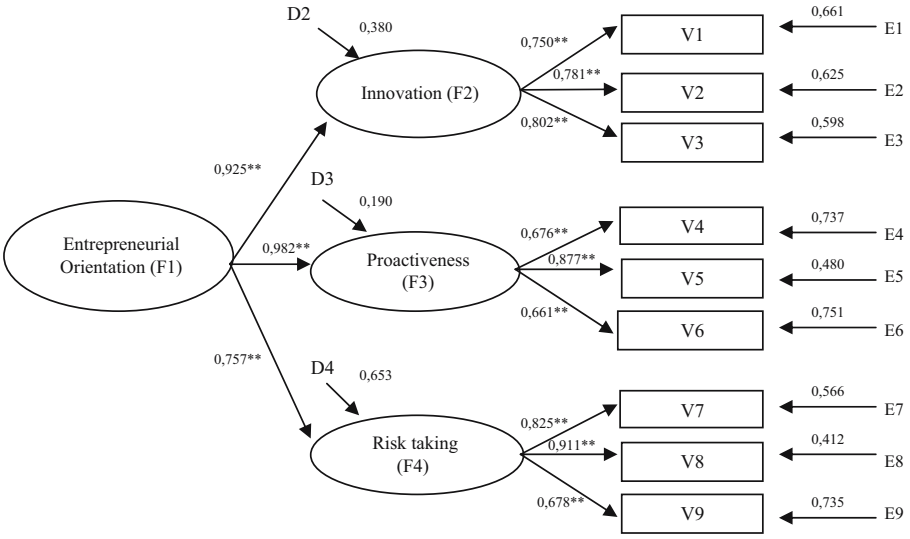
### *Dimensions of internationalization*

In this paper, we consider firms to be internationalized when their foreign sales represent more than 25% of total sales. Therefore, the variable takes a value of 1 if the firm is internationalized and a value of 0 otherwise.

**Table 3** Estimated parameters of the confirmatory factor analysis and composite reliability

| Dimensions | Items | Factorial loadings | Errors | Composite reliability |
|---|---|---|---|---|
| Innovation | V1 | 0.750[a] | 0.661 | 0.7428 |
| | V2 | 0.781[a] | 0.625 | |
| | V3 | 0.802[a] | 0.598 | |
| Proactiveness | V4 | 0.677[a] | 0.736 | 0.7135 |
| | V5 | 0.877[a] | 0.480 | |
| | V6 | 0.661[a] | 0.751 | |
| Risk taking | V7 | 0.825[a] | 0.566 | 0.7728 |
| | V8 | 0.911[a] | 0.412 | |
| | V9 | 0.678[a] | 0.735 | |

[a] $t \geq 3.291$




**t > 3,291; p< 0,001

**Fig. 1** Entrepreneurial orientation scale

With regard to the international intensity dimensions, internationalization scope (INT_SCOPE) is measured as the number of countries where firms are operating. Internationalization speed (INT_SPEED) is measured as the number of years elapsed between firm foundation and initial entry into foreign markets, and finally, internationalization degree (INT_DEGREE) takes a value of 1 if the percentage of foreign sales oscillates between 25 and 50% of total sales, a value of 2 if foreign sales oscillate between 50 and 75%, and a value of 3 if it is higher than 75% of total sales.

*Control variables*

Several control variables are considered in our study. As large firms have greater financial and managerial capacity to undertake new entries (Kogut and Singh 1988; Gomes-Casseres 1989; Erramilli and Rao 1993, Tan et al. 2001; Barbosa and Louri 2002), we control for the impact of firm size (SIZE) on the internationalization

**Table 4** The model fit indices of entrepreneurial orientation scale

| Indices | Recommended standards | Model fit |
|---|---|---|
| Bentler–Bonett normed fit index | Close to 0.9 | 0.935 |
| Bentler–Bonett nonnormed fit index | Close to 0.9 | 0.927 |
| Comparative fit index | Close to 1 | 0.951 |
| Lisrel GFI fit index | Close to 0.9 | 0.933 |
| Lisrel AGFI fit index | Close to 0.9 | 0.874 |
| Standardised RMR | Lower than 0.08 | 0.034 |

GFI = goodness of fit index, AGFI = adjusted goodness of fit index, RMR = root mean square residual

measures. To measure firm size, we asked managers to provide sales volume figures for 2002 (Yip 1982a, b; Erramilli 1991; Taylor et al. 2000). We also control for firms' international experience (INT_EXP) in accordance with the sequential approach to the internationalization process; this variable is measured as the number of years elapsed since initial entry into foreign markets.

It is acknowledged that the type of sector in which the firm is operating can influence the firm's internationalization (Caves and Mehra 1986; Kogut and Chang 1991; Kim and Hwang 1992; Hennart and Park 1993), and consequently, we consider the type of sector as a control variable (SECTOR) that takes value 1 if a firm operates in a manufacturing sector and 0 if it operates in a service sector.

Finally, we consider whether or not the firm is a family business (FAMILY), in light of the increasing number of studies that have found that family firms are less likely to become internationalized (Gallo and Garcia-Pont 1996; Okoroafo 1999). In this study, the managers are asked whether their firm is a family firm or not, taking a value of 1 or 0, respectively.

## Analysis of results and discussion

Tables 5 and 6 provide the descriptive statistics and the correlation matrix for all the key variables. Our empirical study encompasses two research questions. Firstly, we aim to assess whether internationalized firms show a higher entrepreneurial orientation than noninternationalized firms do. Secondly, considering only internationalized firms, we aim to determine whether there is a relationship between the speed of the first entry into foreign markets and the firms' current entrepreneurial orientation and between entrepreneurial orientation and international scope and degree.

To examine whether internationalized firms show a higher entrepreneurial orientation than noninternationalized firms (hypothesis 1), we conducted Student's $t$ test for two independent samples.[3] In the following tables, we show the results obtained from the analysis (Tables 7 and 8).

As we can see in the Levene test for equality of variances, the $p$ value associated with an $F$ contrast statistic is higher than 0.05 and, thus, for this level of significance, we cannot reject the null hypothesis of equal variances. Consequently, the appropriate $t$ statistic to test the hypothesis of equal means is one that assumes equal variances. The $p$ value associated with the $F$ statistic is lower than 0.05 and, thus, we can reject the null hypothesis of equal means at a 0.05 level of significance. As a result, the Student's $t$ test supports the existence of significant differences in mean values of entrepreneurial orientation for the two groups of firms (internationalized firms and noninternationalized firms).

An analysis of the mean value for entrepreneurial orientation in the two groups of firms reveals that this value is higher for internationalized firms than for noninternationalized firms. Therefore, firms that decide to internationalize their

[3]We first ran an ANOVA analysis, but the Levene test showed that data does not accomplish the assumption of homogeneity of variances.

**Table 5** Descriptive statistics of dependent and independent variables

| Variable | Mean | Median | Variance | Standard deviation | Minimum | Maximum |
|---|---|---|---|---|---|---|
| Entrepreneurial orientation | 3.1082 | 3.1667 | 0.745 | 0.86295 | 1.67 | 4.78 |
| Intern. degree[a] | 1.5658 | 1.0000 | 0.649 | 0.80557 | 1 | 3 |
| Intern. speed | 16.9200 | 13.0000 | 300.237 | 17.32734 | 0 | 78.00 |
| Intern. scope | 20.71 | 13 | 462.502 | 21.506 | 1 | 100 |

Descriptive statistics are calculated from the international firms' subsample
[a] In intervals of 1 to 3: value 1 (foreign sales 25–50%); value 2 (foreign sales 50–75%); value 3 (foreign sales >75%)

**Table 6** Correlation matrix

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1 | 1.000 | | | |
| 2 | −0.084 | 1.000 | | |
| 3 | 0.266* | 0.360** | 1.000 | |
| 4 | 0.010 | −0.451** | −0.235* | 1.000 |

1, INT_SCOPE; 2, INT_DEGREE; 3, EO; 4, INT_SPEED;
*$p<0.05$ (bilateral); **$p<0.01$ (bilateral)

**Table 7** Statistics of firm's entrepreneurial orientation

| | Internationalization decision | *N* | Mean | Standard deviation | Typified error of the mean |
|---|---|---|---|---|---|
| Firm's entrepreneurial orientation | International | 76 | 3.10820 | 0.86295 | 0.09899 |
| | Noninternational[a] | 79 | 2.7890 | 0.82759 | 0.09311 |

[a] Noninternational firms are those that do not operate in foreign countries or those firms whose foreign sales are lower than 25%

**Table 8** *t* Student test for two independent samples

| Firm's entrepreneurial orientation | Levene test for equal variances | | *T* test for equal means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *F* | Sig. | *t* | gl | Sig. (bilateral) | Mean differences | Typ. error of the difference | 95% Confidence interval for the difference | |
| | | | | | | | | Inferior | Superior |
| Equal variances assumption | 0.344 | 0.558 | −2.350 | 153 | 0.020 | −0.31916 | 0.13579 | −0.58742 | −0.05090 |
| Nonequal variances assumption | | | −2.349 | 152.009 | 0.020 | −0.31916 | 0.13590 | −0.58765 | −0.05067 |

**Table 9** Linear regressions results of international speed

| Variables | Typified coefficients (beta) | Sig. |
|---|---|---|
| International speed | 0.163 | 0.242 |
| International experience | 0.059 | 0.644 |
| Firm size | −0.051 | 0.683 |
| Familiar | −0.042 | 0.736 |
| Sector | −0.038 | 0.789 |

Dependent variable: entrepreneurial orientation

activities are more entrepreneurial than noninternationalized firms are. This result supports our first hypothesis.

We also conducted a linear regression to determine whether international speed influences the firm's entrepreneurial orientation (hypothesis 2). To test hypothesis 3, we conducted an ordinal regression[4] to determine whether a firm's entrepreneurial orientation influences its international sales. We tested hypothesis 4 by conducting an ordinal regression[5] to determine whether a firm's entrepreneurial orientation is related to higher international scope. The following tables present the results of the analyses (Tables 9, 10, and 11).

Hypothesis 2 established a possible positive relationship between international speed and firms' entrepreneurial orientation. However, our results show that the number of years between firm foundation and initial entry into foreign markets does not have a significant influence on the entrepreneurial attitude of firms.

To provide additional explanations for our results, we conducted Student's *t* test for two independent samples to determine whether an entrepreneurial posture in international firms is associated with high international speed of first market entry. We established two groups of firms: firms that initiated their internationalization process during the first 5 years of operations and firms that initiated their internationalization after this period. Again, we conducted Student's *t* test to check for the existence of mean differences (Tables 12 and 13).

The Levene test for equality of variances shows that the *p* value associated with the *F* contrast statistic is higher than 0.05 and, thus, we cannot reject the null hypothesis of equal variances at the 0.05 level of significance. Therefore, the appropriate *t* statistic to test the hypothesis of equal means is that which assumes equal variances. The *p* value associated with the *F* statistic is 0.036 (lower than 0.05) and, thus, we can reject the null hypothesis of equal means at 0.05 level of significance. Our results support the existence of significant differences in mean values of entrepreneurial orientation for the two groups of firms (firms with early internationalization and firms with later internationalization).

[4]We conducted an ordinal regression analysis because the dependent variable is ordinal; that is, its values present an ascendant order.

[5]We conducted an ordinal regression analysis because the dependent variable is ordinal; that is, its values present an ascendant order.

**Table 10** Ordinal regressions results of international degree

| Variables | Estimation of parameters | Typified error | Sig. |
|---|---|---|---|
| Entrepreneurial orientation | **0.745** | 0.313 | **0.017*** |
| International experience | 0.021 | 0.017 | 0.235 |
| Firm size | −5,955E−11 | 0.000 | 0.862 |
| Familiar | **2.190** | 0.610 | **0.000**** |
| Sector | **−1.652** | 0.648 | **0.011*** |

−2log of likelihood=107.378. $\chi^2$=24.332; $p$=0.000. Dependent variable: international degree
*$p$<0.05; **$p$<0.001

**Table 11** Ordinal regression results of international scope

| Variables | Estimation of parameters | Typified error | Sig. |
|---|---|---|---|
| Entrepreneurial orientation | **0.621** | 0.280 | **0.026**** |
| International experience | **0.034** | 0.019 | **0.074*** |
| Firm size | 1.977E−12 | 0.000 | 0.862 |
| Familiar | 0.025 | 0.505 | 0.961 |
| Sector | **0.974** | 0.489 | **0.046**** |

−2log of likelihood=132.642. $\chi^2$ =16.014; $p$=0.007. Dependent variable: international scope
*$p$<0.01; **$p$<0.05; ***$p$<0.001

**Table 12** Statistics of firm's entrepreneurial orientation

| | International speed | *N* | Mean | Standard deviation | Typified error of the mean |
|---|---|---|---|---|---|
| Firm's entrepreneurial orientation | <5 years | 25 | 3.5689 | 1.07023 | 0.21405 |
| | >5 years | 49 | 3.1224 | 0.86193 | 0.12313 |

**Table 13** *t* Student test for two independent samples

| Firm's entrepreneurial orientation | Levene test for equal variance | | *T* test for equal means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *F* | Sig. | *t* | gl | Sig. (bilateral) | Mean differences | Typ. error of the difference | 95% Confidence interval for the difference | |
| | | | | | | | | Inferior | Superior |
| Equal variances assumption | 2.772 | 0.100 | 1.940 | 72 | 0.056 | 0.44644 | 0.23018 | −0.01242 | 0.90530 |
| Non equal variances assumption | | | 1.808 | 40.306 | 0.078 | 0.44644 | 0.24694 | −0.05252 | 0.94540 |

In conclusion, although our results do not allow us to confirm that international speed positively influences firms' entrepreneurial orientation, complementary analyses show that firms that initiate their internationalization process early present higher levels of entrepreneurial orientation than firms that do so later.

On the other hand, results support hypothesis 3, which examined the direct positive relationship between firm entrepreneurial orientation and international degree. Results also support hypothesis 4, which examined the direct positive relationship between firm entrepreneurial orientation and the number of foreign countries in which a firm is operating. We observe how firms with a high entrepreneurial orientation present a higher level of international degree and scope and, thus, a greater international commitment. With regard to control variables, our results show a positive relationship between a firm's international experience and its internationalization scope. Specifically, we observe that firms with higher international experience are more likely to operate in a higher number of foreign countries. Similarly, the type of sector in which a firm operates influences its internationalization scope. Specifically, our results show that firms operating in manufacturing sectors present a higher internationalization scope than firms operating in service sectors. This result could be explained by taking into account that Spanish manufacturing firms initiated their internationalization process earlier than service firms. This earlier internationalization could explain the fact that manufacturing firms operate in a higher number of foreign countries than service firms do. On the other hand, services are intangible in nature and their production and consumption occur at the same time. Therefore, in many services, direct presence is required (it is not possible to export the service) (Erramilli and Rao 1993). This fact could limit the range of foreign countries in which service firms operate.

In conclusion, empirical evidence confirms the importance of entrepreneurial orientation in international firms because they exhibit higher international degree and scope. These results have important implications for the development of international corporate entrepreneurship research as they provide empirical evidence on how the speed of the first market entry relates to EO and how an EO may influence firms' international commitment. In this sense, our work supports McDougall and Oviatt's (2000) claim that an EO plays an important role in understanding firms' internationalization. Moreover, our results also show that the development of an EO is related to the speed of the first market entry.

In addition, we provide evidence on the influence of EO on the international commitment of established firms, and thus, we also contribute to the generalization of EO to other business situations. Since Covin and Miles (1999) and Lumpkin and Dess (1996) developed the Miller (1983) EO proposal, there has been a consensus on the suitability of these dimensions to measure entrepreneurial orientations (Zahra et al. 1999). Analyzing the influence of the EO construct in other business contexts and strategies allows us to support the generalization of entrepreneurial orientation. In fact, little empirical evidence has been provided to support the relationship between EO and performance in established organizations (Ahuja and Lampert 2001).

In this sense, the present paper allows academics to advance in the study of the internationalization process in established firms because it confirms the importance of analyzing internationalization from the entrepreneurship perspective. This paper offers empirical evidence that highlights the need to consider insights from

international corporate entrepreneurial theory in future studies focused on firms' internationalization processes. The need to also consider the entrepreneurial discipline in the analysis and understanding of firm internationalization should be interpreted within the context of contributions that regard internationalization from a holistic standpoint. This perspective implies that firm internationalization can only be understood if factors pertaining to different streams of theory are borne in mind (Crick and Jones 2000; Coviello and Jones 2004; Crick and Spence 2005). It is assumed that "no single explanation, concept or model could fully explain a firm's internationalisation process..." (Spence and Crick 2006: 528). Therefore, we can argue that these results are paramount, as they widen the scope of theoretical approaches that have traditionally addressed the question of firm internationalization.

In conclusion, empirical evidence confirms the importance of an entrepreneurial orientation in established international firms because they exhibit higher international scope and degree. Likewise, a rapid internationalization decision can influence entrepreneurial orientations. Thus, our paper allows academics to advance in the study of the internationalization process in established firms because it confirms the importance of analyzing internationalization from the entrepreneurship perspective. In this sense, IE should be considered as a new perspective that explains the internationalization process not only of INV but also of established firms.

## Conclusions and implications

In summary, this paper analyzes the influence of the time lapse between a firm's foundation and its first international market entry on entrepreneurial orientation development in established firms and how an EO can influence their international commitment. We have analyzed this international commitment according to the percentage of activity developed in international markets by these firms and the geographic dispersion of these operations.

This study argues that differences exist in the development of an EO that depend on whether the firms have international operations or not. The results obtained in this paper confirm the hypothesis, and thus, we can conclude that internationalized firms, in contrast to noninternationalized firms, develop an EO. Empirical evidence also confirms that rapid internationalization is related to a strong entrepreneurial orientation in a firm. On the other hand, we conclude that an entrepreneurial orientation could explain geographic diversification of international firms and their commitment in terms of foreign sales.

The results obtained may contribute to the development of new research areas that could improve our understanding of the difficulties firms face in internationalization. In this sense, we consider that, to reinforce the importance of rapid first international market entry and of the development of an EO in the context of firms' internationalization, we should analyze whether any causal relationships exist between the two variables. In addition, the issue of whether the two variables can also influence a firm's international performance should also be studied. We highlight the more recent contributions from the resource based-theory, which lend weight to the idea that a firm's specific resources are linked to the competitive advantages obtained in international markets and to its performance (Fladmoe-Lindquist

and Tallman 1994; Cuervo-Cazurra 2003). These contributions have considered neither entrepreneurial knowledge as critical or as forming part of a firm's specific resources (Alvarez and Busenitz 2001) nor the learning advantages associated with the speed of first market entry (Autio et al. 2000). The inclusion of these resources would contribute to a better understanding of the internationalization process of firms and their performance.

For practitioners, this research suggests that the time lapse between firm foundation and the first entry into foreign markets can have a direct effect on the development of entrepreneurial behavior. Moreover, CEOs interested in intensifying the international commitment of their firms must first concern themselves with developing an entrepreneurial orientation within the organization, as this study has demonstrated a direct relation between an EO and international degree and scope.

Finally, although this study provides valuable contributions, it has some limitations. The study does not cover a specific period of time, and therefore, it has not been possible to control the influence of certain factors related to the general environment. Moreover, the questionnaire was sent to a sole member of the organization, and we are aware of the limitations inherent in using a single informant, particularly in large firms. Davidsson (2004) points out that "with increasing size it is also increasingly unlikely that the CEO is willing to participate in the study" (p. 81), and it would thus be appropriate for ensuing studies to contemplate the triangulation of the data contained herein.

On the other hand, we have highlighted the influence of an EO on the firm's international commitment, although this commitment may also be considered to contribute to the development of entrepreneurial behavior. Further research should include longitudinal studies to assess the relationship between an EO and the firm's international commitment.

## References

Ahuja G, Lampert C (2001) Entrepreneurship in the large corporation: a longitudinal study of how established firms create breakthrough inventions. Strateg Manage J 22:521–543

Alvarez SA, Busenitz L (2001) The entrepreneurship of resource-based theory. J Manage 27(6):755–775

Autio E (2005) Creative tension: the significance of Ben Oviatt's and Patricia Mcdougall's article: toward a theory of international new ventures. J Int Bus Stud 36:9–19

Autio E, Sapienza HJ, Almeida JG (2000) Effects of age at entry, knowledge intensity and imitability on international growth. Acad Manage J 43(5):909–924

Barbosa N, Louri H (2002) On the determinants of multinationals' ownership preferences: evidence from Greece and Portugal. Int J Ind Organ 20(4):493–515

Barringer BR, Bluedorn AC (1999) The relationship between corporate entrepreneurship and strategic management. Strateg Manage J 20(5):421–444

Becherer RC, Maurer JG (1997) The moderating effect of environmental variables on the entrepreneurial an marketing orientation of entrepreneur-led firms. Entrep Theory Pract 22(1):47–59

Bell J, McNaughton R, Young S (2001) "Born-Again Global" firms an extension to the "Born Global" phenomenon. J Int Manage 7(3):173–189

Bentler PM, Bonett DG (1980) Significance tests and goodness-of-fit in the analysis of covariance structures. Psychol Bull 88:588–606

Caves RE, Mehra S (1986) Entry of foreign multinationals into U.S. manufacturing industries. In: Porter M (eds) Competition in global industries. Harvard Business School Press, Boston, pp 449–481

Coviello NE, Jones MV (2004) Methodological issues in international entrepreneurship research. J Bus Venturing 19(4):485–508

Covin JG, Miles MP (1999) Corporate entrepreneurship and the pursuit of competitive advantage. Entrep Theory Pract 23(3):47–63
Covin JG, Slevin DP (1989) Strategic management of small firms in hostile and benign environments. Strateg Manage J 10:75–87
Covin JG, Slevin DP (1991) A conceptual model of entrepreneurship as firm behavior. Entrep Theory Pract 16(1):7–25
Covin JG, Green KM, Slevin DP (2006) Strategic process effects on the entrepreneurial orientation–sales growth rate relationship. Entrep Theory Pract 30:57–81
Crick D, Jones M (2000) Small high-technology firms and international high-technology markets. J Int Mark 8(2):63–85
Crick D, Spence M (2005) The internationalization of 'high performing' UK high-tech Smes: a study of planned and unplanned strategies. Int Bus Rev 14(2):167–185
Cuervo-Cazurra A (2003) The non-sequential internationalization process, Jornadas sobre internacionalización de la empresa, Madrid
Dana LP, Wright LP (2004) Emerging paradigms of international entrepreneurship. In: Dana LP (eds) Handbook of research on international entrepreneurship. Edward Elgar, Aldershot
Davidsson P (2004) Researching entrepreneurship. Springer, Berlin Heidelberg New York
Dess GG, Ireland RD, Zahra SA, Floyd SW, Janney JJ, Lane PJ (2003) Emerging issues in corporate entrepreneurship. J Manage 29(3):351–378
Dickson PH, Weaver KM (1997) Environmental determinants and individual-level moderators of alliance use. Acad Manage J 20(2):404–425
Dimitratos P, Jones M (2005) Future directions for international entrepreneurship research. Int Bus Rev 14:119–128
Dun & Bradstreet (2002) Database, containing references about 850,000 Spanish firms
Eckhardt J, Shane S (2003) Opportunities and entrepreneurship. J Manage 29(3):333–350
Eriksson K, Chetty S (2003) The effect of experience and absorptive capacity on foreign market knowledge. Int Bus Rev 12(6):673–695
Erramilli MK (1991) The experience factor in foreign market entry behaviour of service firms. J Int Bus Stud 22(3):479–501
Erramilli MK, Rao CP (1993) Service firms' international entry mode choice: a modified transaction-cost analysis approach. J Mark 57(3):19–38
Fladmoe-Lindquist K, Tallman S (1994) Resource-based strategy and competitive advantage among multinationals. Adv Strateg Manage 10:45–72
Fletcher D (2004) International entrepreneurship and the small business. Entrep Reg Dev 16:289–305
Fornell C, Larcker DF (1981) Evaluating structural equations models with unobservable variables and measurement error. J Mark Res 18:39–50
Gallo MA, Garcia-Pont C (1996) Important factors in family business internationalisation. Fam Bus Rev 9 (1):45–59
Gomes-Casseres B (1989) Ownership structures of foreign subsidiaries: theory and evidence. J Econ Behav Organ 11:1–25 (January)
Grant RM (1996) Prospering in dynamically-competitive environments: organizational capability as knowledge integration. Organ Sci 7(4):375–388
Hennart JF, Park YR (1993) Greenfield vs. Acquisition: the strategy of Japanese investors in the United States. Manage Sci 39(9):1054–1070
Hitt MA, Ireland RD, Camp SM, Sexton DL (2002) Strategic entrepreneurship. Creating a new mindset. Blackwell, Oxford
Junkkari J (2000) Born global-globalization strategies of SME high-quality service companies. Master's thesis, Helsinki school of economics and business studies, Helsinki
Kim WC, Hwang P (1992) Global strategy and multinationals' entry mode choice. J Int Bus Stud 23 (1):29–53
Kirzner I (1997) Entrepreneurial discovery and the competitive market process: an Austrian approach. J Econ Lit 35:60–85
Knight GA, Cavusgill T (2004) Innovation, organizational capabilities, and the born-global firm. J Int Bus Stud 35:124–141
Kogut B, Singh H (1988) The effect of national culture on the choice of entry mode. J Int Bus Stud 19(3):411–432 (Fall)
Kogut B (1989) A note on global strategy. Strateg Manage J 10:383–389
Kogut B, Chang SJ (1991) Technological capabilities and Japanese foreign direct investment in the United States. Rev Econ Stat 73(3):401–413

Kreiser PM, Marino LD, Weaver KM (2002) Assessing the psychometric properties of the entrepreneurial orientation scale: a multi-country analysis. Entrep Theory Pract 26:71–94
Lu JW, Beamish PW (2001) The internationalization and performance of SMES. Strateg Manage J 22:565–586
Lumpkin GT, Dess GG (1996) Clarifying the entrepreneurial orientation construct and linking it to performance. Acad Manage Rev 21(1):135–172
Lumpkin GT, Dess GG (2001) Linking two dimensions of entrepreneurial orientation to firm performance. The moderating role of environment and industry life cycle. J Bus Venturing 16(5):429–451
Luostarinen R, Gabrielson M (2002) Globalisation and global marketing. Strategies of born globals in SMOPECs. http://www.aueb.gr/deos/EIBA2002.files/PAPERS/C33.pdf
McDougall PP, Oviatt BM (2000) International entrepreneurship: the intersection of two research paths. Acad Manage J 43(5):902–906
McEvily B, Zaheer A (1999) Bridging ties: a source of firm heterogeneity in competitive capabilities. Strateg Manage J 20(12):1133–1156
Miller D (1983) The correlates of entrepreneurship in three types of firms. Manage Sci 29(7):770–791
Miller KD (1992) A framework for integrated risk management in international business. J Int Bus Stud 23(3):11–331
Morris MH, Sexton DL (1996) The concept of entrepreneurial intensity: implications for company performance. J Bus Res 36:5–13
Okoroafo SC (1999) Internationalization of family business: evidence from Northwest Ohio. Fam Bus Rev 12(2):45–58
Oviatt BM, McDougall PP (1994) Toward a theory of international new ventures. J Int Bus Stud 25:45–64
Oviatt BM, McDougall PP (2005) Defining international entrepreneurship and modeling the speed of internationalization. Entrep Theory Pract 29(5):537–553
Papadopoulos S (1987) Strategic marketing techniques in international tourism. Int Mark Rev 4(2):71–85
Preece S, Miles G, Baetz MC (1998) Explaining the international intensity and global diversity of early-stage technology-based firms. J Bus Venturing 14(3):259–281
Rialp-Criado A, Rialp-Criado J, Knight G (2002) The phenomenon of international new ventures, global start-ups, and born-globals: what do we know alter a decade (1993–2003) of exhaustive inquiry? Documentos de trabajo del Dep. D'Economia de l'Empresa Universitat Autonoma de Barcelona
Ripollés M, Menguzzato M, Iborra M (1999) Empresas internacionales de reciente creación e intensidad empresarial. Rev Eur Dir Econ Empresa 8(3):127–138
Shook C, Priem RL, McGee JE (2003) Venture creation and the enterprising individual: a review and synthesis. J Manage 40:1122–1149
Shrader R, Oviatt BM, McDougall PP (2000) How new ventures exploit tradeoffs among international risk factors: lessons for the accelerated internationalization of the 21st century. Acad Manage J 43 (6):1227–1247
Spence M, Crick D (2006) A comparative investigation into the internationalisation of Canadian and UK high-tech Smes. Int Mark Rev 23(4):390–417
Stevenson HH, Gumpert DG (1985) The heart of entrepreneurship. Harvard Bus Rev 85(2):85–95
Stevenson HH, Jarillo JC (1990) A paradigm of entrepreneurship: entrepreneurial management. Strateg Manage J 11:17–27
Stokes D (2000) Putting entrepreneurship into marketing: the processes of entrepreneurial marketing. J Res Mark Entrep 2(1):1–16
Sullivan D (1994) Measuring the degree of internationalization of a firm. J Int Bus Stud 25:325–342
Sullivan D (1996) Measuring the degree of internationalization of a firm: a reply. J Int Bus Stud 27: 167–178
Tan B, Erramilli K, Liang TW (2001) The influence of dissemination risks, strategic control and global management skills on firms' modal decision in host countries. Int Bus Rev 10(3):323–340
Taylor CR, Zou S, Osland GE (2000) Foreign market entry strategies of Japanese MNCs. Int Mark Rev 17 (2):146–163
Wiklund J, Shepherd D (2003) Knowledge-base resources, entrepreneurial orientation, and the performance of small and medium-sized business. Strateg Manage J 24:1307–1314
Wiklund J, Shepherd D (2005) Entrepreneurial orientation and small business performance: a configurational approach. J Bus Venturing 20:71–91
Woo CY, Cooper AC, Dunkelberg WC (1991) The development and interpretation of entrepreneurial typologies. J Bus Venturing 6:93–114
Yip GS (1982a) Barriers to entry. A corporate-strategy perspective. Lexington, Lexington

Yip GS (1982b) Diversification entry: internal development versus acquisition. Strateg Manage J 3(4): 331–345

Zahra SA (2005) A theory of international new ventures: a decade of research. J Int Bus Stud 36:20–28

Zahra SA, George G (2002) International entrepreneurship: the current status of the field and future research agenda. In: Hitt MA, Ireland RD, Camp SM, Sexton DL (eds) Strategic entrepreneurship: creating a new mindset. Blackwell, Oxford, pp 255–288

Zahra SA, Jennings DF, Kuratko DF (1999) The antecedents and consequences of firm-level entrepreneurship: the state of the field. Entrep Theory Pract 24(2):45–667