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The influence of entrepreneurial competencies on small firm performance

Influencia de las competencias emprendedoras en el rendimiento de la pequeña empresa

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José Sánchez
Universidad de Salamanca

Nota de Autor:
José Sánchez. Jsanchez@usal.es. Cátedra de emprendedores, Facultad de Psicología, Universidad de Salamanca. Avda. de la Merced, 109. 37005 Salamanca. España.
Mi agradecimiento al grupo Banco Santander por el apoyo a la Cátedra de Emprendedores desde la que se ha puesto en marcha este proyecto y a la Consejería de Educación de la Junta de Castilla y León (España) por la subvención para dicho proyecto.

Abstract

This research studies the influence of entrepreneurial competencies on the performance of small enterprises by building a causal model using data obtained from Spanish entrepreneurs. In this model entrepreneurs' competencies influence firm performance, competitive scope, and organisational capability in a direct or indirect way are explained. We have found support for most of our hypotheses. Results indicate that entrepreneurial competence plays an influential role in organisational capability and competitive scope, and also has a direct effect on firm performance. The use of organisational capabilities affects positively the firm performance and it partially mediates the relationship between entrepreneurial competence and firm performance. Although competitive scope is not significantly related to business growth, it is a strong predictor of other performance dimensions, such as efficiency and relative performance. Organisational capability is a strong predictor of competitive scope. The implications and future research directions are discussed.

Key words: entrepreneurialcompetence, firm performance, competitive scope, organisational capability, JEL Classifications J24 - L26.

Resumen

El presente trabajo estudia la influencia de las competencias emprendedoras en el desempeño de las pequeñas empresas construyendo un modelo causal, esto, basándonos en datos provenientes de emprendedores españoles. En este modelo se explica cómo las competencias emprendedoras de los emprendedores influencian el rendimiento de la empresa, el ámbito competitivo y las habilidades organizativas de una manera directa o indirecta. Hemos encontrado apoyo para la mayoría de nuestras hipótesis. Los resultados indican que las competencias emprendedoras juegan un papel influyente en las capacidades organizativas y el alcance competitivo, y también tienen un efecto directo sobre el desempeño de la empresa. El uso de las capacidades organizacionales afecta positivamente al rendimiento de la empresa y media parcialmente en la relación entre las competencias emprendedoras y el desempeño de la firma. Aunque el alcance competitivo no está relacionado significativamente con el crecimiento del negocio, es un fuerte predictor de otras dimensiones de rendimiento tales como eficiencia y rendimiento relativo. Las capacidades organizacionales son un fuerte predictor del alcance competitivo. Se discuten las implicaciones y futuras líneas de investigación.

Palabras clave: competencias emprendedoras, rendimiento de la empresa, alcance competitivo, capacidades organizativas, JEL Classifications J24 - L26.

In literature about entrepreneurship, the behavioural, psychological, and demographic characteristics of entrepreneurs are usually mentioned as the most influential factors in the performance of small and medium-sized enterprises (SME). A literature review about the different factors which influence enterprise performance can be found in the work of Cooper and Gascon (1992).Because of the inconsistency of the results found in the literature, these authors suggest paying more attention to the following aspect: firstly, to the development of a more consistent theoretical framework; secondly, to the contingent relations that take place among different conditions and interactions; thirdly, to the methods used to measure performance and their implications, as well as to the use of an appropriate analytic technique. In line with the suggested arguments, Man, Lau and Snape (2002) have developed a theoretical framework using the concept of *competitiveness* for SMEs and the competency approach to study the entrepreneurs' characteristics. According to the competency approach, the underlying quality of the most valuable workers lies in their "competencies". Where as the traditional approach to the job position focused on work elements, the evaluation of competencies studies people who are successful in their working career. This framework focuses on the entrepreneur's role in determining firm performance and can be applied to firms which are smaller in size and that bear the name of the entrepreneur or founder.

Using this framework, we performed an empirical study to analyse the relationship between entrepreneurs' competencies and the performance of SMEs. Specifically, and based on the gaps found in the literature, this study attempts to find answers to the following questions:

1. How does the level of the entrepreneurs' competencies affect the competitive scope and organisational capability, as well as the performance of SMEs?

2. What are the roles of the competitive scope and organisational capability in the relationship between entrepreneurs' competencies and SME performance?

3. Is greater competitive scope and organisational capability related to higher degrees of performance?

This article is organised in the following way: in the next section the model and associated hypotheses is developed; subsequently we describe the methodology, perform the analysis, and discuss the results; and in our concluding remarks our contributions, limitations and suggestions for future research are summarised.

Model and hypotheses development

As can be seen in Figure 1, our model explains how entrepreneurs' competencies influence SME performance, competitive scope, and organisational capability in a direct or indirect way.

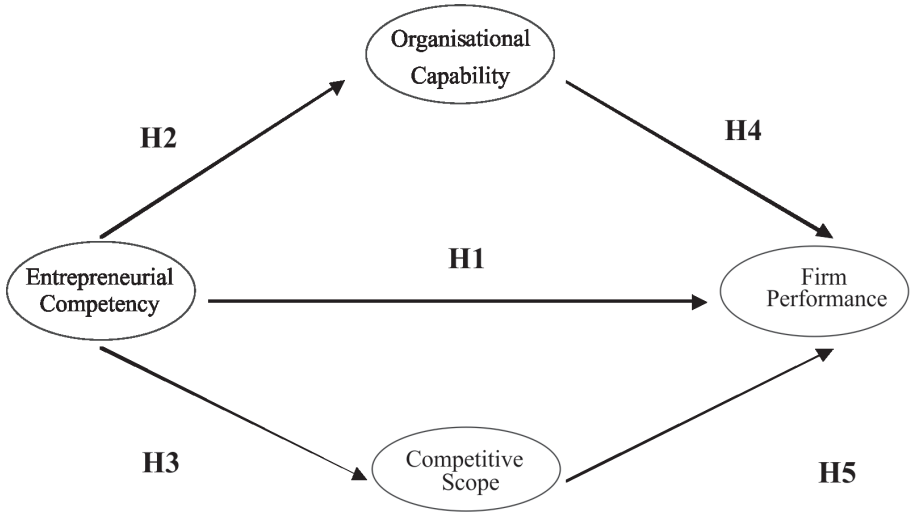

Figure 1. Competencies and firm performance model.

Since Boyatzis (1982) defined a competency as an underlying characteristic in a person that is related by chance to a successful performance in a job, studies on competencies have increased in number and have spread to different management positions. The definitions of competencies vary from general perspectives (Burgoyne, 1988) to other more detailed and concrete ones (Parry, 1998).

In all the cases, however, competencies are defined as people characteristics which enhance their performance or effectiveness at work. It seems logical, therefore, to believe that the roots of this competency approach lie in the identification and definition of the characteristics which define successful managers (Thomas & Herrisier, 1991) and in knowledge of the fact that these characteristics can be trained and developed (Parry, 1998).

What can be applied to managers' competencies could also be applied to entrepreneurs' competencies, the latter being obviously related to management competencies, as reflected in Boyatzis' work (1982).

Entrepreneurship research has shown that entrepreneurial competencies have a positive impact on SME performance. Enterprises with managers who have high levels of entrepreneurial competencies tend to scan and manage the environment in which they operate in order to find new opportunities and consolidate their competitive positions (Covin & Miles, 1999).

This increasing interest in the competency approach has its origins, according to Boam and Sparrow (1992), in two basic arguments: first, large scale change programmes in organisations have failed because they have not taken into account the necessary changes in individual behaviour. To support behavioural change, people have to create a request for the new behaviour. Secondly, a closer relationship between firm performance and job skills suggests better management ability in order to maintain business performance. In other words, this approach is an answer to the need to consider durable individual characteristics which lead to success, rather than just abilities and capabilities, and that will allow entrepreneurs to face growing competitiveness and innovation.

From the competency approach, the types of competencies can be studied at three levels (Mole, Dawson, Winstanley & Sherval, 1993): inputs (precedents to the competencies), processes (tasks or behaviours which lead to the competencies) and results (levels of competency reached in the functional areas). This study considers the process levels of the behavioural approach to study ingentrepreneurial competencies since it has become an increasingly popular way of studying managerial characteristics (Baron & Markman, 2003; Schmitt-Rodermund, 2004). This approach assumes that the mere possession of competencies does not mean that the entrepreneur is necessarily competent. Rather, competencies can only be demonstrated in the behaviour and actions of a person, corresponding to one of the dynamic characteristics of competitiveness.

According to Bird (1995), competencies are seen as observable behaviours that are more tied to performance than other entrepreneurial characteristics such as personality traits, intentions or motivations (Gartner &Starr, 1993; Herron &Robinson, 1993). In this article, we use both, financial and non-financial measures of performance in SMEs (Murphy &Callaway, 2004). Lumpkin and Dess (1996) warn that competencies can have a positive effect on one dimension (development of a new product), and a negative effect on another dimension (short-term profitability). Nevertheless, the predominant evidence indicates positive correlations between firm performance and competencies (Wiklund, 1999). Therefore, the hypothesis is:

H.1. Entrepreneurial competence is positively related to firm performance

One aspect to consider in the entrepreneurial competence-firm performance relation is the consideration of other constructs which may influence such a relation. In this study, competitive scope and organisational capability as an external factor of the environment and an internal factor of the company, respectively, which can influence this relation, is considered.

The concept of competitive scope refers to the position taken by a company with respect to its competitiveness, and defining its modus operandi. It is related to the availability of opportunities for the firm in the competitive market and it is affected by how the entrepreneur perceives these factors. To conceptualise this construct of competitive scope, it is necessary to consider the measures for the external environment.

Previous studies have highlighted several measures to understand the external environment, including technological sophistication, market heterogeneity, dynamism, market attractiveness, product/industry, life cycle, environmental munificence, perceived opportunity, market demand, and competitive concentration (Chandler & Hanks, 1994; Nantan & Slevin, 1993).

However, it is necessary to distinguish between the actual objective environment outside the firm and a more perceptual or subjective view of the environment (Boyd, Dess & Rasheed, 1993). In fact, the actual environment facing the firm is likely to be different from the environment perceived by the firm.

According to Davidsson (1991), perceived opportunity is also different from actual opportunity. These differences in perception or beliefs about the environment are likely to affect the firm's formation of strategy and its performance (Wiklund, 1999). Therefore, this construct has a subjective part related to the opportunities perception in the environment and the company availability to take action on them.

The remaining problem is: why are there differences between the objective environment and the perceived competitive scope? Could entrepreneur competencies affect this difference? Ina later section we suggest that entrepreneurial competencies do play a crucial role in this process.

Herron and Robinson's (1993) model suggested the causal linkage between entrepreneurial behaviours and external environmental structure. The study of Westerberg, Singh and Hackner (1997) highlighted the importance of the CEO in turbulent situations similar to those faced by small firms. Some studies regarding the relationship between entrepreneurship and environment focus on the opportunities provided by the environment. For example, Ardichvili and Cardozo's (2000) study indicates that successful opportunity recognition is influenced by entrepreneurial awareness and alertness, information asymmetry and prior knowledge, opportunity discovery, networking, and creativity. The perceived opportunities available are also influenced by an intention-driven process determined by various personal variables (Krueger, 2000).

Therefore, the competitive scope is likely to be affected by the entrepreneur's competencies in interpreting environmental conditions. This expectation is captured in the following hypothesis:

H.2. Entrepreneurial competence is positively related to the competitive scope

The concept of organisational capability refers to the actions, processes, systems and relationships that the company can carry out with its own resources. Organisational capability also represents the potential dimension of competitiveness from the firm's perspective. Internal factors of competitiveness can be classified into resources and capabilities. Resources include: (a) tangible assets, which are financial, or physical; (b) intangible assets, which include technology, reputation, culture, and (c) human specialised skills and knowledge, communication and interactive abilities, motivation. However, resources in themselves cannot be turned into a competitive advantage unless they are organised into capabilities. For example, a distribution centre is a resource and the distribution centre management is an organisational capability.

Gartner and Starr (1993) suggest that the three primary entrepreneurial behaviours are: (1) acquiring human, financial, informational and material resources; (2) creating the organisational structure and processes needed to produce goods and services; and (3) developing an on-going exchange of goods and services that ensures the availability of future resources. These behaviours are related to the organisation of the internal and external resources of a firm in building up the firm's capabilities.

Thus, the notion of competition in the organisational sense leads us to focus on identifying collective capabilities which enable brands to capitalise on space, prestige, and other resources. Without recognition of these capabilities, an organisation can hardly be responsible. Workers may have been trained to have valuable contacts or networks, but these skills in themselves do not translate into a competitive advantage if the company does not know that they have them or does not know how to put them to use. Therefore, based on the literature review above and previous empirical evidence (Wu &Wang, 2007), we postulate that:

H.3. Entrepreneurial competence is positively related to organisational capability.

Firm performance is the ultimate criterion in the theoretical model. In order to ensure this performance, competitive scope is a powerful tool for creating competitive advantage. In other words, more opportunities for innovation, industry growth, importance of new services, marketing information, and heterogeneous market will provide more opportunities to enter the market, survive and grow. Generally, firms which engage in these variables tend to have higher performance (Dollinger, 1984). For example, Soh (2003) posits that firms with a more efficient networking strategy tend to acquire more competitive information about other firms earlier, and this information advantage in turn leads to better new product performance. Thus, this research postulates that better utilisation of competitive scope would lead to higher performance.

H.4. Competitive scope is positively related to firm performance.

While competitive scope is obviously important, any competitive advantage acquired by entrepreneurs bears little impact on firm performance unless it is put through organisational capabilities. The importance of organisational capability is well documented. Many authors refer to the use of capabilities as a source of competitive advantage (D'Aveni, 1994). However, there is a lack of empirical research on the impact of organisational capabilities and its drivers in smaller organisations. The literature largely focuses on organisational capabilities in large organisations (Barney, 1991). The real issue for smaller organisations is to ensure that they understand the importance of organisational capabilities and acknowledge the various influences on individual capabilities. Recent work by Zott (2003) suggests that there is increasing evidence that firm performance is affected by firms' ability to integrate, build and reconfigure their resources (capabilities) and competencies. This led us to formulate the following hypothesis:

H.5. Organisational capability is positively related to firm performance.

In this study, both the organisational capability and competitive scope are seen as partial mediators in the relationship between entrepreneurial competence and firm performance.

Method

Participants

Potential participants for the study were recruited through the use of Chamber of Commerce directories in Spain, in order to identify business owners who had started their own company in recent years. A total of 700 participants were contacted via telephone and e-mail and asked to complete a questionnaire which was directly administered by a member of the research team. Since common method variance is often considered a problem in single-source survey research, we took measures to reduce the potential of its effect in the survey design by using different response scales and different style questions to create "methodological separation" (Dillman, 2000). From the 700 people contacted, 460 agreed to answer the questionnaire, representing approximately 65%. After eliminating incomplete questionnaires from the sample, a total of 450 questionnaires were used for the study.

Table 1 presents the characteristics of the respondents' firms. In terms of size, 89.8% of the entrepreneurial firms have fewer than 3 employees and 54.7% of them have one or fewer employees. The age of the companies surveyed was skewed towards start-up ventures, 59.6% of them are less than 1 year old, and 17.5% have been in existence for more than three years.

Table 1
Descriptive statistics of the firms surveyed

Characteristics	Frequency	Cumulative Frequency	Percentage	Cumulative Percentage
Age				
20-27	301	301	66.9	66.9
28-35	134	435	29.8	96.7
More than 35	15	450	3.3	100.00
Gender				
Man	417	417	92.7	92.7
Woman	33	450	7.3	100.00
Previous Training				
Yes	217	217	48.2	48.2
No	233	450	51.8	100.00
Later Training				
Yes	274	274	60.9	60.9
No	176	450	39.1	100.00
Previous Experience				
Yes	296	296	65.8	65.8
No	154	450	34.2	100.00
Years in business				
0-1 year	268	268	59.6	59.6
2-3 years	103	371	22.9	82.5
More than 3 years	79	450	17.5	100.00
Number of employees				
0-1	246	246	54.7	54.7
2-3	158	404	35.1	89.8
More than 3	46	450	10.2	100.00
Stage of development				
Introduction	217	217	48.2	48.2
Growth	151	368	33.6	81.8
Maturity	82	450	18.2	100.00

Measures

The scales used to measure entrepreneurial competence (EC), competitive scope (CS), organisational capability (OC), and firm performance (FP) were adopted from different authors. Items from the original scales were translated into Spanish using a *translation/back-translation* procedure. A Spanish bilingual person undertook the translation from the original English items into Spanish; a second English bilingual person independently translated the material back into English. We then compared the back-translated version with the initial English version, and arranged for the two translators to discuss discrepancies.

EC. Man, Lau and Snape's (2008) scale was used to measure the participants' competencies to perform many of the activities. The scale consists of 53 items divided into ten subscales concerning: opportunity, relationship, analytical, innovative, operational, human, strategic, commitment, learning and personal strength competencies. For each item, they rated their level of competence on a 7-point Likert scale (1 = "*strongly disagree*"; 7 = "*strongly agree*). The reliability for each of these subscales provided by the author varies from.78 to .94.

CS. To measure the environment we adapted and modified the scales by Zahra (1993) and Miller (1988), for

a total of 12 items divided into four subscales referring to variables or technological opportunities, industrial growth, perceived importance of new products/services, and market heterogeneity. Each item was measured on a 5-point Likert scale from 1 "very false" to 5 "very true" to describe the competitive environment the company faces.

OC. Four variables were used to measure this construct: innovative ability, quality, cost effectiveness, and organicity. Chandler and Hanks (1994) referred to innovative ability (6-item), cost effectiveness (7-item), and quality (5-item). The measurement for the flexibility and informality of organisational structure was adapted from Covin and Slevin's (1988) "organicity" scale. All items for these variables were anchored on a 7-point Likert scale from "of great disadvantage" to "of great advantage" for each particular capabilities in the manufacturing field. These four variables together operationalise the construct of organisational capabilities.

FP. The use of scales to measure firm performance is a good alternative to the use of objective data, given the limited availability of managers or business owners to provide such data. Three measures were used to evaluate the FP: investment efficiency, business growth, and relative performance. To do this, we adapted the scales by Gupta and Govindarajan (1984) and Chandler and Hanks (1993). The scale devised by Gupta and Govindarajan measures the investment efficiency and includes nine items. Five of them were used in our study: return on shareholder equity, gross profit margin, net profit from operations, profit to sales ratio, and return on investment. Respondents were asked about the importance of these items for their business and their satisfaction with them on a scale of 5 points, which are then multiplied by each other to form the measure of performance in the respective items.

Two items in the scale by Chandler and Hanks (1993) and one item in the scale by Gupta and Govindarajan (ability to fund business growth from profits) were used to assess the business growth. The item "market share growth" from Chandler and Hanks was not used because the companies in our study (SMEs) do not occupy a high percentage of market share and it is therefore not appropriate to use it as one of the performance indicators. These three items were rated on a scale of 6 points each representing a different level of growth.

Finally, a 5-point scale, also developed by Chandler and Hanks (1993), was used to measure the relative performance. Six of these items were adapted for this study including sales growth, return on sales, cash flow, return on investment, net profit, and growth in market share. Respondents were asked to score from "somewhat lower" to "a great deal higher" on their companies' performance indicators as compared with their competitors.

These three variables, investment efficiency, business growth, and relative performance, together, reflect the concepts of SME performance within a more complete picture as they represent performance in the present, in the future, and in comparison with the firm's competitors.

Variables control

The variables control include mainly the entrepreneur's age, firm age, industry sector, and stage of business development. Other demographic and firm data were also collected, including gender, education level, prior training, work experience, start-up experience, business year, owner ship structure, shareholding in the business, and firm size.

Analysis

To generate the following results, we used SPSS Version 15 for the scale univariate statistics, reliability calculations, and the principal component (exploratory) factor analyses. In addition, we used AMOS Version 16.0 for the confirmatory factor analyses (CFA) and the structural equation modelling (SEM).

The structural equation model was used to analyse the data because it allows the simultaneous examination of multiple regression equations. For multivariate models which anticipate mediated or partially mediated relationships, as is the case in this study, using individual regression estimates to build a path model can produce biased results. The simultaneous calculation of estimates in the structural equation model can avoid this bias.

Following recommendations by Anderson and Gerbing (1988), our SEM analysis followed the analysis procedure in two steps. In the first step, the latent constructs of EC, CS, and OC using CFA was validated. In the second step, the full structural model was estimated. For both the CFA

and the SEM analyses, the goodness-of-fit parameters to be reported (RMSEA, NFI, CFI, and normed chi-square) reflect currently accepted standard (Hair, Black, Babin, Anderson & Tatham, 2006). The threshold criteria for each of the goodness-of-fit parameters are summarised below in the results section.

Results

Means, correlations, and reliabilities for the variables are presented in Table 2. The correlation analysis shows that there is a significant and substantial level of correlation among variables of the same construct. For example, a correlation level between medium and high (from 0.40 to 0.68) was found among the EC variables. This can be explained by the fact that all these variables of similar behavioural characteristics reflect a higher level construct, entrepreneurial skills. The correlations between variables of different constructs are moderate to low. Such pattern can be seen as evidence for the construct validity and convergent validity. On the other hand, all the EC and OC variables were correlated with performance variables, where as the CS variables only correlated with the extent of relative performance.

Table 2
Means, Correlations, and Alpha Coefficients

	Mean	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Opportunity	5.2	.73																			
2. New Services	5.3	.36**	.80																		
3. Market Heterog.	5.3	.07	.12*	.83																	
4. Competitive Scope	5.3	.70**	.64**	.55**	.75																
5. Innovative	3.9	.01	.09*	.03	.07	.84															
6. Cost Effectiv.	4.7	.17**	.21**	.07	.15**	.11*	.82														
7. Quality	4.5	.34**	.24**	.14**	.10*	.42**	.01	.83													
8. Flexibility	5.5	.01	.04	.05	.04	.02	.29**	.11*	.74												
9. Org Capability	4.7	.08	.18**	.09*	.01	.70**	.60**	.60**	.38**	.75											
10. Opportunity	5.0	.02	.30**	.05	.18**	.51**	.01	.43**	.35**	.54**	.89										
11. Relationship	5.3	.01	.40**	.09*	.15**	.32**	.04	.46**	.21**	.40**	.68**	.86									
12. Analytical	5.1	.12**	.19**	.20**	.17**	.13**	.25**	.29**	.32**	.41**	.45**	.45**	.82								
13. Operational	4.9	.14**	.06	.05	.01	.40**	.08	.32**	.26**	.45**	.49**	.48**	.46**	.88							
14. Strategic	4.8	.01	.16**	.16**	.18**	.36**	.09	.38**	.41**	.51**	.62**	.62**	.54**	.51**	.84						
15. Personal	5.2	.07	.15**	.08	.10*	.39**	.09	.52**	.18**	.51**	.55**	.55**	.49**	.55**	.60**	.89					
16. Competences	5.1	.08	.28**	.09*	.17**	.45**	.09*	.51**	.37**	.60**	.82**	.81**	.71**	.73**	.82**	.79**	.90				
17. Relative	2.4	.11*	.11*	.05	.14**	.33**	.13**	.27**	.19**	.39**	.32**	.24**	.22**	.20**	.23**	.32**	.32**	.88			
18. Growth	3.2	.12**	.07	.14**	.01	.53**	.04	.25**	.09*	.41**	.42**	.26**	.17**	.21**	.34**	.26**	.36**	.67**	.83		
19. Efficience	2.2	.12*	.01	.01	.06	.48**	.05	.47**	.01	.46**	.38**	.36**	.11*	.23**	.45**	.40**	.41**	.34**	.38**	.88	
20. Performance	2.9	.13**	.09*	.02	.10*	.55**	.06	.38**	.09*	.49**	.42**	.35**	.15**	.26**	.42**	.40**	.43**	.85**	.87**	.66**	.90

** p<.01, * p<.05

The alpha coefficient is indicated along the diagonal

Before examining our hypotheses, we must first confirm the structure and reliability of our measurement constructs. Exploratory Factor Analysis (EFA) was conducted -Principal Component Analysis with Varimax Rotation with Kaiser Normalization- for the EC, CS, and OC scales. The criteria followed to remove items from a factor were: (a) high saturations submit more than one factor; (b) the highest saturation is submitted in a not related factor to the theoretical assignment; or (c) item shows saturation below .30. EFA conducted with the 53 items of the EC scale resulted in more than 10 factors explaining 76.49% of the total variance. However, given that some items were eliminated a new factor analysis was run. The 6 factors extracted explained over 75.71% of the total variance, for a satisfactory solution. These factors were: opportunity, relationship, analytical, operational, strategic, and personal strength competencies.

To confirm how well the new factor structure fits the data, the alpha reliabilities and then completed a CFA was calculated. The reported Cronbach's Alpha ranged from 0.82 to 0.89, all of which are higher than the acceptable value of 0.70 suggested by Nunnally (1978), indicating a high level of reliability for the variables used (Table 2). The result of CFA shows that this factor structure fits the data well. The goodness-of-fit parameters reflect acceptable values within the limits (RMSEA: .07; NFI=.96; CFI=.97; TLI=.97).All *t*-tests of the indicator variables were significant at the .001 level.

EFA conducted with the 12 items of the CS scale resulted in 4 factors that explained over 70.56% of the total variance. After the elimination of three items, a new EFA was conducted, obtaining three factors that accounted for 74.23% of the variance: opportunity for innovation, demand for new services, and market heterogeneity. The Cronbach's Alpha for these three factors was 0.73, 0.80 and 0.83, respectively. The results of the CFA exhibited a good level of fit (RMSEA: .07; NFI=.94; CFI=.93; TLI=.95). All *t*-tests of the indicator variables were significant at the .001 level.

As in the previous scales, we performed EFA with 20 items of the OC scale. The 4 factors extracted explained over 62.86% of the total variance. After the elimination of seven items a new EF Awas conducted, obtaining four factors which accounted for 76.41% of the variance. These factors were: innovative capability, cost effectiveness, quality, and flexibility. The Cronbach's alpha for these four factors ranged from 0.74 to 0.84.The results of the CFA exhibited a good level of fit (RMSEA: .07; NFI = .92; CFI = .93; TLI = .93). All *t*-tests of the indicator variables were significant at the .001 level.

Results-hypothesis testing

We estimated the structural model using AMOS 16.0. The overall fit statistics indicated that there was not a good fit of the model ($\chi^2(165) = 2100$, χ^2/df: 12.73,CFI = .51, TLI = .37, NFI = .49, RMSEA = .16). Some standardised path coefficients were not significant and therefore they were eliminated, namely the paths of control variables to entrepreneurial competency. As a matter of fact, control variables were not a determinant for the competencies. This issue will be discussed below. Thus, our initial model with control variables removed was re-specified.

The re-specified model achieved an acceptable level of fit, although the adjustment indices did not reach the threshold values recommended: χ^2 (85) = 973, χ^2/df = 11.4, CFI = .88, TLI = .76, NFI = .87, RMSEA = .10. As indicated in the previous section, research into performance by using different dimensions is still an open question. One can expect EC, CS, and OC impact on FP at different levels, depending on the performance dimension under consideration. In addition, we are also interested in finding the differential effects that the independent variables have on the three dimensions of FP.

The results show that the three structural models obtained reached an acceptable level of fit. All fit indices for our structural models achieved or exceeded the usually recommended threshold values. Thus, when we consider the relative performance, the values of fit statistics were: $\chi^2(62) = 82.24$, χ^2/df = 1.3, CFI = .97, TLI = .94, NFI = .95, RMSEA = .06. When we consider the growth dimension, values of fit indices were: $\chi^2(62) = 107.43$, χ^2/df = 1.7, CFI = .94, TLI = .90, NFI = .92, RMSEA = .08. When we consider the efficiency dimension, values of fit indices were: $\chi^2(62) = 99.47$, χ^2/df = 1.6, CFI = .96, TLI = 92, NFI = .94, RMSEA = .07.

The standardised path coefficients of these three models are presented in Table 3. As predicted, the hypothesised relationships between EC and FP,CS and OC were positive and significant, which support our H1, H2, and H3.

Table 3
Parameter estimates of goodness of fit for models

Hypothesis	Parameters	Relative performance	Growth	Efficiency
H1	EC ® FP	0.21*	0.25**	0.29**
H2	EC ® CS	0.32**	0.32**	0.32**
H3	EC ® OC	0.64**	0.64**	0.64**
H4	CS ® FP	0.17*	0.07	0.19*
H5	OC ® FP	0.25**	0.25**	0.29**
	OC ® CS	0.20*	0.20*	0.20*

EC: Entrepreneurial Competence; FP: Firm Performance; CS: Competitive Scope: OC: Organizational Capability
* p<0.001; ** p<0.000

The path from CS to business growth was not significant, but it was significant when considering the relative performance and efficiency dimensions; thus, H4 was partially confirmed. As expected, OC demonstrated a significant and positive effect on FP: relative performance (β =.25 p<.000), efficiency (β =.29. p<.000) and growth (β = .25. p<.000), lending support to H5. Hence the results reveal that the OC served as a partial mediator in the relationship between EC and FP. To test the mediating effect of OC, two alternative models were examined, one without the direct path from EC to FP, and one with both direct and indirect paths from EC to FP (Zhang, Li& Sellers, 2003). Chi-square for the model without the direct path from EC to FP was 110.13(*df*=63), 131.12 (*df*=63), 123.21 (*df*=63) for relative performance, growth and efficiency, respectively; while the chi-square for the model with the direct path from EC to FP was 82.24 (*df*=62), 107.43 (*df*=62), and 99.47 (*df*=62) for relative performance, growth, and efficiency, respectively. The results show that there was a significantly lower value of chi-square for the model with the direct path from EC to FP added ($\Delta\chi(1)$ = 27.89, p<.05, $\Delta\chi(1)$ = 23.69, p<.05, $\Delta\chi(1)$ = 23.74, p<.05, for relative performance, growth, and efficiency, respectively). The added direct path from EC to FP did not change the significance of the mediated paths through organisational capability. This provides evidence that entrepreneurial competency had both direct and indirect effects (through organisational capability as a partial mediator) on firm performance.

Discussion

In this study we have used a theoretical frame of SME competitiveness, incorporating the competency approach to investigate the relation between enterprising characteristics at the individual level and performance at firm level. This frame has also allowed us to study the interactive relations and provide guidelines for the choice and operationalisation of the variables necessary for research into the relations between enterprising characteristics and firm performance (Cooper & Gascon, 1992). We have found that competitive scope and organisational capability are important elements, particularly for firms which have high levels of entrepreneurial competencies. Testing the hypotheses also yielded some positive results which provide supporting evidence of the direct or indirect effects of competencies on firm performance. These findings correspond to earlier research demonstrating an entrepreneur's ability to become alertto and be able to interpret environmental conditions (Minniti, 2004) in order to gather and use various internal and external resources to the advantage of the firm (De Carolis & Saparito, 2006) and to plan for its long-term success (Kisfalvi, 2002).

Compared with previous studies on the relation between enterprising characteristics and SME performance, this study has provided an alternative way of approaching this topic by applying it to newly created companies, with few employees, directed only by their founders or entrepreneurs, and considering other constructs (organisational capabilities

and competitive scope) in the relation between competencies and performance. This study also provides evidence of the role of the entrepreneur in determining the performance of an SME, particularly in the type of companies studied. When other contextual factors are considered, such as size of the company, stages of industry development, etc., these influences are not particularly significant. As opposed to other studies (Man, Lau & Snape, 2008), we found that entrepreneurial competencies can contribute even more to firm performance in this context than company characteristics.

On the other hand, we found competitive scope and organisational capabilities to be important elements, particularly salient for firms that have high levels of entrepreneurial competencies. We infer that business owners should have opportunity, relationship, analytical, operational, strategic, and personal strength competencies in order to use organisational ability to perform a coordinated task, employing organisational resources, for the purpose of achieving a particular end result, and improving the competitive scope.

This sample of entrepreneurs shows that, on the whole, they obtain and use competitive scope and organisational capability with regard to customers and competitors from their entrepreneurial competencies. However, we did not find evidence supporting the hypothesis that competitive scope is positively related to business growth (performance). This finding can be explained as follows. Previous studies (Porter & Millar, 1985) found that having a broad scope can allow a firm to exploit the benefits of performing more activities internally and externally. It may also allow the firm to exploit interrelationships between the value chains which serve different segments, geographic areas or related industries. But sharing and integrating have costs that may outweigh the benefits. Conversely, having a narrow scope can allow the tailoring of the chain to serve a particular target segment, geographic area or industry, to achieve lower cost or to serve the target in a unique way. A narrow scope in integration may also improve the competitive advantage by enabling a firm to purchase or perform better or at less expense. In our sample, most firms are not involved in growth as a competitive strategy; thus, the competitive scope was not found to have impact on firm performance (when it is conceptualised as business growth).

This finding has important implications for entrepreneurs. As SMEs tend to have limited resources, entrepreneurs should focus their activities on elements which generate the highest impact on performance. This implies that SMEs have to channel their employees (competencies) and organisational (capability) resources towards activities where they have more control. In practice, this means that entrepreneurs, based on our sample, need to pay attention to location and distribution issues (narrow scope strategy), which affect customer convenience and accessibility, to improve the competitive scope.

In conclusion, our study contributes to research on entrepreneurship by revealing that: (a) entrepreneurial competencies play an important role in enhancing firm performance, having both direct and indirect effects on firm performance; (b) although competitive scope is not significantly related to business growth, it is a strong predictor of other performance dimensions (efficiency and relative performance); (c) organisational capability, in turn, has a positive impact on firm performance, and (d) organisational capability is a strong predictor of competitive scope.

These findings contribute to a better understanding of entrepreneurial competencies and their impact on firm performance. This study also demonstrates the validity of the model of Man et al. (2002) in addressing the relationship between entrepreneurial competencies and SME performance. We conclude that organisational capability and competitive scope should not be a one-time event; rather it should be an on-going process through day-to-day interactions with employees, customers, suppliers and other associates. This also suggests the need to have good entrepreneurial competencies (e.g., relationship, analytical, operational, strategic, and personal). Such competencies would not only allow entrepreneurs to formulate superior strategies, but also enable them to identify new business opportunities.

This study also has limitations that suggest caution in assessing our findings. In particular, our sample firms are concentrated in the service sector, with a high percentage having few employees. This characteristic of Spanish entrepreneurial business may explain the non-significance of the control variables in our results. An extension of this study would be to collect SME samples to capture industry differences. Other limitations pertain to the lack

of objective financial performance data. However, the use of perceptual measures is a common issue in organisational research, and as reflected in other studies, objective and subjective measures are highly correlated, even though they are separate constructs (Murphy & Callaway, 2004).

In short, the contribution of this study is that we provide empirical evidence on how entrepreneurial competencies have not only direct impact, but also indirect impact on SME firm performance via the mediating effect of organisational capabilities. Moreover, in future it would be worth investigating the long-term effects of organisational capabilities and competitive scope on performance, which calls for a complete longitudinal study.

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