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1 **Commitment to exporting as an antecedent of organizational skills and firm**
2 **performance**

3
4 **Abstract**

5 This study proposes the role of leader's commitment to export activities as an antecedent of specific
6 organizational skills. In particular, this research investigates whether the leaders' commitment to
7 exporting affects firm performance, through the mediating effect of entrepreneurial orientation,
8 network competence, and dynamic capabilities of a firm, using survey data collected from 976
9 companies in Portugal. Results from the structural equation model show that leaders' commitment to
10 exporting, defined as a positive attitude towards the internationalization of their firms, acts as an
11 antecedent of entrepreneurial orientation and network competence. Additionally, we conclude that the
12 relation between this commitment and firm performance is mediated through entrepreneurial
13 orientation, network competence, and dynamic capabilities. This study contributes to the
14 understanding of the mediating effect of these specific organizational skills in the proposed
15 relationship between leaders' commitment to exporting and firm performance and provides a new
16 insight into the important role of the entrepreneur or top manager.

17
18 **Keywords:** Dynamic capabilities; Network competence; Leaders' commitment to exporting;
19 Entrepreneurial orientation; Performance; Structural equation model

20
21 **JEL:** L20, L25, L26
22

1. Introduction

In a globalized economy, firms find themselves competing both national and across borders. The search for factors which enhance the overcoming of barriers and exploring opportunities leading to achieve success in national and international markets, has become of paramount importance in management (Javalgi and Todd 2011). The literature regarding international strategic management recognizes the importance of internal firm capabilities, which includes entrepreneurial orientation, dynamic capabilities, market orientation, network ties, among others, to improve firm performance, to expand abroad and compete internationally.

Entrepreneurial actions with an innovative, proactive and risk-taking behavior allow firms to identify and to explore opportunities in different markets (Dai, Maksimov, Gilbert, and Fernhaber 2013; Oviatt and McDougall 2005). Hence, entrepreneurial orientation can provide firms a better preparation to foster international new market entry and to increase firm performance (e.g., Jin, Jung, and Jeong 2018; Covin and Slevin 1989; Rauch, Wiklund, Lumpkin, and Frese 2009). Given the current pace of change, firms need to continually develop skills to sustain competitive advantage, i.e. they need to develop dynamic capabilities, which contribute to a better adaptation of firms (Zahra, Sapienza, and Davidsson 2006), lead to competitive advantage (Fainshmidt, Wenger, Pezeshkan, and Mallon 2019) and to sustain a better performance over time (Teece, Pisano, and Shuen 1997; Wilden, Gudergan, Nielsen, and Lings 2013).

Nowadays, networking is a key skill in social and business life. This is an important facilitator of business opportunities and has been emphasized in the entrepreneurship literature. Networks are useful to acquire the resources to a better adaptation in markets (Ibeh and Kasem 2011), being the management of these a key issue. It has been shown that the higher the level of environmental uncertainty and hostility, the greater is the dependence that firms have on their networks to adapt to the environmental changes, and in the context of international operations, to influence the internationalization process (Musteen, Francis, and Datta 2010). In 1999, Ritter introduced the concept of network competence (Ritter 1999). This competence allows intensifying firm external relationships and influences firm performance (Ritter and Gemünden 2003; Ritter, Wilkinson and Johnston 2002; Ritter 1999). Additionally, networks may facilitate the development of new capabilities by promoting a constant flow of information from external and internal sources, and in turn affect performance.

In recent years, several firms faced a context of financial crisis which has demanded quick responses and adaptations by firms. Opportunities are hand with hand with risks and internationalization is no exception either. In Portugal, and to minimize the impact of economic crisis on activity stagnation and firms' bankruptcy, the Portuguese Government developed an export promotion strategy to boost firm's performance. In this context, international expansion has become a strategic response for many firms, which increasingly look to international market as an opportunity. In fact, the international competitiveness of a country reflects the ability of its organizations to achieve success in the markets. Nevertheless, for that success, the firm leadership or manager may play a significant role.

Despite these insights, the interrelation between the individual level and the organizational level and its relationship with firm performance deserves additional research. In this study, we focus on the effect of individual level through leaders' commitment to exporting, which reflects the importance that decision makers attribute to the firm's international operations, their intention to increase the exporting activities and to actively explore international market opportunities (Cadogan, Paul, Salminen, Puumalainen, and Sundqvist 2001). This commitment may induce the development of organizational skills, such as entrepreneurial orientation and network competence, to achieve a better firm performance.

In this way, we explore the intersection of two strands of research. On the one hand, studying firm's skills (entrepreneurial orientation, dynamic capabilities, network competence) and its direct and/or indirect effects on firm performance. While these skills provide directions for organizations pursue new opportunities, their effective implementation requires someone's commitment in implementing

1 this culture (Wobodo 2019). On the other hand, we introduce the role of the leader (at an individual
2 level) in the development of each of these organizational skills (at the firm level). Our aim is to
3 contribute to this research field by analyzing firm's behavior from an individual level perspective in
4 line with (e.g., Ensley, Pearce, and Hmieleski 2006; Ling, Simsek, Lubatkin, and Veiga 2008;
5 Engelen et al. 2015; Pureta and Pureta 2018). Additionally, this paper contributes to the management
6 literature by extending the available conceptual models that explain firm's performance by adding
7 leaders' commitment to exporting as an antecedent of organizational skills. This approach is timely
8 and relevant, given recent studies that consider the top manager characteristics (Miller and Le Breton-
9 Miller 2011; van Doorn, Heyden, and Volberda 2017) as drivers of entrepreneurial orientation.
10 Additionally, the development of trust relationships with business partners is improved, while the
11 international commitment increases (Johanson and Vahlne 2009) and, with a perspective of
12 knowledge acquisition, the international commitment improves the network relationships (Zhou, Wu,
13 and Barnes 2012). This commitment can lead to the development of entrepreneurial behavior and to
14 develop relationships with other firms as his/her entrepreneur's values, tendencies, and orientation
15 have impacts on the entrepreneurial orientation of the organization (Covin and Miller 2014).
16 Therefore, this study investigates the importance of leaders' commitment to exporting role in the
17 formation of organizational skills, such as entrepreneurial orientation and network competence, and
18 its effects on performance using data collected from 976 companies in Portugal.

19 This article is organized as follows. After the introduction section, Section 2 surveys the relevant
20 literature to this study that supports the theoretical framework and hypotheses to be tested and
21 concludes with the conceptual model. Section 3 describes the methodology of data collection, sample
22 characteristics, measures of variables and procedures for reliability verification of instruments
23 measuring constructs. Section 4 presents the results of our research; and a discussion of the theoretical
24 and management implications can be found in Section 5.

25 **2. Theoretical framework and hypotheses development**

27 **2.1. Entrepreneurial orientation**

28 The entrepreneurship or entrepreneurial behavior is an important way to explore new opportunities
29 (Covin and Slevin 1989, 1991), since firms with this behavior can be better prepared to deal with
30 obstacles (Zahra 1993; Zahra and Covin 1995) and will take more risks. Being a relevant topic of
31 research in the field of entrepreneurship and strategy for several decades (Covin and Lumpkin 2011;
32 Simsek, Heavey and Veiga 2010; Wales, 2016), the roots of research in the field of entrepreneurial
33 orientation (EO) are attributed to the work of Mintzberg (1973) who considers that firm's
34 entrepreneurial orientation is based on active search for new opportunities. For Covin and Slevin
35 (1989), when managers are entrepreneurial orientated that is reflected on the strategic decisions of
36 firm and on its management philosophy. Firms need to innovate and look for market leadership,
37 whereby entrepreneurial orientation occurs simultaneously with three dimensions (Miller 1983):
38 innovativeness, risk-taking, and proactiveness. The innovativeness dimension is related to the ability
39 of the company to create new products or transform the existing ones, new services or technological
40 processes in order to satisfy the demand of current and future markets. Risk-taking refers to the will of
41 the company allocate resources to projects, whose results can be highly uncertain, which allow
42 increasing its ability to identify and exploit market opportunities before competitors. Finally,
43 proactiveness dimension refers to processes of acting in anticipation of future demand and of future
44 needs, with which companies size opportunities for initiative and strong emphasis on leadership.
45 Additionally, Anderson, Covin, and Slevin (2009) provide a definition of EO as a firm-level strategic
46 orientation, which captures an organization's decision-making practices, managerial philosophies, and
47 strategic behaviors that are entrepreneurial in nature. EO has generally been conceived of as an
48 organizational decision-making proclivity favoring entrepreneurial activities (Lumpkin and Dess
49 1996).

50 **2.2. Network competence**

1 The role of networking has been recently considered one of the most relevant topics in the
2 entrepreneurship literature. Firms facing difficulties, e.g. the lack of the necessary resources (Knight
3 and Cavusgil 2004), may use network relationships to minimize them by accessing necessary
4 resources such as knowledge, technology, and capital that are needed for international expansion
5 (Ibeh and Kasem 2011). The lack of studies on the definition of the relationship between the
6 organizational capabilities and the networking led to the development of the concept of network
7 competence (Ritter 1999; Ritter et al. 2002). Despite the progress in networking research, the
8 organizational network-level competences have not been widely studied. Network competence (Ritter
9 1999) is the firms' ability to develop and manage relationships with business partners and deal with
10 the interactions between them effectively (Ritter 1999; Ritter et al. 2002). It is a relational core
11 competence that organizations develop (Ritter et al. 2002), i.e., an internal organizational ability that
12 allows reconfiguring the relationship activities in specific situations (Knight and Cavusgil 2004).

13 **2.3. Leaders' commitment to exporting and its relationship with entrepreneurial orientation and** 14 **network competence**

15 Commitment is the attitude underlying decision makers. In the international context it relates to the
16 degree of commitment that managers put on the internationalization process and increase of activities
17 in foreign markets (Cadogan et al. 2001; Zhou et al. 2012). According to Gencturk, Childers, and
18 Ruekert (1995) the favorable management attitudes towards internationalization leads to greater
19 commitment to foreign marketing activities. This commitment is an important indicator of leaders'
20 willingness to act in international markets and on the activity of their firms' internationalization. The
21 firm's owners or managers that develop a positive attitude towards international expansion and think
22 outside the domestic market are more likely to succeed (Javalgi and Todd 2011).

23 In addition, international operations involve risks due to the higher probability of failure in a
24 competitive and generally unknown environment (Ripollés-Meliá, Menguzzato-Boulard, and
25 Sánchez-Peinado 2007). To minimize the probability of failure and achieve success, the search for
26 opportunities, in general, and international opportunities, in particular, requires an entrepreneurial
27 orientation, since firms that opt for internationalization face more risks and need to be more proactive
28 and innovative (Santos and García 2011; Knight and Cavusgil 2004), and such behaviors facilitate the
29 entry into new markets.

30 The top management team plays a key role in values formation and in firm orientation, being the main
31 driving force into this direction (Javalgi and Todd 2011). According to Covin and Miller (2014), the
32 entrepreneur or "key manager" is the reason that explains the entrepreneurial behavior of a firm.
33 Studies suggest that the CEO, the decision-making styles and practices of managers, as well as their
34 commitment influence the firm and its entrepreneurial orientation (Grühn, Strese, Flatten, Jaeger,
35 Brettel 2017; Navarro-García, Rey-Moreno, and Barrera-Barrera 2017). To Lumpkin and Dess
36 (2001), internationalization is seen as a form of entrepreneurship and Ripollés-Meliá et al. (2007)
37 consider that, due to the identification and exploitation of new opportunities in a new environment,
38 international activity is an entrepreneurial act. Therefore, we explore how the commitment of
39 managers towards exporting influences the entrepreneurial orientation of the firm, since international
40 operations require an entrepreneurial behavior. As entrepreneurial orientation is important in the
41 search for new opportunities (Covin and Slevin 1989, 1991), we believe that the leaders' commitment
42 to exporting will contribute to the development of this entrepreneurial behavior. Thus, we set out first
43 hypothesis:

44 *H1: Leaders' commitment to exporting promotes the formation of the firm's entrepreneurial*
45 *orientation.*

46 The lack of resources (Knight and Cavusgil 2004) and cultural differences between countries of origin
47 and destination (Johanson and Vahlne 1977) impose constraints to the growth of international
48 operations. In this context, many authors have suggested that network relationships can provide access
49 to key resources, such as knowledge, technology, and capital, which facilitate firm
50 internationalization (Ibeh and Kasem 2011), without taking much risk (Covin and Miller 2014; Lee,
51 Abosag, and Kwak 2012). Knight and Cavusgil (2004) and Torkkeli et al. (2012) emphasize the
52 possession of internal organizational competences, such as network competence, in order to support

1 the international expansion into other markets. Given the importance of networks, firms with higher
2 degree of international commitment have a greater capacity to develop trust relationships with
3 business partners and overcome obstacles (Johanson and Vahlne 2009). Thus, commitment to
4 international markets facilitates the acquisition of knowledge, since this can be acquired through
5 relationships (Zhou et al. 2012). Consequently, given the importance of the networks for the firms'
6 internationalization, it is expected that top managers committed to exporting will be concerned with
7 the firm's network competence development. Based on this preposition, we test whether leaders'
8 commitment to exporting is an antecedent of network competence, i.e., a greater commitment to
9 international activity can lead to the development of this important competence for current or future
10 internationalization processes. Hence, our second hypothesis is:

11 *H2: Leaders' commitment to exporting positively influences network competence development.*

12 **2.4. Dynamic capabilities**

13 The Resource Based View (RBV) of Barney (1991) aims to explain how firms can achieve a
14 sustainable competitive advantage, given their resources and capabilities (Lin and Wu 2014). The
15 utilization of resources that are unique, i.e., valuable, rare, difficult to imitate and non-substitutable
16 (VRIN), allows the firm to obtain sustainable competitive advantages over time against other firms
17 (Barney 1991). In this line of arguing, Teece, Pisano, and Shuen (1997) proposed the concept of
18 dynamic capabilities as an extension of RBV. This framework is relevant, since dynamic capabilities
19 refer to the ability to anticipate changes and react to them in a systematic way, referred to as dynamic
20 capabilities (Teece et al. 1997), being a way for firms to sustain superior performance over time
21 (Wilden et al. 2013).

22 **2.5. Entrepreneurial orientation and dynamic capabilities**

23 In a recent meta-analysis, Eriksson identified key antecedents of dynamic capabilities that can be
24 either of external or internal nature (Eriksson 2014). The internal antecedents of dynamic capabilities
25 of social nature contain many orientations such as entrepreneurial orientation that is an individual
26 orientation (Jantunen, Puumalainen, Saarenketo, and Kyläheiko 2005). Given the importance of
27 management style, Teece (2007) defines the entrepreneurial component as an antecedent to dynamic
28 capabilities. Indeed, entrepreneurial managers more easily shape firm management and, consequently,
29 better sustain dynamic capabilities (Teece 2007). It is important that managers seek innovation in
30 order to sustain and renew the competitive advantage across borders by combining dynamic
31 capabilities with motivation to innovate (Michailova and Zhan 2015). Thereby, we proposed to test
32 the relationship between entrepreneurial orientation and dynamic capabilities. Thus, our third
33 hypothesis follows:

34 *H3: Entrepreneurial orientation positively influences dynamic capabilities.*

35 **2.6. Network competence and dynamic capabilities**

36 In a competitive and changing environment, firms need capabilities that enhance innovation,
37 anticipate changes, and provide a quick response to threats. These capabilities can be developed
38 internally or externally in cooperation with the network partners (Lew, Sinkovics, and Kuivalainen
39 2013). According to Hessels and Parker (2013) firms which do not possess unique resources and
40 capabilities can alternatively establish external relations or cooperate with other firms in order to
41 access them. Thus, network relationships between firms may strengths their resource base, which
42 positively influences organizational performance. Johanson and Vahlne (2003, 2009) consider
43 essential to be in relevant networks, because it is within relationships that parties interact by learning
44 and improving their dynamic capabilities. Indeed, entrepreneurs can employ the necessary resources
45 across networks as a basis for the generation and promotion of dynamic capabilities. Therefore, we
46 hypothesize that network competence is an antecedent of firm's dynamic capabilities, i.e.,

47 *H4: Network competence contributes to the development of dynamic capabilities.*

1 **2.7. Entrepreneurial orientation and firm performance**

2 It has been suggested that entrepreneurial orientation positively influences the firm performance
3 (Covin and Slevin 1989; Lee, Zhuang, Joo, and Bae 2019; Miller 1983; Rauch, Wiklund, Lumpkin,
4 and Frese 2009; Rezaei and Ortt 2018). In fast-changing environments, an entrepreneurial orientation
5 facilitates firms in seeking new opportunities (Rauch et al. 2009), as a result of the proactive nature
6 and willingness to take risks (Ripollés-Meliá et al. 2007). Lumpkin and Dess (1996) argue that the
7 impact of entrepreneurial orientation on firm performance depends on the specific context of the firm.
8 The strength of the relation between the two constructs may vary (Rauch et al. 2009): firms with
9 higher entrepreneurial orientation tend to be more successful. Nevertheless, Li, Zhang, and Chan
10 (2005) failed to find any relation and Tang, Tang, Marino, Zhang, and Li (2008) found a nonlinear
11 one(). Su et al. (2011) attribute the explanation for these different results to the existence of other
12 factors that mediate this relation. The lack of control of mediator factors may explain the negative
13 relation between entrepreneurial orientation and firm performance found by Hart (1992). Given that
14 most of studies support a positive influence, we hypothesize direct and indirect effects between
15 entrepreneurial orientation and firm performance. Thus, our fifth hypothesis is:

16 *H5: Entrepreneurial orientation positively influences the firm performance.*

17 **2.8. Network competence and firm performance**

18 Ritter (1999) emphasizes the importance of network competence to explain firm performance, since
19 the ability of firms to sustain their networks becomes a core competency and a skill that can determine
20 their performance (Ritter et al. 2002). This competence enhances external relationships of firm, which
21 may impact measures of performance such as survival and growth, sales volume, and competitive
22 position (Ritter and Gemünden 2003). Thus, we test the hypothesis:

23 *H6: Network competence contributes to improve firm performance.*

24 **2.9. Dynamic capabilities and firm performance**

25 To Lin and Wu (2014), firms can improve their performance whenever they accumulate VRIN
26 resources and develop their dynamic capabilities. According to Wilden et al. (2013), the dynamic
27 capabilities positively influence the firm performance. As an RBV's extension, dynamic capabilities
28 are a critical source of superior performance (El Akremi, Perrigot, and Piot-Lepetit 2015), which
29 explain performance differentials between firms (Wang, Senaratne, and Rafiq 2015). As the dynamic
30 capabilities allow firms to reconfigure its resource base and promote the search of opportunities
31 (Jantunen et al. 2005), firms are endowed with new decision options with potential to increase
32 performance (Eisenhardt and Martin 2000; Teece 2007). Thus, dynamic capabilities are important
33 antecedents, and are positively related to firm performance (Drnevich and Kriauciunas 2011;
34 Eisenhardt and Martin 2000; Hung, Yang, Lien, McLean, and Kuo 2010; Knight and Liesch 2015;
35 Monteiro, Soares, and Rua 2017; Zahra et al. 2006). Thus, we test this hypothesis in our overall
36 conceptual model:

37 *H7: Dynamic capabilities positively influence the firm performance.*

38 The conceptual model is summarized in Figure 1. It defines leaders' commitment to exporting as an
39 antecedent of entrepreneurial orientation and network competence, the influence of these last two
40 variables on the development of dynamic capabilities and ultimately of these constructs on firm
41 performance, evaluating the associated mediator effects.

42 == Figure 1 about here ==

1 We also test for control variables such as firm age, size, sector or industry, and location, as they have
2 the potential to influence performance of firms and are widely used in the strategic management
3 literature (e.g. Dai et al. 2013; Lechner and Gudmundsson 2014; Karami and Tang 2019)¹.

4 **3. Data and Methodology**

5 Data was collected through an application of a structured questionnaire, which was pilot tested to
6 check for clarity of the questions and easiness to filling in. Firms were selected using a population
7 representative database designed for this specific purpose. Geographical strata were set to respect the
8 regional distribution of Portuguese firms. Firm managers or decision makers were contacted as they
9 had the decision power and knowledge to fill in the questionnaire. Data collection was conducted
10 online using an online platform. We obtained 976 validated responses and the data analysis was
11 conducted using SPSS and MPlus software.

12 == Table 1 about here ==

13 Table 1 presents the main sample characteristics of the firms in the sample: firm age, firm size,
14 turnover, industry, and geographical location. Concerning firms' age, 27% of firms in our sample
15 have more than 25 years, 30% are aged between 16 and 25 years, 23% between 11 and 15 years, and
16 21% are younger firms with less than 10 years. In terms of size measured by the number of
17 employees, 60% of firms have less than 10 employees, 31% between 10 and 49 employees, and only
18 10% have 50 or more employees. Regarding the amount of turnover, 13% of firms have a turnover
19 inferior to € 50 000, 32% between 50 000€ and 250 000€, 29% between 250 001€ and 1 000 000€,
20 and 27% of firms have more than € 1 million. Almost half of the firms operate in the Services sector,
21 26% in the Commerce sector, and 25% dedicates to Productive activities. In terms of location, 32% of
22 firms are in the North of Portugal, 31% in Lisbon area, 20% in the Center of Portugal and 17% are
23 distributed by the South region and Portuguese islands.

24 Additionally, as regards the firms operating markets, 56.1% of firms operate only in the domestic
25 market and 43.9% have international activities (34.6% exporters and 9.3% making direct investment
26 and/or direct investment and export). Of exporting firms, 39.4% export up to 10% of its production,
27 38% exports up to 50%, and 22.6% export more than 50%. Regarding the scope of
28 internationalization, about 17% of overall sample firms export to up to 2 countries, 12% export to 3-4
29 countries, and 14% export to 5 or more countries. Indeed, for a large proportion of exporting firms
30 (47.7%), two or more countries of destination of their exports is outside the European Union (EU).
31 These firms export on average to 6.6 countries, of which 3.1 are outside the EU. The average speed of
32 internationalization – difference between the years of first entry into the international market and firm
33 creation – is 9.5 years.

34 **3.1. Measures and variables**

35 **Leaders' commitment to exporting** - Leaders' commitment to exporting was measured by
36 the scale of Cadogan et al. (2001) with 3 items that focus on the manager's commitment to the
37 importance of international activities (importance of exporting activities, intention to increase this
38 activities, and an active exploration of opportunities in international market). We replace the term
39 "senior management" by "those responsible for making management decisions", because Portuguese
40 firms, mostly SMEs, tend to lack a formal structure with senior management.

41 **Entrepreneurial orientation** - Entrepreneurial orientation proposed by Miller (1983) is
42 measured by 9 items developed by Covin and Slevin (1989). In line with other studies (e.g., Moreno
43 and Casillas 2008), we used the semantic differential method. Respondents classified their firms'

¹ We note that the relationship between these variables might be endogenous (see Coad 2018). However, this is not the focus of this study, as it lies in another strand of literature.

1 orientation towards two opposing statements that are graded on a 7-point scale. This measurement
2 scale has been applied in other studies (e.g., Covin and Slevin 1989; Ripollés-Meliá et al. 2007) and
3 allows the characterization of the degree of firm entrepreneurial orientation with high levels of
4 reliability and validity. However, the meta-analysis study by Rauch et al. (2009) shows that most of
5 the studies use an one-dimensional scale to measure entrepreneurial orientation.

6 **Network competence** - The concept of network competence has been conceived as a two-
7 dimensional construct related to the degree of network management task execution and to the degree
8 of network management qualification possessed by those who handle firm's relationships (Ritter et al.
9 2002). The original scale consists of 22 items that measure two dimensions. This study focuses on the
10 first dimension – task-execution from relationship-specific to cross-relational tasks – that was
11 measured by 11 items. The second dimension – social and specialist qualifications possessed by the
12 networking management team – was not included in the model, because the population at study is
13 characterized mostly by Portuguese SMEs, whose management skills are concentrated in the owner
14 given the lack of managerial team supporting him/her.

15 **Dynamic capabilities** - Dynamic capabilities are measured by the scale of organizational
16 dynamic capabilities of Hung et al. (2010). It contains 11 items: 4 evaluate the organizational strategic
17 capability; 3 measure the R&D innovative capability; and 4 assess the organizational management
18 capability.

19 **Firm performance** - Firm performance is measured by 6 items, focusing on changes in terms
20 of competitive advantage, market share, profits, costs, sales, and customer satisfaction (Hung et al.
21 2010). Since this construct takes the main competitor into account, it reflects the relative advantage of
22 the firm. The 7-point Likert scale from 1 – completely disagree to 7 – completely agree was used to
23 measure all items used to evaluate all constructs of the study, with the exception of entrepreneurial
24 orientation.

25 **Control variables**

26 A set of control variables associated with performance that were identified in previous studies (Dai et
27 al. 2013; Ge and Wang 2012; Zahra and Garvis 2000; Zhou and Wu 2014) are included: firm size
28 (measured by the number of employees and turnover), age, industry, and location. Some of these
29 variables were categorized to facilitate data collection and analysis.

30 **Firm size** - The firm size was controlled because large firms have more resources, which
31 influences its willingness and capability of internationalization, innovation, opportunities detection
32 (Chen, Huang, and Lin 2012; Ge and Wang 2012; Zahra and Garvis 2000; Zhou and Wu 2014), the
33 dynamic capabilities development (Drnevich and Kriauciunas 2011), and their relationship with
34 competitive advantage (Li and Liu 2014). Regarding the number of employees (Ge and Wang 2012;
35 Wilden et al. 2013), the study categorizes firms into 3 groups: less than 10, between 10 and 49, and 50
36 or more employees. The turnover variable, which can also be used to measure the firm size, is divided
37 into 4 groups: less than 50 000 €, between 50 000 and 250 000 €, between 250 001 and 1 million €,
38 and more than 1 million €.

39 **Firm age** - Firm age is likely to influence the level of international operations and
40 entrepreneurial activity (Zahra and Garvis 2000). Additionally, younger firms tend to have access to
41 limited resources, which can affect their capability for opportunities exploration and the relationship
42 between dynamic capabilities and results (Li and Liu 2014). The sample was classified into 4 groups:
43 up to 10 years, between 11 and 15 years, between 16 to 25 years, and more than 25 years.

44 **Firm industry** - We used industry variable as firms from different sectors show differences in
45 entrepreneurial activities. Moreover, different industries face distinct competitive challenges, which
46 can explain different views on the commitment of their managers regarding internationalization and
47 unequal opportunities and hence distinct levels of firm performance (Dai et al. 2013; Zahra and

1 Garvis 2000; Zhou and Wu 2014). The industry variable was divided into three categories: services,
2 manufacturing, and commerce.

3 **Location** – This variable encompasses the four Portuguese statistical regions: NUTS II North,
4 NUTS II Lisbon, NUTS II Center, and South and Portuguese islands that includes Alentejo, Algarve,
5 Azores, and Madeira.

6 **3.2. Scale validation**

7 Confirmatory factor analysis was applied to assess the reliability and validity of the scales of
8 measurement used in this study. A threshold of 0.5 was set as minimum for the standardized factor
9 loadings. Thereby, it was necessary to eliminate items with low factor loadings, indicating poor
10 reliability of the item as measurement of the construct (a factor loading of 0.5 means that the construct
11 only explains 25.0% of the variance of the item). As a result, the final selection of retained items was:
12 3 for the scale of leaders' commitment to exporting; 7 for the one-dimensional scale of dynamic
13 capabilities; 6 for the network competence; 5 for the one-dimensional scale of entrepreneurial
14 orientation; and 5 for the firm performance. The list of items kept in the analysis is provided in the
15 Appendix.

16 Reliability of the measures is assessed by the Cronbach's alpha, the composite reliability (CR), and
17 the average variance extracted (AVE). CR and AVE were evaluated as described by Fornell and
18 Larcker (1981). A good consistency, acceptable consistency, and weaker consistency is reached for a
19 Cronbach's alpha greater than 0.80, between 0.60 and 0.80, and below 0.6, respectively (Hair, Black,
20 Babin, & Anderson, 2010).

21 == Table 2 about here ==

22 Table 2 summarizes the results on reliability. Almost all Cronbach's alpha and CR values exceed 0.8
23 and AVE exceeds the 0.5 value, suggesting that the indicators of each variable have good internal
24 consistency, except entrepreneurial orientation that has an acceptable consistency (Cronbach's alpha
25 between 0.6 and 0.8). Overall, constructs are measured by the retained items.

26 **4. Results**

27 We estimated the structural equation model (SEM) by the maximum likelihood method in order to test
28 the hypotheses and the impact of the five control variables on performance. The fit of the structural
29 equation model is checked using the chi-square test. As it is sample size sensitive, the following fit
30 indices were also applied: Comparative Fit Index (CFI), Tucker-Lewis index (TLI), and Root Mean
31 Square Error of Approximation (RMSEA).

32 Results show that the model has a very good fit to the variance and covariance structure of the
33 analyzed items: $\chi^2(663) = 61849.693$, $\chi^2/df = 93.288$, Comparative fit index [CFI] = 0.988,
34 Tucker-Lewis index [TLI] = 0.987, RMSEA = 0.035, $P[\text{RMSEA} \leq 0.05] = 1.000$, and a 90%
35 confidence interval of 90% [0.033;0.038]. Indeed, the CFI and TLI are well above the threshold of
36 0.95 and the RMSEA is well below the threshold of 0.05 that defines a good fit (Hu & Bentler,
37 1999)². Table 3 reports the estimates of the structural equation model. Most of the items are
38 statistically significant ($p < 0.05$) with factor loadings above 0.5 (see Appendix).

39
40 == Table 3 about here ==

41 Overall, our study shows that of the seven potential relationships, six are statistically significant. First,
42 our H1 predicts that the leaders' commitment to exporting favors the formation of entrepreneurial

² The model fit measures show the parsimony of the model without extra associations between errors and covariates. Thus, there is no indication of endogeneity in the model and potential biased estimates of the structural parameters.

1 orientation. We find evidence supporting this hypothesis, identifying a positive and significant
2 influence of leaders' commitment to exporting on entrepreneurial orientation (where the standardized
3 coefficient ($\hat{\beta}_{std}$) is 0.256, $p < 0.001$). Furthermore, the results also indicate a positive effect of
4 leaders' commitment to exporting on network competence, supporting our H2 ($\hat{\beta}_{std}=0.202, p < 0.001$).
5 Both results confirm the existence of a relationship not yet studied in the literature. H3, which defines
6 a positive influence of firm entrepreneurial orientation on its dynamic capabilities, is also supported
7 by the data ($\hat{\beta}_{std}=0.335, p < 0.001$). H4 assumes a positive contribution of the firm's network
8 competence for the development of firm's dynamic capabilities, which was supported by our results
9 ($\hat{\beta}_{std}=0.675, p < 0.001$). H5 states that the firm performance is positively affected by entrepreneurial
10 orientation. As expected, the data also supports this assumption ($\hat{\beta}_{std}=0.169, p < 0.001$), in line with
11 previous studies (Covin & Slevin, 1991; D Miller, 1983; Rauch et al., 2009). However, contrary to
12 our expectations, H6, which hypothesizes that firm's network competence contributes to improve firm
13 performance, is not supported by the data ($\hat{\beta}_{std}=0.073, n.s.$). H7 defines a positive influence of
14 dynamic capabilities on firm performance, and it is confirmed, as it was expected ($\hat{\beta}_{std}=0.453, p$
15 < 0.001).

16 Given the estimates of indirect relations and once confirmed, it is found that entrepreneurial
17 orientation, network competence, and dynamic capabilities mediate the relationship between leaders'
18 commitment to exporting and firm performance ($p < 0.001$). We also confirmed that dynamic
19 capabilities mediate the relationship between entrepreneurial orientation and performance (H3 and
20 H7: $p < 0.001$) and the relationship between network competence and performance (H4 and H7: p
21 < 0.001). Additionally, the relationship between the leaders' commitment to exporting and dynamic
22 capabilities exists indirectly through the mediation of entrepreneurial orientation ($p < 0.001$) and the
23 mediation of network competence ($p < 0.001$).

24 From all the control variables, only size and age show a statistically significant impact on firms'
25 performance (see Table 4). Firms with a number of employees between 10 and 49, firms with
26 turnover higher than 1 million €, and younger firms are those that perform best.

27 == Table 4 about here ==

28 5. Discussion and conclusion

29 This paper contributes to a better understanding of key antecedents of firm performance, being the
30 first to confirm that leaders' commitment to exporting may develop entrepreneurial orientation and
31 network competence. The key finding of this research is the positive role of leaders' commitment to
32 exporting as an antecedent of entrepreneurial orientation and network competence and an indirect
33 antecedent of dynamic capabilities. In addition, we show that encouraging some of these
34 organizational behaviors and competences can generate higher firm performance.

35 For a firm that intends to start or strength its internationalization, it is important to promote the
36 commitment of their managers toward these activities as it develops entrepreneurial behavior and
37 improves the firm's relationships. Companies run by managers who demonstrate greater commitment
38 to exporting can better develop their organizational skills and to create conditions to sustain a higher
39 firm performance.

40 Previous studies suggested that entrepreneurial orientation may contribute to the development of
41 dynamic capabilities (e.g. Jantunen et al. 2005; Teece 2007), which is also verified in our study. This
42 shows that firms must cultivate an entrepreneurial attitude, because then they will be better prepared
43 to anticipate and face problems, to adapt to changes in their environment, and to reconfigure their
44 resource base, which is important for the exploitation of opportunities.

45 Our results also reveal the importance for firms to participate in networks and to promote a good
46 organizational management of their relationships, given that they facilitate the development of
47 innovation and other capabilities. Thus, entrepreneurs should employ their resources through
48 networks by learning and creating the basis for the generation of dynamic capabilities.

1 We also analyze the direct relationship between entrepreneurial orientation, dynamic capabilities, and
2 network competence, and performance of firms. In fact, firms with an entrepreneurial orientation are
3 more able to face an adverse context, dealing with obstacles, taking more risks and being aware of
4 new business opportunities. Previous studies suggested that the entrepreneurial orientation will
5 positively influence firm performance (Covin and Slevin 1991; Miller 1983; Rauch et al. 2009; Su et
6 al. 2011), which is empirically confirmed in this study. Combining that with dynamic capabilities, it
7 allows to a better adaptation to environmental changes, and to the improvement of firm performance
8 and to sustain it for a long time.

9 This paper enriches the literature in the context of networks and firms' performance, taking the
10 organizational skills of networking into account. However, the direct relationship between network
11 competence and firm performance suggested by Ritter and Gemünden (2003) and Ritter et al. (2002)
12 was not confirmed. A possible explanation for the absence of this direct link may be the fact that the
13 network competence by itself is not sufficient to ensure a better performance, as was also found by
14 Sajilan and Tehseen (2019) in the context of Malaysian Chinese firms. In line with the study of Pinho
15 and Prange (2016), whose results show that social network relationships have strong impact on firm
16 performance whenever dynamic capabilities are in place; our study demonstrates that network
17 competence can help the development of those capabilities, which can contribute directly to improve
18 firm performance.

19 In synthesis, this research shows that leaders' commitment to exporting is an antecedent of
20 entrepreneurial orientation and network competence; thus, that a positive and committed attitude of
21 managers towards firm's internationalization can develop organizational skills and ultimately lead to
22 improved firm performance.

23 Despite the promising outlook of the study, we are aware of specific limitations. This study took a
24 cross-sectional approach by collecting data at a single moment in time. A natural extension of this
25 study is to apply longitudinal design that measures change over time. Besides that, further analyses by
26 different groups of firms can be pursued to find differences, specificities and similarities between
27 them.

28 We also note that firm performance is defined as a latent variable. Alternatively, observed measures
29 such as accounting and finance indicators could have been used. Although it can be argued that the
30 former may be less reliable, the latter tend to be more difficult to obtain, reflect a partial picture of
31 firm performance, and is more difficult to compare between industries. According to Kitaw and
32 Goshu (2017) it should be noted that current literature lacks of a solid theory that underpins the
33 measurement of performance. Moreover, the use of financial measures is prone to sample bias and
34 sample size reduction as firms tend to refuse to give access to it.

35 For firms operating in small markets, it is important to have access to external markets, particularly in
36 a weak economic situation. The firm leadership is one of the keys to improve the firm's orientation in
37 order to develop key competences and behaviors that contribute to enhance firm performance. Thus, it
38 is important to explore this panoply of relationships between variables to define specific policies
39 aimed at improving the business activity.

Appendix - Measurement scales of the constructs

	Estimate	Standard- error	Standardized estimate
Entrepreneurial orientation			
Generally, our company prefers to a strong emphasis on R&D, technological leadership, and innovations.	1	-	0.678
Over the past 5 years the changes of the company's products/services have usually been quite dramatic.	0.827	0.049	0.561
Normally our company takes on a very competitive oriented "beat-the-competitor"- position.	0.874	0.049	0.593
Generally, our company has a strong tendency toward getting involved in high risk projects (with a chance for high yield).	1.104	0.051	0.748
We normally take up a fearless, aggressive position, in order to maximize the chance of being able to exploit possible opportunities.	1.113	0.048	0.755
Dynamic capabilities			
Our organization owns ability that can fast aware new business opportunity or threat possibility.	1	-	0.808
In our organization, leaders have entrepreneurship characteristics.	0.942	0.025	0.761
Our organization has the ability to cohesive employees 'knowledge by visioning.	1.054	0.021	0.851
Our organization has the ability to evaluate our own organization's strength and weakness.	1.016	0.022	0.821
Our organization has the ability to know the direction and timing for R&D.	0.900	0.025	0.727
Our organization has the flexibility to understand the specific needs of customers.	0.910	0.024	0.736
Our organization has the flexibility to communicate and coordinate effectively among departments.	0.842	0.026	0.680
Performance			
During the past three years, change in competitive advantage relative to our largest competitor has markedly improved.	1	-	0.835
During the past three years, change in market share relative to our largest competitor has markedly improved.	1.044	0.011	0.870
During the past three years, change in profit relative to our largest competitor has markedly improved.	1.063	0.017	0.885
During the past three years, change in sales revenue relative to our largest competitor has greatly increased.	1.066	0.017	0.888
During the past three years, change in customer satisfaction relative to our largest competitor has greatly increased.	0.935	0.020	0.783
Network competence			
We evaluate the way our relationship with each partner depends on our relations with other partners.	1	-	0.695
We organize regular meetings among those in our firm involved in relationships with our partners.	1.061	0.038	0.738
We assign responsibility to people for each relationship with our partners.	1.052	0.039	0.731
We discuss ways of collaborating with people from our partners.	1.088	0.041	0.756
We put people from our technical partners in contact with key people in the firm.	1.020	0.037	0.709

We put people in our firm in contact with key people from our technical partners.	0.858	0.037	0.596
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Leaders' commitment to export

Those responsible for making our company's management decisions consider our exporting activities to be important.	1	-	0.951
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Those responsible for making our company's management decisions intend to increase the company's exporting activities.	1.034	0.007	0.983
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Those responsible for making our company's management decisions actively explore international market opportunities.	0.938	0.007	0.892
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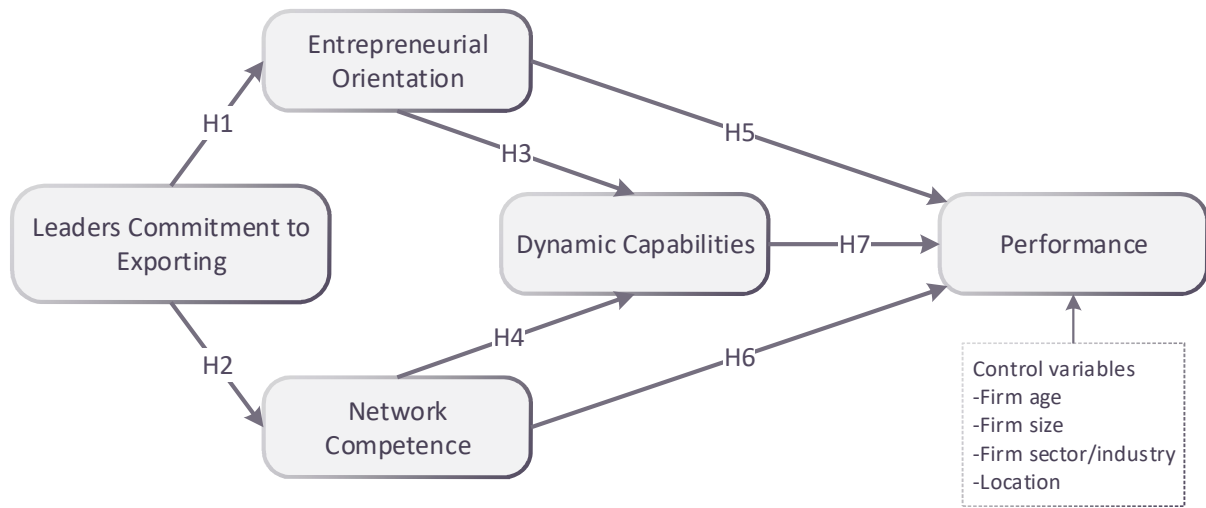
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Figure 1 – Conceptual model

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Table 1 – Sample characteristics

	Results
Industry	Productive activities - 24.8% of firms, of which 16.8% correspond to the manufacturing sector; Commerce – 25.5 % of firms; Services – 46.1% of firms, of which 16.9% correspond to consulting activities, scientific, technical and similar, 10% to accommodation, catering and similar, and information and communication activities and the remaining to other services.
Size (number of full-time employees)	59.7% of firms have less than 10 employees; 30.7% have between 10 and 49 employees; 9.5% have 50 or more employees.
Turnover	13.1% of firms have a turnover of less than € 50 000; 31.7% have between 50 000€ and 250 000€; 28.6% have between 250 001€ and 1 000 000€; 26.6% of firms have more than € 1 million.
Age	20.5% of firms are less than 10 years; 23% of firms are between 11 and 15 years; 29.9% are between 16 and 25 years; 26.6% are more than 25 years.
Geographical location	North of Portugal: 31.8% of firms; Lisbon area: 31.4%; Center of Portugal: 20.4%; South and Portuguese islands: 16.5%.

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Table 2 - Reliability and validity of constructs

Variable	Number of items	Cronbach's Alpha (α)	CR	AVE
Dynamic capabilities	7	0.887	0.895	0.550
Leaders' commitment to exporting	3	0.945	0.946	0.854
Network competence	6	0.826	0.872	0.533
Entrepreneurial orientation	5	0.759	0.830	0.501
Performance	5	0.916	0.851	0.535

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Table 3 - Estimates of the structural model coefficients

Variables	Dynamic capabilities	Entrepreneurial orientation	Network competence	Performance
Entrepreneurial orientation	0.281*** (0.335; 0.037)			0.134*** (0.169; 0.039)
Dynamic capabilities				0.428*** (0.453; 0.041)
Network competence	0.580*** (0.675; 0.032)			0.059 (0.073; 0.047)
Leaders' commitment to exporting	0.261*** (0.222; 0.020)	0.359*** (0.256; 0.023)	0.276*** (0.202; 0.023)	0.176*** (0.158; 0.016)

***p<0.001, **p<0.01, *p<0.05. Between brackets: (coefficient of non-standardized solution; standard-error)

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Table 4 - Estimates of the structural model coefficients (effects of control variables)

Control variables	Performance
Firm Size (ref: less than 10 employees)	
Between 10 and 49 employees	0.229 (0.079)**
50 or more employees	0.102 (0.121)
Turnover (ref: less than 50 000€)	
Between 50 000 and 250 000€	0.036 (0.090)
Between 250 001 and 1 000 000€	0.180 (0.094)
More than 1 000 000€	0.297 (0.112)**
Age (ref: up to 10 years)	
Between 11 and 15 years	-0.239 (0.083)**
Between 16 and 25 years	-0.315 (0.082)***
More than 25 years	-0.453 (0.084)***
Industry (ref: services)	
Productive activities	-0.021 (0.075)
Commerce	-0.002 (0.074)
Location (ref: Lisbon)	
North	0.097 (0.072)
Center	0.154 (0.083)
South and Portuguese islands	0.016 (0.084)

***p<0.001, **p<0.01, *p<0.05. Standard-error between brackets.

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