



Corporate Entrepreneurship in Colombia: An Approach from Resources and Capabilities

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Abstract

Corporate entrepreneurship refers to entrepreneurship activities that take place within established firms. Such activities have attracted the interest of researchers in the area of management and business for several years now. The aim of this work is to examine the influence of individuals' resources and capabilities on corporate entrepreneurship in Colombia, using data from Global Entrepreneurship Monitor 2013 and including 3,394 observations. The study draws on the Resource-Based Theory and uses logistic regressions in its methodology, considering differences between resources (entrepreneurial skills and competencies, entrepreneurial experience, personal networks and education) and capabilities (entrepreneurial intention and opportunity identification). This work offers theoretical and empirical contributions. Theoretically, it contributes to the development of the literature in the field of corporate entrepreneurship in Latin American emerging markets. Empirically, it serves as a guide for those managers wishing to foster corporate entrepreneurship in their firms.

Keywords: *Corporate entrepreneurship, Resources and capabilities, Emerging markets.*

1. Introduction

Entrepreneurship activities that take place within established firms have attracted the attention of researchers in the area of management and business for several years (Lumpkin & Dess, 1996). Entrepreneurship within firms is known as corporate entrepreneurship (Burgelman, 1985). Furthermore, corporate entrepreneurship and entrepreneurship have been considered key elements in economic and organizational development due to their positive effects on firm performance (Chang, Hughes, & Hotho, 2011; Zahra, 1991); this has led some researchers to try to identify the factors that help improve corporate entrepreneurship (Castrogiovanni, Urbano, & Loras, 2011; Turró, López, & Urbano, 2013; Urbano & Turró, 2013).

Corporate entrepreneurship has been recognized as the means to achieve high corporate performance levels (Hornsby, Kuratko, Shepherd, & Bott, 2009), but despite advances in its

research, some aspects remain unexplored. (Kuratko & Audretsch, 2013). On this point there is no agreement as to the role some factors play in corporate entrepreneurship and the analysis remains incomplete given that many studies examine these factors only in a partial way (Turro, Alvarez, & Urbano, 2016).

Very few studies have been conducted specifically for the Colombian context. In the literature, investigations on corporate entrepreneurship activities can be found in contexts such as Belgium (De Cleyn & Braet, 2012), the Netherlands (Wakkee, Elfring, & Monaghan, 2010), Switzerland (Tajeddini & Mueller, 2012), Spain (Benavides Espinosa & Mohedano Suanes, 2011), the United States (Eggers, Hansen, & Davis, 2012), and there are also studies for groups of developed-economy countries (Guerrero & Peña-Legazkue, 2013) as well as international studies (Turró, Urbano, & Peris-Ortiz, 2014). Furthermore, it must be pointed out that among the investigations carried out, very few works are practical or use some specific theoretical framework to analyze corporate entrepreneurship (Urbano, Alvarez, & Turró, 2013). For this reason, the present study is empirical and uses the Resource-Based Theory as theoretical framework.

We aim to examine the influence of resources and capabilities on the probability to pursue corporate entrepreneurship in Colombia. From the perspective of the Resource-Based Theory, we will approach entrepreneurial skills and competences, entrepreneurial experience, personal networks and level of education as resources; and entrepreneurial intention and opportunity identification, as capabilities. Methodologically, the study uses logistic regressions on a set of 3,394 observations with data taken from *Global Entrepreneurship Monitor 2013*. This work has theoretical and practical implications. Theoretically, it contributes to the development of the literature in the field of corporate entrepreneurship in emerging markets. In practice, the results serve as a guide for those managers wishing to foster corporate entrepreneurship in their firms.

The remainder of this article is structured as follows. Section 2 presents the theoretical framework and the research hypotheses. Section 3 explains the methodological aspects and presents the variables used in the study. Section 4 discusses the results of the investigation. Finally, the conclusions are presented in the last section.

2. Resources, Capabilities and Corporate Entrepreneurship

According to the Resource-Based Theory, the accumulation of valuable, rare, imperfectly imitable and non-substitutable resources in organizations constitutes the basis of corporate competitiveness (Barney, 1991; Grant, 1991; Wernerfelt, 1984). Newbert (2007) suggests that such resources are related with the development of sustainable competitive advantages and that such advantages are related with corporate performance. Additionally, within the frame of the theory, a capability is understood as the way a firm deploys and reconfigures its resources (Barney, Ketchen, & Wright, 2011; Barney, Wright, & Ketchen, 2001). Some authors have subsequently built the concept of dynamic capability from the concepts of resources and capabilities. Dynamic capabilities refer to the way organizational routines help transform resources into the capabilities the organization needs to face changing environments (Eisenhardt & Martin, 2000; Teece, 2009; Teece & Pisano, 1994; Teece, Pisano, & Shuen, 1997).

Corporate entrepreneurship has been characterized as a multidimensional construct defined as the sum of all the firm's innovation, renewal and venturing efforts (Zahra, 1995). As a consequence, the theoretical framework provided by the Resource-Based Theory facilitates the analysis of issues such as corporate entrepreneurship and innovation and their relationship with firm performance (Camisón & Villar-López, 2014; Damanpour, Walker, & Avellaneda, 2009; Mol & Birkinshaw, 2009). A great variety of terms have been used to refer to the entrepreneurship that takes place within established firms (Menzel, Aaltio, & Ulijn, 2007). In different works researchers have used terms such as *intrapreneurship* (Pinchot, 1985), *corporate entrepreneurship* (Burgelman, 1985), and *corporate venturing* (Miles & Covin, 2002; Sharma & Chrisman, 2007). These are interchangeably used by the authors to refer to the entrepreneurship carried out by employees for the firms where they work.

One of the most widely accepted definitions of corporate entrepreneurship is the one that refers to the entrepreneurship that is carried out within established firms (Antoncic & Hisrich, 2001,

2003). This type of entrepreneurship has to do with firms that seek to broaden their opportunities by creating or acquiring new businesses, or by combining new resources to increase their growth possibilities entering new markets (Covin & Slevin, 2002). Thus, firms seek to foster corporate entrepreneurship because it is regarded as the solution for the lack of innovation and competitiveness capabilities in established firms (Pinchot, 1985).

In line with the above, this work uses the Resource-Based Theory to examine how corporate entrepreneurship is influenced by entrepreneurial skills and competencies, entrepreneurial experience, personal networks and education (regarded as resources); and by entrepreneurial intention and opportunity identification (regarded as capabilities). There is consensus in the literature in considering the resources controlled by firms and the capabilities these develop as critical factors in the development of corporate entrepreneurship activities (Klein, Mahoney, McGahan, & Pitelis, 2013).

2.1 Resources: Entrepreneurial skills and competencies

Entrepreneurship requires expertise from the individual in a great range of activities, but employees are also rewarded for their specialization in a specific activity. Lazear (2004, 2005) claims that individuals with balanced abilities have a greater probability to become entrepreneurs. Training in entrepreneurial skills and competencies can be any educational process that seeks to develop certain specific skills and personal qualities leading to develop entrepreneurial attitudes. Entrepreneurial intention increases with the implementation and development of educational programs in entrepreneurship (Karimi, Biemans, Lans, Chizari, & Mulder, 2016).

At higher education level, training to develop entrepreneurial skills and attitudes is a predictor of individuals' entrepreneurial intention (Feder & Nițu-Antonie, 2017). In regards to corporate entrepreneurship, possessing skills and competencies that favor entrepreneurship increases the individual's probability to be a corporate entrepreneur (Turró et al., 2013; Urbano et al., 2013). Thus, the first hypothesis is proposed:

H1. Entrepreneurial skills and competencies increase individuals' probability to be involved in corporate entrepreneurship activities.

2.2 Resources: Experience in entrepreneurship

Successful entrepreneurship is related to predictors such as the entrepreneur's experience, managerial skills and unique knowledge (Staniewski, 2016). The entrepreneur's experience is also associated with a variety of assets including the managerial skills and contact networks that will be used in future entrepreneurship (Wright, Robbie, & Ennew, 1997). Additionally, entrepreneurial intention is positively influenced by the experience and knowledge acquired by the individual from prior entrepreneurship; this relationship is mediated by personal attitudes, social norms and perceived behavioral control (Miralles, Giones, & Riverola, 2016). Having prior experience in any type of entrepreneurship increases the probability to carry out corporate entrepreneurship (Turró et al., 2013; Urbano et al., 2013). According to the above, the second hypothesis is proposed:

H2. Prior entrepreneurship experience increases individuals' probability to be involved in corporate entrepreneurship activities.

2.3 Resources: Personal networks

The probability to be a corporate entrepreneur increases when the individual has personal networks (Urbano et al., 2013; Urbano & Turró, 2013), for example, having a successful entrepreneur in the family or having employees with unique knowledge. Added to other predictors, these networks lead the entrepreneur to achieve better successful rates in their own entrepreneurship (Staniewski, 2016). There are also cases in which personal networks turned out not to be significant in the analysis, as in a study for Spanish low-income regions (Turro et al., 2016; Turró et al., 2013). In general, social capital creates unequal opportunities since in social structures, entrepreneurship opportunities are created for some individuals in the structure, while excluding others (Burt, 1993).

In the case of CEOs who have good relational and human capital, it was found that they improve the level of corporate entrepreneurship in the firm (Wei & Ling, 2015). From the above the third working hypothesis is proposed:

H3. Knowing other entrepreneurs increases individuals' probability to pursue corporate entrepreneurship activities.

2.4 Resources: Education

The entrepreneur's level of education can be a measure of accumulated experience and knowledge. Education contributes to the accumulation of explicit knowledge which can provide the entrepreneur with useful skills (BarNir, 2012; Lepak & Snell, 1999); for instance, the employees' level of education becomes crucial in the development and implementation of knowledge management processes (Zakin et al., 2017). Likewise, the individual's level of education has a positive effect on the way entrepreneurship opportunities are perceived (Arenius & Clercq, 2005; Davidsson & Honig, 2003). Formal education is one of the main components of human capital and, in general, when the individual has a higher level of education, the probability to be a corporate entrepreneur increases (Turro et al., 2016). According to this, the fourth hypothesis is proposed:

H4. The higher the individuals' level of education is, the greater the probability that they will be involved in corporate entrepreneurship activities.

2.5 Capabilities: Entrepreneurial intention

According to the theory of planned behavior, intention precedes behavior. Entrepreneurial attitudes, perceived behavioral control, subjective norms and entrepreneurial intention would show differences in the entrepreneur's final behavior (Zampetakis, Bakatsaki, Litos, Kafetsios, & Moustakis, 2017). Important processes for the entrepreneur, such as opportunity recognition, are clearly intentional. Education in entrepreneurship and entrepreneurial intention have often been related to each other. For instance, Fayolle and Gailly (2015) study the impact of entrepreneurship education programs on entrepreneurial attitudes and intentions, and Zhang, Duysters and Cloodt (2014) use education in entrepreneurship as predictor of university students' entrepreneurial intention. For this reason, entrepreneurial intention has attracted the attention of researchers in the fields of entrepreneurship (Krueger, Reilly, & Carsrud, 2000) and corporate entrepreneurship (Urbano et al., 2013). Based on the above, the fifth hypothesis is proposed:

H5. Individuals with greater entrepreneurial intentions have increased probability to be involved in corporate entrepreneurship activities.

2.6 Capabilities: Opportunity identification

Venture opportunities are not equally obvious for all individuals. Opportunity recognition can be based on current or past life events, the identification of social needs or finding an idea that shapes over time (Yitshaki & Kropp, 2016). Opportunity identification is also related with the social structure of the entrepreneur (Burt, 1993) and with individual traits such as a creative personality (Shane & Nicolaou, 2015) or intercultural experience (Vandor & Franke, 2016). All the above positively affect the capability to identify opportunities and increase the probability to start a new business.

Understanding the differences in these perceptions and how they affect the opportunity identification process is a key issue in research on entrepreneurship (Gaglio & Katz, 2001) and corporate entrepreneurship (Turró et al., 2013; Urbano et al., 2013; Urbano & Turró, 2013), in which the capability to recognize opportunities increases the probability to be a corporate entrepreneur. Thus, the final hypothesis of this study is proposed:

H6. Individuals with a greater capability to identify business opportunities have greater probability to be involved in corporate entrepreneurship activities.

3. Methodology

Given the binary nature of the dependent variable, this study uses logistic regressions and includes 3,394 surveys for Colombia. All the people interviewed are employees between 18 and 64 years old. The study uses data from *Global Entrepreneurship Monitor* (GEM) for the year 2013. The GEM project is currently the world's biggest study on entrepreneurial activity. From its start in 1999 with 10 countries, it has grown to include more than 85 economies. Between 1999 and 2011 roughly a million people were interviewed in the frame of the GEM project (Álvarez, Urbano, & Amorós, 2014).

3.1 Variable description

The dependent variable is taken from the GEM 2013 database and is a measure for corporate entrepreneurship. This is a binary variable in which respondents are asked: "Are you, alone or with others, currently trying to start a new business or a new venture for your employer as part of your normal work?" Studies on entrepreneurship have used this dependent variable (Arenius & Kovalainen, 2006; Turró et al., 2014; Urbano et al., 2013).

The independent variables also come from the GEM 2013 database. To measure the factors related to resources, four variables were used: entrepreneurial skills and competencies, entrepreneurial experience, personal networks, and level of education. To measure the factors related to capabilities, two variables were used: entrepreneurial intention and opportunity identification capability.

The variable to measure skills and competencies is dichotomous and is derived from the question: "Do you have the knowledge, skill and experience required to start a new business?". For entrepreneurial experience the respondents are asked: "Have you, in the past 12 months, sold, shut down, discontinued or quit a business you owned and managed, any form of self-employment, or selling goods or services to anyone?". The variable that measures personal networks is a binary one and asks: "Do you know someone personally who started a business in the past 2 years?". For level of education, the variable was transformed in two categories (0 = Degree lower than a university degree; 1 = University degree or higher). The variable to measure entrepreneurial intention is also binary and asks: "Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?" Finally, to measure opportunity identification, respondents were asked: "In the next six months, will there be good opportunities for starting a business in the area where you live?". The description of the variables is summarized in Table 1.

Table 1. Variable description

Variables	Description
Corporate entrepreneurship	Question: "Are you, alone or with others, currently trying to start a new business or a new venture for your employer as part of your normal work?"
Independent variables (Resources)	
Entrepreneurial skills and competencies	Question: "Do you have the knowledge, skill and experience required to start a new business?"
Entrepreneurial experience	Question: "Have you, in the past 12 months, sold, shut down, discontinued or quit a business you owned and managed, any form of self-employment, or selling goods or services to anyone?"
Personal networks	Question: "Do you know someone personally who started a business in the past 2 years?"
Education	Educational level in two categories: 0 = lower than university degree; 1 = university degree or higher

Independent variables (Capabilities)	
Entrepreneurial intention	Question: "Are you, alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?"
Opportunity identification	Question: "In the next six months, will there be good opportunities for starting a business in the area where you live?"
Control variables	
Gender	Question: "What is your gender?"
Age	Question: "What is your current age (in years)?"

4. Results

In the correlation matrix, it can be observed that there are no variables which are highly or moderately correlated (see Table 2). Then the variables are introduced in the model in three steps. The control variables are introduced in Model 1, the resources variables are introduced in Model 2, and finally the capabilities variables are introduced Model 3. The results are shown in Table 3.

Model 2 permits to test the first four hypotheses related to resources and corporate entrepreneurship. A positive relationship between entrepreneurial skills and competencies and corporate entrepreneurship is observed ($\beta = 0.978$; $\text{sig.} = 0.000$), which indicates that Hypothesis 1 cannot be rejected. For prior entrepreneurial experience, the relationship is positive ($\beta = 0.368$; $\text{sig.} = 0.043$). This indicates that when an individual has prior entrepreneurial experience, the probability to carry out entrepreneurship activities increases. Therefore, Hypothesis 2 cannot be rejected. In turn, personal networks are also significant and positive for the analysis ($\beta = 0.659$; $\text{sig.} = 0.000$). Consequently, Hypothesis 3 cannot be rejected either. Finally, level of education turned out to be negative for the analysis ($\beta = -0.422$; $\text{sig.} = 0.001$). Thus, Hypothesis 4 is rejected in Model 2.

Table 2. Correlation matrix

	1	2	3	4	5	6	7	8
1. Corporate entrepreneurship	1							
2. Entrepreneurial skills and competencies	.175**	1						
3. Entrepreneurial experience	.064**	.099**	1					
4. Personal networks	.144**	.220**	.097**	1				
5. Level of education	-0.023	.124**	0.024	.130**	1			
6. Entrepreneurial intention	.136**	.225**	.072**	.140**	-.055**	1		
7. Opportunity identification	.063**	.122**	-0.01	.094**	-0.015	.137**	1	
8. Gender	.078**	.146**	.047**	.117**	.042*	.084**	.049**	1
9. Age	-0.001	.079**	0.016	-0.064**	.127**	-.136**	0.012	-.043*

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

As already mentioned, the capabilities variables are introduced in Model 3. For the first variable a positive relationship is found between entrepreneurial intention and corporate entrepreneurship ($\beta = 0.487$; $\text{sig.} = 0.000$), so Hypothesis 5 cannot be rejected. The last variable included, opportunity identification, also shows a positive relationship ($\beta = 0.190$; $\text{sig.} = 0.090$), which means Hypothesis 6 cannot be rejected either. In sum, five of the six hypotheses were not rejected. Hypothesis 4 was rejected.

Table 3. Logistic regression models

	Model 1		Model 2		Model 3	
	B	Std. Err.	B	Std. Err.	B	Std. Err.
<i>Control variables</i>						
Gender	0.437***	(0.097)	0.261**	(0.101)	0.204**	(0.104)
Age	0.000	(0.004)	0.002	(0.004)	0.005	(0.004)
<i>Resources</i>						
Skills and competencies			0.978***	(0.119)	0.836***	(0.123)
Entrepreneurial experience			0.368**	(0.182)	0.339*	(0.183)
Personal networks			0.659***	(0.109)	0.571***	(0.111)
Level of education			-0.422***	(0.125)	-0.331***	(0.127)
<i>Capabilities</i>						
Entrepreneurial intention					0.487***	(0.112)
Opportunity identification					0.19*	(0.112)
Constant	-1.969***	(0.157)	-2.702***	(0.18)	-3.096***	(0.209)
Observations	3394		3353		3157	
Pseudo R-squared	0.0071		0.0594		0.0631	
Percent correctly predicted	84.86%		85.00%		84.60%	
Log likelihood	-1432.849		-1333.241		-1271.877	

*** p<0.01, ** p<0.05, * p<0.1

In general, Model 2 is significant. The log-likelihood statistic is -1333 with a p-value of 0.000 and predicts 85% of the answers correctly. Model 3 is also significant with a log-likelihood statistic of -1271 with p-value of 0.000, which correctly predicts 84.6% of the answers. It can also be observed that with the inclusion of all the variables in the general model, the Pseudo R-squared improves.

5. Conclusions

The analysis performed allows to examine the influence of the resources and capabilities of individuals on the probability that they pursue corporate entrepreneurship activities. The study uses data from *Global Entrepreneurship Monitor 2013* and includes 3,394 observations for Colombia. Regarding resources, the results show that individuals who have entrepreneurial skills and competencies, experience, and personal networks have a greater probability to pursue corporate entrepreneurship activities. As for capabilities, individuals' entrepreneurial intention and their capability to identify opportunities increase their probability to carry out corporate entrepreneurship activities in the firms they work for.

One of the main results of the analysis for Colombia was the finding that the greater the level of education of individuals, the lower their probabilities to pursue corporate entrepreneurship activities. For a sample of adults in the United States, Parker (2011) found that human capital is generally more associated to entrepreneurship than to corporate entrepreneurship. This may be due to the fact that company managers prefer to use their more talented employees to develop and strengthen strategic competences, instead of using them in corporate entrepreneurship activities (Guerrero & Peña-Legazkue, 2013; Parker, 2011). However, investigations in the Spanish context (Turro et al., 2016) and studies for developed economies (Guerrero & Peña-Legazkue, 2013) have found a positive relationship between level of education and corporate entrepreneurship activities. These different results yielded by several investigations constitute an opportunity for future research. On the one hand, investigations could seek to analyze this relationship for the Colombian context, or whether this relationship is also present in similar Latin American economies; on the other hand, they could report on the differences in the relationship between level of education and corporate entrepreneurship in emerging and developed economies.

The rest of the variables presented results consistent with studies conducted for other contexts; namely, on entrepreneurial skills and competencies (Turró et al., 2013; Urbano et al., 2013), prior entrepreneurial experience (Guerrero & Peña-Legazkue, 2013; Turró et al., 2013), personal networks (Urbano et al., 2013; Urbano & Turró, 2013), entrepreneurial intention (Urbano

et al., 2013), and individuals' capability to identify opportunities (Martiarena, 2013; Urbano & Turró, 2013).

One of the limitations of this study is the nature of the measurements used in the GEM database. Furthermore, relevant variables for corporate entrepreneurship that are not included in said database may have been omitted. Corporate entrepreneurship is a broad concept and for that reason the variable employed for measuring it, and all the variables in the study, can be improved, which would contribute to the discussion proposed in this study. Finally, this work offers both theoretical and empirical contributions. Theoretically, it helps develop the literature in the field of corporate entrepreneurship from the perspective of resources and capabilities. For managerial practice, it serves as a guide for those managers wishing to promote corporate entrepreneurship in their firms.

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