

### Title

Linking Entrepreneurial Orientation and Export Intensity: How Organizational Learning Capability and Innovation Performance affect this relationship?

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### Abstract

Firms that partake in export activity are entrepreneurial in nature because exporting firms would benefit by proactively seeking new markets, engaging in innovative action to meet local market's needs, and be able and willing to take risks by venturing into previously unknown markets. While prior studies have looked at the importance of entrepreneurial orientation, organizational learning or innovation in export strategy, they have overlooked the process view that allows understanding the way through which firms with this kind of characteristics are able to assure better export results. Through the use of structural equation modelling in a sample of 182 small and medium enterprises ceramic firms, the authors demonstrate that entrepreneurial orientation is a precursor of export intensity but this relationship is mediated by organizational learning and innovation performance. This result highlights the process view; those firms with entrepreneurial orientation are able to have the capability of learning and superior innovation performance which finally increases export intensity. Political implications could be done with our study. Governments that reinforce innovation policies in the firms are helping the openness of the companies indirectly.

### Keywords

Organizational Learning Capability; Entrepreneurial Orientation; Export Intensity; Innovation Performance; Resource-based View; SMEs

## INTRODUCTION

Nowadays, exporting plays a vital role in company strategies due to globalization (Golovko and Valentini, 2011). In this global environment firms know that international competition affect them even they are small or even since now they were solely focus on their local market. As an answer of this globalization and to the constantly changing of dynamics environments there are increasing engagement of the firms in export activities.

The question relies in how to be successful in export strategy. As a consequence, the focus of scholarly research for the last two decades has been the investigation of the elements that are critical to firm's export success (Katsikeas et al., 1997; Sousa, Martinez-Lopez and Coelho, 2008). Although significant progress has been made in understanding the relationships between export performance and certain organizational factors, such as innovation and size (Lopez-Rodriguez and Garcia-Rodriguez, 2005; Pla-Barber and Alegre, 2007) or different attitudes as entrepreneurial orientation (Rauch et al. 2009), since now the research proposes direct relations without focusing in the process view through organizations could achieve higher export intensity. We propose a model in which entrepreneurial orientation (EO) increases export strategy through the mediating variables of organizational learning capability (OLC) and innovation performance. This conceptualization reinforces the process view.

It is known that EO affects export intensity (Yeoh and Jeong, 1995). EO is a set of decision making styles, processes, practices, rules, and norms according to which a firm makes decisions to enhance its innovativeness, proactiveness, and risk taking propensity (Lumpkin and Dess 1996; Sapienza et al. 2005). Proactiveness and risk-taking play an important role in enhancing the export performance. Those firms that are proactive are more effective at reducing export impediments because they are able to bring new

products quickly to the market place. On the other hand risk taking is necessary to start the internationalization strategy in the firm. And lastly, innovativeness helps a firm to position its products more effectively in promising niche markets (Madsen, 1989). However, although EO is theoretically beneficial for firms (Ireland and Webb, 2007) and a positive relationship with export intensity could be expected (Yeoh and Jeong, 1995), some results have not been fully conclusive. This might be due mainly to the concept of export intensity which can be influenced by many variables both internal and external to the organization (Pla-Barber and Alegre, 2007) and to the long time the benefits of EO come to fruition (Zahra and Covin, 1995; Madsen, 2007).

We can understand export intensity as a specific performance because positives export results affects directly firm general performance. In this line of thinking, Zahra et al. (1999) suggested that research should focus on identifying the underlying steps that determine the contribution of EO to firm performance. And middle steps between EO and export intensity is needed to better understand this relationship.

EO includes between its dimensions innovativeness, which is related with product innovations, development of new markets, and new processes and technologies for performing organizational functions. In fact, in earlier entrepreneurship and economic studies, innovativeness was often viewed as a surrogate measurement for entrepreneurship (Miller and Friesen, 1982). We propose EO as an antecedent of innovation performance and as it is known this lastly measure is related with export intensity (Pla-Barber and Alegre, 2007). We defend that the sequence is; first EO increase innovation performance and will be this that increase export intensity. With this vision we assume that innovation performance acts as a mediating variable between EO and export intensity.

Zahra et al. (1999) put forward that one of the most profound contributions of EO may lie in its links with organizational learning that increase the company's competencies in assessing its markets or creating and commercializing new knowledge intensive products. At the same time, organizational learning has been found to be an important input for exporting (Ling-Yee, 2004; Petersen et al., 2008). Combining both, we argue that EO could give support at those learning processes that might be beneficial for exporting. In other words, we defend the mediating role of OLC between EO and innovation performance.

Finally, drawing on the resource-based view (RBV), our last objective is to explain intra industry differences in export intensity as a function of the interaction between EO, OLC and innovation performance (Zott, 2003).

The paper is structured as follows. The next section sets out a conceptual framework and a theoretical review of the connection between entrepreneurial orientation, export intensity, organizational learning capability and innovation. Following this theoretical review, we develop our research hypotheses in the context of a medium tech industry (ceramic). In section 3, the design of the survey, the measures, and the analyses are outlined. Finally, results and conclusions are presented in sections 4 and 5.

## **CONCEPTUAL BACKGROUND**

### Entrepreneurial orientation

The word "entrepreneur" derives from the French words "entre" (meaning between) and "preneur" (meaning to catch or take). Originally, this term is used to describe people who take risks, for example, the risk of starting a new business. Furthermore, we say that a firm is more entrepreneurial when it gets identify and exploit new opportunities. For existing businesses, this process is known as corporate entrepreneurship or intra-

preneurship and it is to develop new ways to manage businesses that involve changes in patterns of organizational behavior of firms (Macri, Tagliaventi and Bertolotti, 2002).

We consider that OE has 3 key dimensions (Covin and Slevin, 1989, Lumpkin and Dess, 1996): the incorporation of frequent or radical innovation, competitive orientation and aggressive or proactive decisions that involve high risk. (1) The capacity for innovation or "innovativeness" is defined as the tendency of an organization to support and implement new ideas as well as novelty, experimentation and creative processes that may lead to new products, services or technological processes. (2) To be proactive is considered an anticipative action for looking at future needs by seeking new opportunities, which may involve new product development, markets, etc.. (3) And finally, risk taking is defined as the willingness to commit significant resources to opportunities that have reasonable chance of failure (Covin and Slevin, 1989; Lumpkin and Dess, 1996).

### Export intensity

The determinants of exporting have received a great deal of attention in international business research (Leonidou, 1998a, 1998b). In fact, a significant number of empirical works have tried to understand the key antecedents of export performance supporting their arguments with the RBV. This perspective defends that organizations can be understood as a set of unique and heterogeneous resources (Barney, 1991). Firms are capable of achieve sustainable competitive advantage if these resources are rare, difficult to imitate and non substitutable (Teece et al., 1997). This type of resources can persist over time, constituting the foundation of competitive advantage in domestics (Yeoh and Roth, 1999) and international markets (López-Rodríguez and García-Rodríguez, 2005).

Dhanaraj and Beamish (2003) grouped into three types of resources the antecedents of export intensity: organizational, entrepreneurial and technological resources. However, as Sousa et al. (2008) argue, literature on the determinant of export performance has not yet established a strong theoretical basis despite the academic effort during the past 30 years. We deep in different kind of antecedents building in a process view.

#### Organizational learning capability

OLC is defined as the organizational and managerial characteristics or factors that facilitate the organizational learning process or allow an organization to learn (Dibella et al., 1996; Goh and Richards, 1997; Hult and Ferrell, 1997). We follow the review of Chiva et al. (2007) who conceptualized OLC as five facilitating factors of organizational learning: (1) Experimentation; can be defined as the degree to which new ideas and suggestions are attended to and dealt with sympathetically. Experimentation is the most heavily supported dimension in the OL literature (Tannembaum, 1997). Experimentation involves trying out new ideas, being curious about how things work, or carrying out changes in work processes (Nevis et al., 1995). (2) Risk taking; can be understood as the tolerance of ambiguity, uncertainty, and errors. Sitkin (1996, p. 541) goes as far as to state that failure is an essential requirement for effective organizational learning, and to this end, examines the advantages and disadvantages of success and errors. (3) Interaction with the external environment is defined as the scope of relationships with the external environment. The external environment of an organization is defined as factors that are beyond the organization's direct control of influence. Environmental characteristics play an important role in learning, and their influence on organizational learning has been studied by a number of researchers (Bapuji and Crossan, 2004, p. 407). (4) Dialogue is defined as a sustained collective inquiry into the processes, assumptions, and certainties that make up everyday

experience (Isaacs, 1993, p. 25). Some authors (Schein, 1993) understand dialogue to be vitally important to organizational learning. Although dialogue is often seen as the process by which individual and organizational learning are linked, Oswick et al. (2000) show that dialogue is what generates both individual and organizational learning, thus creating meaning and comprehension. (5) And finally, participative decision making refers to the level of influence employees have in the decision-making process (Cotton et al., 1988). Organizations implement participative decision making to benefit from the motivational effects of increased employee involvement, job satisfaction and organizational commitment (Scott-Ladd and Chan, 2004).

Although the concept of OLC was developed from the organizational learning literature, it is linked to the RBV and to the organizational capabilities perspectives (Lages et al., 2009). The development of organizational capabilities such as OLC requires the integration of specific resources. In addition, its development and its application over time provide a firm with a distinction, being a source of competitive advantage (Tippins and Sohi, 2003).

### Innovation performance

Myers and Marquis, (1969) define innovation as the successful exploitation of new ideas. Innovation therefore requires that two conditions be met: novelty and use. The requisite of novelty is verified since the innovation process puts into practice an invention, a scientific discovery or a new production or management technique. The requisite of utility is borne out through its use or commercial success. Innovation results include product and process innovations; two kinds of innovation outcomes that are very closely linked (Utterback and Abernathy, 1975) and constitute a highly complex process which generally involves all company functions. A 'product' is a good or service offered to the customer, and a 'process' is the way the good or service is

produced and delivered (Barras, 1986). Thus, product innovation is defined as the product or service introduced to meet the needs of the market or of an external user, and process innovation is understood as a new element introduced into production operations or functions (Damanpour and Gopalakrishnan, 2001). Product innovations focus on the market and are aimed at the customer, while process innovations focus on the internal workings of the company and aspire to increasing efficiency (Utterback and Abernathy, 1975). According to Damanpour and Gopalakrishnan (2001), the difference between product and process innovation is important because their implementation requires different organizational skills: product innovation requires the company to take on board the importance of customers' needs, design and production, whereas process innovation calls for the application of technology in order to improve the efficiency of the development and commercialization of the product. Product innovations tend to be adopted at a greater rate than process innovations, as the former are more easily observed and advantageous. Furthermore, they maintain that product innovations are carried out more quickly than process innovations, as they are more autonomous and do not usually give rise to so much resistance on introduction. In this research, we conceive innovation performance as a construct with three different dimensions: product innovation efficacy, process innovation efficacy and innovation projects efficiency. Product and process innovation efficacy reflect the degree of success of an innovation. On the other hand, innovation projects efficiency reflects the effort carried out to achieve that degree of success.

## **HYPOTHESES**

### Entrepreneurial orientation and export intensity

Entrepreneurship is a young research field that captures ever greater attention among researchers (Ireland, Reutzel and Webb, 2005). There are two streams in the

entrepreneurship literature. The first has focused on the individual entrepreneur as the unit of analysis, specifically on identifying the traits which distinguished successful entrepreneurs from less successful ones (Gartner, 1989). The second tends to view entrepreneurial activities as a firm-level phenomenon (Covin and Slevin, 1991); “an individual’s psychological profile does not make a person an entrepreneur because we recognize entrepreneurs through their actions or behaviour” (Covin and Slevin, 1991, p.8). Therefore, we follow the line of research which suggests that organizational-level behaviour is a better predictor of entrepreneurial effectiveness assuming that organization can and should be viewed as entrepreneurial entities.

A firm strategic posture can be established along a continuum ranging from conservative to entrepreneurial (Covin, 1991). “*Conservative firms*” tends to be risk-averse, non-innovative, and reactive, whereas “*entrepreneurial firms*” tend to be risk-takers, innovative and proactive. This conservative-entrepreneurial conceptualization is consistent with earlier conceptualization developed in the management and organization theory literature. For example, *prospectors* firms are strategically similar to *entrepreneurial firms* (Miles and Snow, 1978) and *defender* firms and *adapter* are similar to conservative firms (Miles and Snow, 1978 and Mintzberg, 1973).

Yeoh and Jeong, (1995, p.99) defend that the conservative-entrepreneurial dichotomy also shares similarities with some of the dichotomies developed in the exporting literature: active-reactive (Piercy, 1981), aggressive-passive (da Rocha et al, 1990; Tesar and Tarleton, 1982), sproactive-reactive (Johnston and Czinkota, 1982), active-passive (Eshghi, 1992) and innate-adoptive (Ganitsky, 1989). These studies prove that while some exporters tend to be active, proactive and aggressive in their pursuit of opportunities in overseas markets, other exporters tend to be reactive, passive and conservative (Yeoh and Jeong, 1995).

We defend that in the actual context of globalization, firms need to be proactive in their pursuit of opportunities in overseas markets. Those firms with EO are more able of sensing opportunities of exportation, achieving superior levels of export intensity.

Considering the above:

*H1: EO positively affects the export intensity in the firm.*

#### Entrepreneurial orientation, innovation performance and export intensity

We note that the common concept in many of the studies on corporate entrepreneurship is innovation (Rauch et al., 2009). Innovation is a crucial factor in the outcome of the company as a result of developments in the competitive environment (Newey and Zahra, 2009). The importance of innovation for long-term outcome of the companies has been widely advocated in the literature. This has become a crucial factor in the overall performance of the company and due to the changing competitive environment (Newey and Zahra, 2009, Baker and Sinkula, 2009), can be considered as the dependent variable more precise of EO (Ireland, Hitt and Simon, 2003). In fact, Schuler (1986) understands entrepreneurship as the practice of innovating, and claims that what distinguishes entrepreneurial from non-entrepreneurial firms is the rate of innovation. EO could therefore be considered as an antecedent of innovation performance. At the same time, the technology and innovation management literature provides evidence of a positive relationship between innovation and export intensity (Alegre et al. 2012; Basile, 2001; Pla-Barber and Alegre, 2007). It is predicted that innovative firms will have a tendency to enter foreign markets in order to increase sales volume and spread the fixed costs of innovation over a larger number of units (Rogers, 2004). Considering the above, innovation may represent the link which helps companies to direct its EO through improving their export intensity. Therefore:

*H2: Innovation performance acts as a mediating variable between EO and export intensity*

Entrepreneurial orientation, organizational learning capability and innovation performance

In general, firms that are able to learn about other organisations (customers, suppliers and competitors), market evolution and technology changes stand a better chance of sensing and acting upon dynamic environments (Wu and Fang, 2010). The same occurs with firms with EO. They are able of acting proactive because the firms with EO are more open for sensing environmental changes (Rauch et al. 2009).

The organizational learning process consists of the acquisition, dissemination and use of knowledge (Argote et al., 2003), and is therefore an extremely useful process for generating new ideas. Previous research suggests that organizational learning affects innovation performance (Calantone et al. 2002; Newey and Zahra 2009). The first steps which make possible innovation in the company, is the openness of members of an organization for learning and change (Zaltman, Duncan and Holbek, 1973).

McKee (1992) understands product innovation as an organizational learning process and claims that directing the organization towards learning fosters innovation effectiveness and efficiency. This innovation fostering could be done easily in firms with EO (Rauch et al. 2009). Wheelwright and Clark (1992) suggest that learning plays a determinant role in new product development projects because it allows new products to be adapted to changing environmental factors, such as customer demand uncertainty, technological developments or competitive turbulence. More recently, Hult et al. (2004) point out that if a firm is to be innovative, its management must devise organizational

features that embody a clear learning orientation. These lines of argument lead us to the following hypotheses:

*H3: OLC acts as a mediating variable between EO and innovation performance.*

Entrepreneurial orientation, organizational learning capability and export intensity

Zahra et al. (1999) put forward that one of the most profound contributions of EO may lie in its links with organizational learning which helps to increase the company's competencies in assessing its markets or creating and commercializing new knowledge intensive products. EO might provide the management support for organizational learning process and capability- According to Slater and Narver (1995), market and EO provide the foundation for organizational learning. Similarly, Zahra et al. (1999) and Liu et al. (2002) consider that EO promote organizational learning and values like teamwork, openness, etc.

On the other hand, exporting is viewed as a process of learning and knowledge accumulation during which the company identifies and exploits opportunities abroad (Li, Nicholls and Roslow, 1998, Brouthers et al., 2009). Knowledge renewal and exploitation regarding foreign markets may increase exports (Balabanis, Theodosiou, and Katsikea, 2004) because firms that learn efficiently from their experience are able to export faster and with fewer mistakes. As a result, fostering OLC represents a way in which managers attempt to implement initiatives that facilitate learning processes and this fostering of knowledge is facilitated by EO in the firm. Considering the above, OLC may represent the link helping a company to direct its EO to increase its export intensity. Therefore:

*H4: OLC acts as a mediating variable between OLC and export intensity*

Insert Figure 1 about here

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## METHOD

### Sample and Data Collection

Processes related to organizational learning and innovation, as well as the outcomes of those processes, might differ substantially between industries (Santarelli and Piergiovanni 1996). For this reason, we test our hypotheses by focusing on a single industry in an international context: Italian and Spanish ceramic tile producers. One further benefit of examining Italian and Spanish ceramic tile industries is that, because it is a rather homogeneous population, we control to a certain extent for size, industry, and national culture contingency factors (Lyon, Lumpkin and Dess 2000; Rauch et al. 2009).

Ceramic tile production is a largely globalized industry. In 2004, Italian and Spanish ceramic tile production represented 77% of EU production (Ascer 2006). The world's biggest ceramic tile producer is China, followed by Spain, Italy, Brazil and Turkey. Italian and Spanish firms lead world ceramic tile exports because of technology and design.

Italian and Spanish ceramic tile producers are organized in a similar way. Most of them are considered to be SMEs, as they do not generally exceed an average of 250 workers and they tend to be geographically concentrated in industrial districts: Sassuolo in northern Italy and Castellón in eastern Spain (Valencia Chamber of Commerce, 2004). Features of the ceramic tile industry suggest it belongs to the scale-intensive and the science-based trajectories of Pavitt's taxonomy (Pavitt 1984). In the production of ceramic tiles, technological accumulation is mainly generated by (1) the design, building and operation of complex production systems (scale-intensive trajectory), and

(2) knowledge, skills and techniques emerging from academic chemistry research (science-based trajectory). Previous studies provide compelling evidence of the significant innovating behavior of Italian and Spanish ceramic tile producers (Enright and Tenti 1990; Oltra et al., 2002). Several recent studies have analyzed product innovation in the ceramic tile industry and have found enamels and product design to be the most important areas of product improvement. New enamels provide better product characteristics, such as non-slip properties or better frost resistance. Novelty in product design is focused on new sizes, improved mechanical characteristics and aesthetics (Oltra et al., 2002).

Finally, by focusing our data collection on the ceramic tile industry, we reduce the range of extraneous variations that might influence the constructs of interest (Santarelli and Piergiovanni 1996). While we recognize the shortcoming of such sampling, we believe that the advantages of this approach outweigh the disadvantage of limited generalizability. Survey fieldwork was undertaken from June to November 2004. A pre-test was carried out on four technicians from ALICER, the Spanish Center for Innovation and Technology in Ceramic Industrial Design, to ensure that the questionnaire items were fully understandable in the context of the ceramic tile industry. The questionnaire was applied using a 7-point Likert scale.

A key information technique consistent with previous studies was used to obtain data (Lyon et al., 2000). The questionnaire was addressed to various company directors. The General Manager answered the items dealing with EO and firm performance (Moreno and Casillas 2008; Escribá-Esteve et al. 2008). The Product Development Manager responded to the innovation performance questions, since this manager has knowledge of all activities concerning innovation (Calantone et al., 2002). Finally, the Human Resources Manager answered items dealing with OLC (Wang, 2008).

Appointments were made with respondents so that the questionnaire could be answered during a personal interview. Following Malhotra (1993), we offered a feedback report on the survey results to the participating firms in order to encourage response.

Export intensity was obtained through secondary objective sources. This data was obtained with the collaboration of the Italian and Spanish ceramic tiles association (Assopiastrelle, 2009; Ascer, 2009). We used exports data from 2006. Thus, we examine the effect of OLC and product innovation performance over the dependent variable with a time lag of two years. Combining primary and secondary data from two different key informants we limit potential statistical problems such as common method bias.

Our study received a total of 182 completed questionnaires, 82 from Italian firms and 100 from Spanish firms. The sample obtained represented in 2004 around 50% of the target population (Valencia Chamber of Commerce, 2004; Assopiastrelle, 2006). Both the number of responses and the response rate can be considered satisfactory (Spector 1992; Williams, Garvin, and Hartman 2004). Non-response bias was assessed through a comparison of sample statistics with known population values such as annual sales volume or number of employees. The websites of the Italian (Assopiastrelle, 2006) and the Spanish (Ascer, 2006) associations of ceramic tiles producers provide this information for most of the firms in the industry.

## Measures

*Entrepreneurial Orientation.* EO was measured using the widely used nine-item, 7-point scale proposed by Covin and Slevin (1989). This measurement scale has been used satisfactorily by a number of empirical papers (Green, Covin, and Slevin 2008; Escribá-Esteve et al. 2008).

*Organizational Learning Capability.* In light of the OLC concept adopted in our theoretical review, we selected the measurement instrument developed by Chiva and Alegre (2009). It is a fourteen-item, 7-point scale that includes five different dimensions consistent with the previous literature: experimentation, risk-taking, interaction with the external environment, dialogue and participative decision making (Appendix).

*Innovation performance.* We conceive innovation performance as a construct with three different dimensions consistent with the previous literature: product and process innovation effectiveness and innovation efficiency (Appendix). These dimensions have been widely discussed in innovation research (Brown and Eisenhardt 1995; OECD 2005). The OECD Oslo Manual provides a detailed measurement scale for assessing the economic objectives of product and process innovation and this is the scale that we propose for measuring product and process innovation effectiveness. This scale was put forward by the OECD to provide some coherent drivers for innovation studies, thereby achieving greater homogeneity and comparability among innovation studies. Nowadays, many innovation surveys use this widely validated scale (INE, 2008; Alegre, Lapiedra, and Chiva, 2006).

Innovation efficiency is the third dimension considered for measuring innovation performance. It is widely accepted that innovation efficiency can be determined by the cost and the time involved in the innovation project (Wheelwright and Clark 1992; Brown and Eisenhardt 1995; Chiesa, Coughlan, and Voss 1996).

*Export intensity.*

Export intensity represents the share of exports in total sales for a particular firm. This variable is a widely used indicator in empirical international marketing research (Majocchi et al., 2005).

*Control Variables.* Firm size and location were included as control variables in the overall model since they could be able to explain variation in export intensity. Firm size affects the endowment of significant inputs for the business process, such as money, people and facilities, and has been shown to influence export intensity. Large companies are considered to possess more financial and human resources and higher economy of scale levels. These characteristics facilitate their entry into international markets (Leonidou, Katsikeas and Piercy, 1998). In addition, small size is closely related to a number of export barriers (Piercy et al., 1998).

Respondent firms were all located in the Italian (Sassuolo, in Northern Italy) or the Spanish ceramic tile industrial districts (Castellón, in Eastern Spain). Location was included in the model (1=located in Italy; 2=located in Spain) to control whether sitting in a particular industrial district that provides access to a specific institutional setting, a geographical market for labor and energy had any significant impact on export intensity.

**Analyses**

The primary analyses of the data set are based on structural equations modeling (SEM). SEM has been developed in a number of academic disciplines to substantiate theory. SEM allows for the inclusion of latent variables that can only be measured through observable indicators. In this study, concepts such as EO or OLC are difficult to observe. Furthermore, SEM assesses measurement errors and allows for simultaneously estimating all the relationships proposed in the conceptual model (Hair et al., 1998;

Bou-Llusar et al. 2008). EQS 6.1 software was used to estimate the models for our research hypotheses.

SEM allows for designing reflective- or formative indicator models. Our conceptual model meets the four criteria outlined by Mackenzie et al. (2005) according to which a reflective model would be a better option for the measurement model: (1) the indicators are manifestations of the construct; (2) the indicators share a strong common theme; (3) the indicators are expected to co-vary with one other, and (4) the indicators are expected to have the same antecedents and consequences. As a result, our conceptual model has been designed as a reflective-indicator model.

### **Psychometric Properties of Measurement Scales**

The psychometric properties of the measurement scales were assessed in accordance with accepted practices (Tippins and Sohi 2003), and included content validity, reliability, discriminant validity, convergent validity, and scale dimensionality. Table 1 exhibits factor correlations, means, and standard deviations.

Content validity was established through a revision of extant literature and through personal interviews with ceramic tile industry experts (four ALICER technicians). We computed the coefficient alpha and composite reliability indicator to assess scale reliability (Bou-Llusar et al. 2008). All scales achieved acceptable coefficient alphas and composite reliability indicators of at least 0.70 (Table 2).

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Discriminant validity was assessed through confirmatory factor analysis (CFA) by comparing the  $\chi^2$  differences between a constrained confirmatory factor model with an interfactor correlation set to 1 (indicating they are the same construct) and an unconstrained model with an interfactor correlation set free. All  $\chi^2$  differences were

found to be significant, providing evidence of discriminant validity (Gatignon et al., 2002). CFA was also used to establish convergent validity by confirming that all scale items loaded significantly on their construct factors (Anderson and Gerbing 1988). Additionally, convergent validity was also confirmed by comparing the  $\chi^2$  differences between a constrained confirmatory factor model with an interfactor correlation set to 0 (indicating that there is no relationship between the two constructs) and an unconstrained model with an interfactor correlation set free. All  $\chi^2$  differences were found to be significant, providing evidence of convergent validity (Gatignon et al. 2002).

We checked the constructs' dimensionality through the loadings of the measurement items on the first-order factors, and the loadings of the first-order factors on the second-order factors. All loadings were above 0.40 and significant at  $p < 0.001$ . No cross-loadings appeared.

## ***Results***

Figure 2 and 3 shows the results of the structural equations analysis. We carried out two analyses for seeing the differences between both (Tippins and Sohi, 2003). In the first model we include the direct relationship between EO and export intensity taking into account both control variable, size and location. In the second model we include all the items and all the dimensions described in the measurements section. The chi-square statistic for both model are significant, but other relevant fit indices suggest a good overall fit (Tippins and Sohi 2003).

The mediating effect of innovation performance and OLC on the relationship between EO and export intensity is established due to the following conditions (Tippins and Sohi 2003). Firstly, there is a positive relationship between EO and innovation performance and between EO and OLC. Secondly, there is a positive relationship

between innovation performance and OLC with export intensity. And thirdly, the direct effect of EO on export intensity that we can see in the direct model becomes lower and non significant in the partial mediation model (figure 2). These conditions provide compelling evidence for the full mediating effect of innovation performance and OLC on the relationship between EO and export intensity lend substantial support to Hypothesis 2 and 4. So, this mediation relationship represents a significant contribution to our understanding of the positive influence of EO on export intensity that we presents in the first hypothesis. That is, our first hypothesis about the positive relationship between EO and exports intensity is supported (as we can see in the direct model) but the inclusion of the two mediating variable explains more variance in export intensity than the direct model ( $R^2=62,8\%$  vs  $R^2=21,4\%$ ). This helps to understand our vision about the process view.

Results also provide support for Hypothesis 3. However, the mediating effect of OLC on the relationship between EO practice and innovation performance is found to be partial. There is a positive relationship between EO and OLC; there is a positive relationship between OLC and innovation performance, and, finally, the direct effect of EO on innovation performance is significant. These results provide support for Hypothesis 3 by showing a partial mediating role of OLC on the relationship between EO and innovation performance. This mediation relationship is also relevant in understanding the effects of EO attitude on the outcomes of the innovation process.

Therefore, EO might be regarded as an antecedent of the firm's OLC and innovation performance. There is a positive and statistically significant impact of EO on both constructs. However, both impacts are moderate; this indicates that OLC and innovation performance might have other antecedents, such as human resource

management practices, in the case of OLC, or marketing and technological capabilities, in the case of innovation performance.

Control variables have a low and non significant impact on export intensity. However, size is important for innovation performance.

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## Discussion

Entrepreneurship and EO have received a great deal of research attention in recent years. Although EO is usually considered to have a positive impact on export intensity, this relationship requires a broader analysis of the intermediate steps. In our research, we have found OLC and innovation performance playing a mediating role in the EO-export intensity relationship. These results highlight the process view for achieving export intensity. Results suggest that EO enhances OLC and innovation performance, which in turn enhance export intensity. Our findings make an important contribution to the recent extension of the EO-firm performance research stream focusing on the intermediate links between EO and different measures of firm performance (Rauch et al., 2009) as we can see export intensity.

In this paper, we also suggest that the relationship between EO and export intensity can not simply be considered as a direct relationship, but it is also conditional or dependent on OLC, the organizational factors that facilitate the organizational learning process. EO is a managerial attitude that must be supported by certain organizational conditions that facilitate learning and have positive implications for performance. Organizational learning is a basic element of innovation, as the development of new ideas or concepts are considered to be essential to develop new

products or processes. Our study contributes to the literature on entrepreneurship by providing evidence of the importance of certain organizational characteristics, OLC, for EO to have an impact on export intensity. This managerial attitude requires certain organizational practices that catalyze its effects on organizations, specifically on innovation performance. EO may have little direct effect on innovation performance if organizational learning is not facilitated. Organizational learning has been pointed at as novel area of research in entrepreneurship (Blackburn and Kovalainen, 2009); we claim that much of its relevance for entrepreneurship lies in its effects on innovation performance and on export intensity.

EO might be considered as an important determinant of export intensity. However, there are studies not conclusive in these domains. Our findings could explain why some firms might manifest low export intensity while their managers show a clear EO attitude: the organizational learning and innovation links would be missing.

This research provides a more complete examination of the effects of EO on export intensity and offers an explanation to intra-industry differences in firm performance (Nelson, 1991; Easterby-Smith and Prieto, 2008). Given that firm performance may vary among ceramic tile producers, we attempt to understand this asymmetry within the context of managerial attitudes (EO), organizational characteristics facilitating organizational learning (OLC), and innovation performance taking export intensity as a proxy of business performance. Results suggest that competitive advantage in the ceramic tiles industry requires firm strategies focusing on EO, OLC and innovation. This finding represents a contribution to the strategic management stream that seeks to explain differences in firm performance within a particular industry.

Furthermore, this research also contributes to the organizational learning literature by suggesting the importance of managers and their attitudes and posture in order to effectively implement the factors or conditions to learn within organizations. Further research should analyze other potential antecedents of OL, such as organizational culture or human resource management practices.

### **Implications for Practitioners**

This article has a number of implications for practitioners. Although managers recognize the importance of entrepreneurship and EO, their implications for and demands on the rest of the organization are often ignored in the process toward its success. In this paper, we suggest implementing an organizational learning approach when management has chosen to follow an EO. An initial management action could be to enhance the OLC dimensions – experimentation, risk-taking, interaction with the environment, dialogue, and participative decision-making – so that learning and innovation processes could be more fruitful. Furthermore, we underline the importance of measuring the effects of EO on organizations by analyzing their innovation performance. Innovation is a key concept for organizations today, as it represents the essence of their competitive advantage.

### **Limitations and Future Research Directions**

Our results must be viewed in the light of the study's limitations. From a content point of view, we have focused on OLC and innovation performance as intermediate links between EO and export intensity. However, other organizational issues related to organizational learning and innovation, such as adaptive and generative learning or human resources interventions (Sadler-Smith and Badger, 1998; Wang 2008; Chiva, Grandío and Alegre 2010) could be incorporated in our conceptual model. Future

research could examine the role of these concepts on the EO-export intensity relationship.

Other limitations are based on the methods we have used. As with all cross-sectional research, the relationship tested in this study represents a snapshot in time. However, we take export intensity measure with a snap of time of two years in order to decrease this problem. Furthermore, EO may have further implications on innovation performance in the long term, but as this is not a longitudinal study we cannot evaluate its effects. Future longitudinal studies might assess EO outcomes in the long term in both OLC and innovation performance.

The analysis of measurement scales constitutes an accepted research method that is particularly useful to test theoretical relationships between concepts such as EO, OLC, innovation and export intensity (Covin et al. 2006; Green et al. 2008). However, further qualitative research would be useful to provide an in-depth picture of these relationships in a variety of cases within the sample. This could be useful to describe specific cases that do not follow the hypotheses of this study (e.g. those few firms that have a high EO but a low export intensity). This could be due to problems with learning and innovation processes.

Because this research is based on a single industry analysis, it has benefited from dealing with firms that are likely to be economically and technologically homogeneous. However, it must be stressed that single industry conclusions should be considered with caution. Further research in other industries is needed to empirically assess the effect of EO on OLC and innovation performance.

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Figure 1: Model

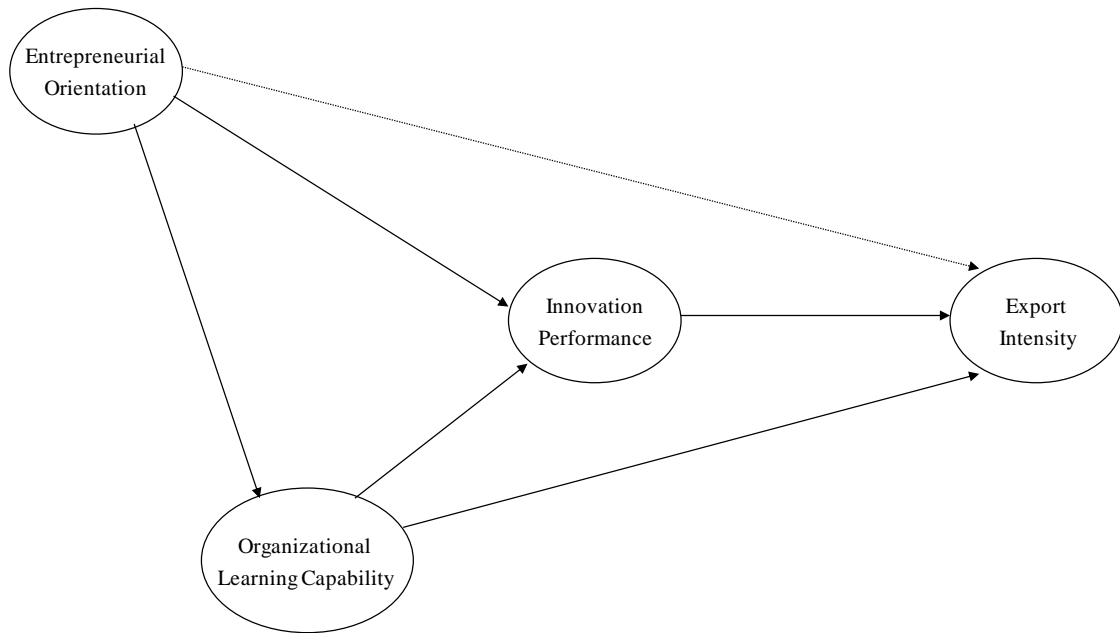


Figure 2: Direct model

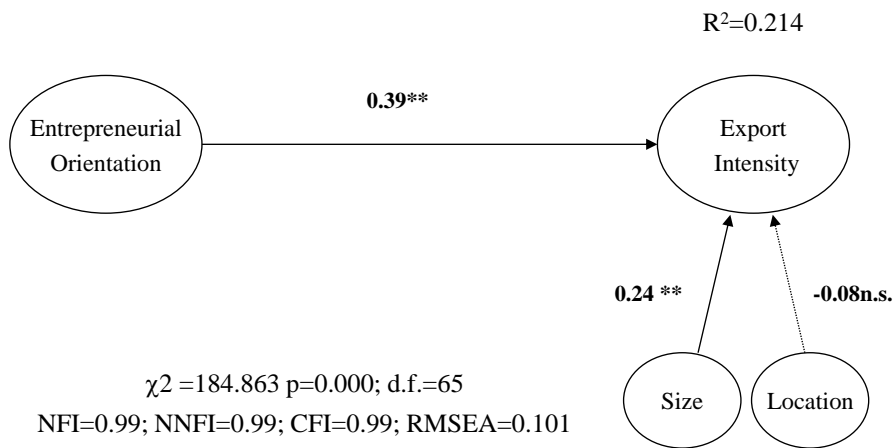
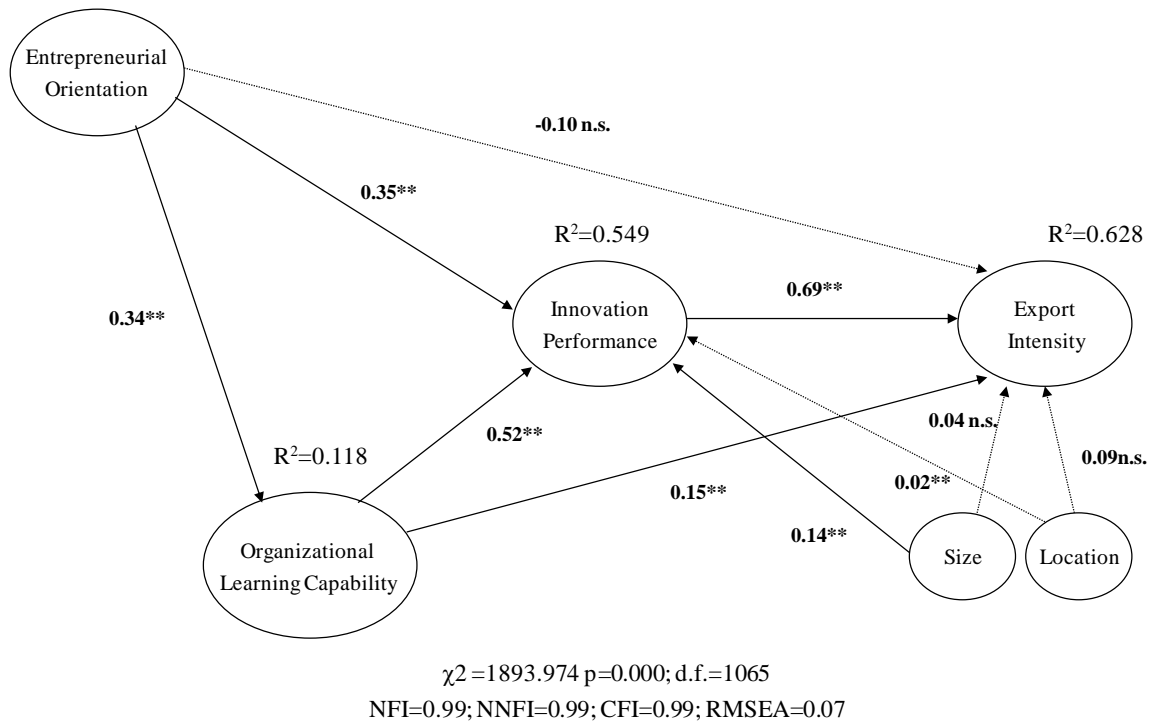


Figure 3: Mediating model



**TABLE 2: Factor correlations, means, standard deviations, and alpha reliabilities**

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. EXPERIMENTATION	5.22	1.13	( $\alpha=0.74$ / CR=0.76)											
2. RISK TAKING	4.56	1.38	0.53**	( $\alpha=0.70$ / CR=0.71)										
3. ENVIRONMENTAL T.	4.77	1.33	0.59**	0.60**	( $\alpha=0.82$ / CR=0.82)									
4. DIALOGUE	5.44	1.08	0.60**	0.38**	0.52**	( $\alpha=0.83$ / CR=0.83)								
5. PARTICIPATIVE D.	4.58	1.41	0.45**	0.56**	0.62**	0.48**	( $\alpha=0.88$ / CR=0.87)							
6. PRODUCT EFFECTIV.	5.07	1.11	0.48*	0.38**	0.46**	0.55**	0.33**	( $\alpha=0.91$ / CR=0.91)						
7. PROCESS EFFECTIV.	4.90	1.12	0.44**	0.41**	0.48**	0.54**	0.42**	0.84**	( $\alpha=0.94$ / CR=0.94)					
8. INNOVATION EFFICIENCY	4.69	1.22	0.49**	0.48**	0.52**	0.48**	0.45**	0.80**	0.78**	( $\alpha=0.92$ / CR=0.91)				
9. SIZE	3.33	1.44	0.31**	0.40**	0.34**	0.23**	0.29**	0.33**	0.41**	0.40**	-			
10. LOCATION	1.55	0.49	-0.21**	-0.51**	-0.40**	-0.05	-0.50**	-0.10	-0.21**	-0.37**	-0.30**	-		
11. EXPORT INTENSITY	44.76	19.25	0.47**	0.35**	0.45**	0.57**	0.38**	0.73**	.68**	0.70**	0.36**	-0.13	-	
12. ENTREPRENEURIAL ORIENTATION	4.11	1.12	0.28**	0.14	0.23**	0.31**	0.09	0.53**	0.39**	0.48**	0.32**	0.11	0.41**	( $\alpha=0.87$ / CR=0.83)

N = 182; Alpha reliabilities and Composite Reliabilities are shown in brackets on the diagonal.

\*\* Correlation is significant at the 0.01 level.

**Appendix with the measures of the mediating variables:  
Organizational Learning Capability Measurement Scale**

<i>Could you please assess the importance of the following items in your organization?</i>		
<b>Dimension</b>	<b>Item</b>	<b>Literature source</b>
<b>Experimentation</b>	EXP1. People here receive support and encouragement when presenting new ideas	Chiva and Alegre (2009)
	EXP2. Initiative often receives a favourable response here so people feel encouraged to generate new ideas	
<b>Risk taking</b>	RISK1. People are encouraged to take risks in this organization	
	RISK2. People here often venture into unknown territory.	
<b>Interaction with the external environment</b>	ENV1. It is part of the work of all staff to collect, bring back, and report information about what is going on outside the company.	
	ENV2. There are systems and procedures for receiving, collating and sharing information from outside the company.	
	ENV3. People are encouraged to interact with the environment: competitors, customers, technological institutes, universities, suppliers etc.	
<b>Dialogue</b>	DIA1. Employees are encouraged to communicate.	
	DIA2. There is a free and open communication within my work group	
	DIA3. Managers facilitate communication	
	DIA4. Cross-functional teamwork is a common practice here.	
<b>Participative decision making</b>	PDM1. Managers in this organization frequently involve employees in important decisions	
	PDM2. Policies are significantly influenced by the view of employees	
	PDM3. People feel involved in main company decisions	

**Innovation Performance Measurement Scale**

<i>Please state your firm performance compared to that of your competitors over the last three years with regard to the following items</i>		
<b>Dimension</b>	<b>Item</b>	<b>Literature source</b>
<b>Product innovation effectiveness</b>	PT1. Replacement of products being phased out	OECD (2005)
	PT2. Extension of product range within main product field through new products	
	PT3. Extension of product range outside main product field	
	PT4. Development of environment-friendly products	
	PT5. Market share evolution	
	PT6. Opening of new markets abroad	
	PT7. Opening of new domestic target groups	
<b>Process innovation effectiveness</b>	PS1. Improvement of production flexibility	
	PS2. Reduction of production costs by cutting labor cost per unit	
	PS3. Reduction of production costs by cutting material consumption	
	PS4. Reduction of production costs by cutting energy consumption	
	PS5. Reduction of production costs by cutting rejected production rate	
	PS6. Reduction of production costs by cutting design costs	
	PS7. Reduction of production costs by cutting production cycle	
	PS8. Improvement of product quality	
	PS9. Improvement of labor conditions	
	PS10. Reduction of environmental damage	
<b>Project innovation efficiency</b>	EF1. Average innovation project development time	Brown and Eisenhardt (1995); Chiesa et al. (1996);
	EF2. Average number of innovation project working hours	
	EF3. Average cost per innovation project	
	EF4. Degree of overall satisfaction with innovation project efficiency	