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SMEs international growth: The moderating role of experience on entrepreneurial and learning orientations

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ABSTRACT

New and small firms operating in the high-tech environments need strong entrepreneurial (EO) and learning (LO) orientations to enhance international growth. Yet, the relationship between these two key strategic dimensions and foreign growth can be contingent to the entrepreneur's individual characteristics. Bringing together elements from strategic management, organization and entrepreneurship literatures, we employ a dynamic temporal perspective considering two levels of analysis, the firm and the entrepreneur, and we apply a fixed effects pooled time-series regression on a sample of 170 firms in two periods of time (2005 and 2015). Our findings indicate that SMEs that possess greater EO and LO have higher international growth. However, previous entrepreneurial and industry-specific managerial experience of the founder/CEO positively exert their effect on these relationships. Our results have important theoretical and practical implications for entrepreneurs and policy makers operating in highly innovative sectors.

1. Introduction

Strategic orientation (SO) (Gatignon & Xuereb, 1997; Hakala, 2011; Pehrsson, 2016), which has been indicated as critical for firms to prosper and grow in the competitive global marketplace (e.g., Cadogan, 2012; Jantunen, Nummela, Puumalainen, & Saarenketo, 2008; Liu, Li, & Xue, 2011; Ruokonen & Saarenketo, 2009; Yeoh, 2004), has evolved into a multi-dimensional concept. In this paper, we focus on entrepreneurial (EO) and learning (LO) orientations as two key dimensions of SO (Hakala, 2011; Martin & Javalgi, 2016; Wales, 2016; Wang, 2008) that might affect the growth of foreign sales by small and medium-sized enterprises (SMEs).

Although numerous scholars have researched the impact of different dimensions of SO on SMEs' foreign performance (e.g., Brouthers, Nakos, & Dimitratos, 2015; Bruneel, Yli-Renko, & Clarysse, 2010; Deligianni, Dimitratos, Petrou, & Aharoni, 2016; Fernández-Mesa & Alegre, 2015; Jantunen, Puumalainen, Saarenketo, & Kyläheiko, 2005; Javalgi & Todd, 2011; Kuivalainen, Sundqvist, & Servais, 2007), very few studies have looked at their foreign growth (e.g., Autio, Sapienza, & Almeida, 2000; Nummela, Puumalainen, & Saarenketo, 2005) because very few businesses are capable of maintaining growth rates for long periods of time (Barbero, Casillas, & Feldman, 2012). As highlighted by Davidsson, Achtenhagen, and Naldi, 2005: p. 7),' most firms start small, live small and die small'. This makes the SO dimensions' adoption and their relative importance for SMEs' foreign growth a peculiar phenomenon that prompts an in-depth analysis.

The majority of studies investigating specific SO dimensions, mainly EO (e.g., Keh, Nguyen, & Ng, 2007; Lumpkin & Dess, 2001; Rauch, Wiklund, Lumpkin, & Frese, 2009; Wiklund & Shepherd, 2003; Wiklund & Shepherd, 2005) and LO (e.g., Calantone, Cavusgil, & Zhao, 2002; Sexton, Bowman-Upton, Wacholtz, & McDougall, 1997; Wang, 2008), primarily aimed at determining which of the orientations was best (Hakala, 2011). Other researchers revealed that each orientation should not be viewed in isolation since organizations may employ multiple strategic orientations (Cadogan, 2012; Lonial & Carter, 2015; Lumpkin & Dess, 2001; Wang, 2008). Another prominent view in the literature was directed at considering whether there is a best orientation depending on the contingencies (e.g., Zhou, Gao, Yang, & Zhou, 2005). This contingency approach highlighting both the firm's internal environment as well as the external environment was also stressed in early research studying issues related to SMEs' growth (e.g., Barringer, Jones, & Neubaum, 2005). Studies examining EO and LO have clearly highlighted the importance of the founder's global vision and proactive mindset to be reflected strongly across organizational characteristics and operations (e.g. Cavusgil & Knight, 2015; Coviello, 2015). Nevertheless, much of the existing research has focused on the external rather than on the firm's internal environment (e.g. Dimitratos, Lioukas, & Carter, 2004; Sundqvist, Kyläheiko, Kuivalainen, & Cadogan, 2012).

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In their recent work Demir, Wennberg, and McKelvie, (2017) invited researchers to examine the role of internal contingencies namely, human capital, human resource management, strategy, capabilities, and innovation as potential factors that may drive firm's high growth. The same plea was reported by Pellegrino and McNaughton (2017) in their article on SMEs' internationalization.

In this paper, we adopt the multiple strategic orientations stance and follow the internal contingency approach aiming at bringing together SO dimensions' adoption, the founder-CEO's characteristics and SMEs' growth in international markets. Therefore, we first consider both EO and LO dimensions and, after assessing their direct impact on SMEs' foreign growth, we analyze the moderating role of the founder-CEO's start-up experience as well as his/her prior industry-specific experience (Casillas, Moreno, Acedo, Gallego, & Ramos, 2009; Reuber & Fischer, 1999; Wiedersheim-Paul, Olson, & Welch, 1978) on the relationship between each single orientation dimension and foreign growth. Following Colombo and Grilli (2005), we focus on the individual entrepreneurial experience in setting up previous businesses prior to the foundation of the new venture as well as on the previous generic versus industry-specific managerial experience of the founder as possible contingent factors between EO, LO and SMEs' foreign growth.

Previous scholars in the international entrepreneurship (IE) field have focused on establishing a link between the experience of the founder of the internationalizing firm and the international growth (e.g., Bloodgood, Sapienza, & Almeida, 1996; Crick & Jones, 2000; Coviello, 2015; Evangelista, 2005; Fernhaber, McDougall-Covin, & Shepherd, 2009; Johnson, 2004; Knight & Cavusgil, 1996; Madsen & Servais, 1997; Reuber & Fischer, 1997; Sapienza, Autio, George, & Zahra, 2006; Weerawardena, Mort, Liesch, & Knight, 2007; Zucchella, Palamara, & Denicolai, 2007). However, they have mainly focused on entrepreneurs' international experience and paid little attention to the previous entrepreneurial experience in starting up a business compared to being novel or an entrepreneur for the first time (Westhead, Ucbasaran, Wright, & Binks, 2005). Moreover, the role of previous industry-specific managerial experience has received little attention in this literature (Evangelista, 2005; McDougall, Oviatt, & Shrader, 2003; Odorici & Presutti, 2013). Demir et al. (2017): p. 452) revealed that the role of the founder-manager is central, and that there is an 'unequivocal evidence that founder-managers' human capital is a vital predictor of their firm's achievement of high growth'.

In this paper, we aim at presenting theoretical advancements and empirical evidence to the SMEs' international growth stream of research by borrowing theoretical elements from the strategic management, organization and entrepreneurship literature (e.g., Wiklund, Patzelt, & Shepherd, 2009) and by testing our hypotheses on a sample of 170 SMEs located in the Rome province (Italy) that were surveyed at two time points (2005 and 2015). Our research contributes primarily to a better understanding of the impact of multiple dimensions of SO on the foreign growth of SMEs. Second, by following a dynamic temporal perspective, we contribute to evaluating the variegated role of the founder-CEO's individual experience, both entrepreneurial and managerial, prior to the establishment of the venture, in explaining both direct and moderating effect on SMEs' growth in foreign markets. Third, by considering two different level of analysis, the firm and the entrepreneur, we inform scholars, entrepreneurs and policy makers alike on the role that previous entrepreneurial experience of the founders (*vs* novel entrepreneurs) and previous managerial industry-specific experience exert on the relationship between different firms' level dimensions of SO, namely, EO and LO, and SMEs' foreign growth. Fourth, as our sample is made of young SMEs exporting more than 50% of their sales, we believe to contribute to the IE literature.

2. Theoretical framework and hypotheses

Strategic orientation (SO), defined as the direction implemented by a firm to produce behaviors conducive to the continuous superior performance of the business (e.g., Gatignon & Xuereb, 1997; Pehrsson, 2016), has received considerable attention in the strategic management and entrepreneurship literature over the past two decades, based on the idea that firm success is strongly related to the ability to adopt a clear strategy that best fits a rapidly changing external context (e.g., Herath & Mahmood, 2014; Thoumrungroje & Racela, 2013; Zhou et al., 2005). SO is the strategic approach to management inside a company (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Pehrsson, 2016) and is necessary for all firms in both manufacturing and service industries to achieve and to sustain a competitive advantage, particularly in a period characterized by diffuse innovation and increasing globalization (Knight, 2000). By adopting a strong SO, companies are more likely to implement effective processes, improve performance and achieve their goals (e.g., Cadogan, 2012; Dess, Newport, & Rasheed, 1993; Zhou et al., 2005). SO is considered a key element with important implications for management, efficiency and competitiveness for not only large enterprises but also SMEs (Aragón-Sánchez & Sánchez-Marín, 2005; Covin & Slevin, 1989; Lonial & Carter, 2015), and it applies to the international field of research as it provides firms with a critical mindset (Cadogan, 2012; Jantunen et al., 2008; Liu et al., 2011; Ruokonen & Saarenketo, 2009).

Earlier theoretical work suggested the usefulness of considering SO as a multidimensional construct (Lumpkin & Dess, 1996) based on different dimensions. Over the next pages, we will revise the two theoretical concepts of EO and LO and elaborate on the contingent role played by the founder-CEOs previous experience, considering both entrepreneurial and managerial experience (Colombo & Grilli, 2005). Individuals as stores of knowledge (Cohen & Levinthal, 1990) may have a bearing on the organization's level orientations and, thus, on SMEs' international growth. Our working hypotheses will be derived from previous empirical studies in the context of internationalized new and small firms where 'elements such as strategic management, access to resources, knowledge and information, firm capabilities, and innovatory advantages which enable entrepreneurial firms to internationalize their business in an entrepreneurial manner over time' (Keupp & Gassmann, 2009: p. 608) still need to be further researched.

2.1. Entrepreneurial orientation

Entrepreneurial orientation (EO) refers to the strategy-making processes that provide organizations with a basis to address innovative, proactive and risk-taking decisions and actions (Miller, 1983; Naman & Slevin, 1993; Rauch et al., 2009; Wales, 2016). Innovativeness reflects the entrepreneurial tendency to engage in and support new ideas, experimentation and creative processes that can lead to new products, services, or technological processes (Lumpkin & Dess, 1996). Proactive behaviors allow firms to anticipate the needs of customers who seek new business operations (Newbert, 2007). Although entrepreneurs vary in their perceptions of the impact of risk on performance (Lumpkin & Dess, 1996; Miller, 1983), business management is naturally associated with the assumption of risk. EO has often been shown to be the most important dimension of SO for firms in terms of achieving long-term success (Covin & Lumpkin, 2011; Covin, Green, & Slevin, 2006; Odorici & Presutti, 2013). Several studies regard EO as a critical organizational process that enhances performance of the firm in general (e.g., Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003, 2005) and in the international marketplace in particular (Covin & Miller, 2013; Lee, Lee, & Pennings, 2001; McDougall & Oviatt, 2000). Because EO promotes the renewal of existing practices and the pursuit of new opportunities (Lumpkin & Dess, 1996), it has often been considered a key competitive element when operating in an international environment where constant changes and increasing pressure require capabilities to engage in cross-border activities (McDougall & Oviatt, 2000). Previous studies on international performance, from both emerging and developed economies, suggest that EO is especially helpful for achieving success in foreign markets (Deligianni et al., 2016; Javalgi & Todd, 2011; Liu

et al., 2011; Yamakawa, Peng, & Deeds, 2008; Zhou, 2007). This dimension has been proven to provide resource constrained SMEs capabilities required to better utilize the limited resources it possesses (Wiklund & Shepherd, 2003, 2005) and to efficiently operate in the international context (Brouthers et al., 2015; Javalgi & Todd, 2011). Based on this theoretical background and on previous empirical findings, our first hypothesis considers whether EO could positively influence the international intent of newly established SMEs (De Clercq, Sapienza, & Crijns, 2005), allowing not only to be more capable and willing to pursue international opportunities but also to grow (Covin et al., 2006; Jantunen et al., 2008; Moreno & Casillas, 2008; Wiklund et al., 2009). Therefore, we posit the following:

HP 1. There is a positive relationship between EO and international growth of SMEs.

2.2. Learning orientation

Learning orientation (LO) based on the market, technological and social aspects that constitute significant organizational values, has emerged as an important dimension of SO that explains firm performance (Wang, 2008; Yeoh, 2004). The orientation to learn with an organization 'is stimulated both by internal factors and environmental changes in a complex and iterative manner' (Dodgson, 1993: p. 387) that is reflected in changes in collective actions and behavior (Dimov, 2007; Zhang, Macpherson, & Jones, 2006). The learning process occurs 'within the firm, by which knowledge of action-outcome relationships and the effect of the environment on these relationships is developed' (Duncan & Weiss, 1979: p. 84). This process is able to influence the type of information gathered and how it is interpreted and shared. Thus, it can encourage the development of capabilities, including specific learning processes, and the ability to foster innovation, product development and strategic decisions. Calantone et al. (2002) defined a firm's LO as the organizational activities of creating and using knowledge to enhance competitive advantage. The ability to learn by actively seeking knowledge on markets, customers, providers of resources and competitors may differentiate successful from unsuccessful firms (Harrison & Leitch, 2005) and may explain performance differences among them (Calantone et al., 2002; Sinkula, Baker, & Noordewier, 1997). The LO of small businesses depends on two main drivers as follows: direct experience by leveraging learning-by-doing processes and indirect experience by exploiting external networks (Anderson & Boocock, 2002). Learning has been identified as the most important means by which internationalizing SMEs gain foreign market knowledge (De Clercq, Sapienza, Yavuz, & Zhou, 2012; Johanson & Vahlne, 1977; Yeoh, 2004; Zou & Ghauri, 2010) and as instrumental to the firm's accelerated (Weerawardena et al., 2007) and successful (Autio et al., 2000) internationalization. However, in an international environment where constant changes are normal, only those newly established SMEs that are able to actively or passively learn and unlearn (Bruneel et al., 2010) will be able to grow internationally. Given the uncertain and long-term nature of both learning (Harrison & Leitch, 2005) and growth (Sapienza et al., 2006), we would expect that SMEs with higher LO possess higher international growth. Therefore, we posit the following:

HP 2. There is a positive relationship between LO and international growth of SMEs.

2.3. The moderating role of the founder's prior experience

Learning is a cumulative and path-dependent process (Cope, 2005), but there is no 'one way' that firms learn and the paths and processes involved in learning may differ among firms (Wang, 2008). Organizational learning scholars (e.g., Cohen & Levinthal, 1990; Duncan & Weiss, 1979; Huber, 1991; Levitt & March, 1988; Nooteboom, 2000) have long acknowledged the ability of firms to effectively assimilate information and transform it into knowledge. However, 'by focusing on entrepreneurial characteristics of organizations, research on entrepreneurial [and learning] orientations has lost sight of the fact that organizations are made up of individuals, not organizational postures' (Renko, El Tarabishy, Carsrud, & Brännback, 2015: p. 59). After all, '[*entrepreneurial and*] learning orientations are processes that start at the individual level and progressively encompass the whole organization' (Voudouris, Dimitratos, & Salavou, 2011: p. 238). This concept of the "learning company" (Pedler, Burgoyne, & Brook, 2005; Rebelo & Duarte Gomes, 2008) is indeed very relevant to the small firms because of the role of the entrepreneur (Deakins & Freel, 1998; Wang & Chugh, 2014). The founder's specific human capital attributes are, therefore, key elements to be considered, particularly when dealing with firm's level constructs such as EO/LO and SMEs' international growth (De Clercq et al., 2012; Love & Ganotakis, 2013; Zahra & George, 2002).

In small firms, 'the influential role of the owners/managers as they attempt to embed their entrepreneurial learning within the organization that they manage' (Zhang et al., 2006: p. 305) has been highlighted to better understand the dynamics of learning (Deakins & Freel, 1998). This paper focuses on congenital learning (i.e., founder's prior knowledge, abilities and experience) (Bruneel et al., 2010; De Clercq et al., 2012; Pellegrino & McNaughton, 2017; Yeoh, 2004), differentiating habitual and novice entrepreneurs as well as considering previous generic *vs* industry-specific (in the same sector of the new venture) managerial experience of the founder-CEO.

Previous research (e.g. Pryor, Webb, Ireland, & Ketchen, 2016: p. 31) revealed that 'experienced entrepreneurs may need minimal iterations of sense-making to resolve uncertainty and are able to rely on well-established scripts to fully conceptualize an opportunity'. Past entrepreneurial experience suggests information-based learning within the entrepreneurial process leading to the ability to learn from past mistakes so to avoid them in subsequent endeavors (Deakins & Freel, 1998). Previous research agrees that previous experience and greater individual judgment (Casson, 2005; Cope, 2005; Shane, 2000) allows entrepreneurs to identify and exploit new opportunities (Davidsson & Honig, 2003; Ucbasaran, Westhead, & Wright, 2009). However, learning is not automatic in entrepreneurship (Sexton et al., 1997) and in general, learning from experience may be difficult because of task heterogeneity and cognitive biases that could inhibit learning (Cassar, 2014). Nevertheless, previous research emphasized that the cognitive frameworks (prototypes or scripts) for 'business opportunity' possessed by experienced entrepreneurs were significantly richer and clearer (e.g., more focused) than those of novice entrepreneurs who search less extensively for information in novel unfamiliar domains (Baron & Ensley, 2006; Cooper, Folta, & Woo, 1995). Hmieleski and Baron (2009) also found that experience in a business start-up enhances the confidence of entrepreneurs in their abilities to successfully start a new venture and grow. Thus, the prevailing view in literature establish a positive association between previous start-up experience and firm's growth (Westhead et al., 2005) even on foreign markets (Autio et al., 2000; Love & Ganotakis, 2013; Odorici & Presutti, 2013).

Similarly to the start-up experience (compared to novice entrepreneurs), entrepreneurs starting enterprises in sectors where they have expertise and existing contacts enjoy some privileges. Prior knowledge of the market or industry and knowledge of the customers are considered key elements in recognizing new entrepreneurial opportunities (Baron, 2007). The knowledge acquired when interacting with clients, competitors and partners in the product-market the company operates in (Voudouris et al., 2011) leads not only to greater information on customers' products and services requirements and their problems (Delmar & Shane, 2006), but also an increase in the legitimacy of the venture in the eyes of resource providers (Aldrich & Fiol, 1994). Thus, entrepreneurs with specific industry experience can gather resources and use information faster than entrepreneurs without such experience (Cassar, 2014; Colombo & Grilli, 2005).

Gong, Baker, and Miner, (2005) found that entrepreneurs imported

bundles of routines into the new venture by sharing their prior contextual/industry experiences. Prior industry participation provides knowledge of the norms and practices in an industry (Dimov, 2007). Of course, previous managerial experience can be poor preparation for entrepreneurship (Deakins & Freel, 1998). However, more than the generic managerial experience, the founder-CEO's prior industry-specific experience should endow his/her new firm with the important knowledge, intra-industry ties and resource acquisition abilities when dealing with international markets (Pellegrino & McNaughton, 2017; Reuber & Fischer, 1997).

Considering the above, prior experience may represent one important trigger of SME's international growth. However, we argue here that the founder-CEO with prior start-up experience (compared to novice entrepreneurs) and industry-specific experience (compared to general managerial experience) may also play an important moderating role. By sending signals to the organization not only in terms of his/her unique set of skills, knowledge and contacts, but also in terms of vision and drive, the founder-CEO's prior experience should help the organization to reinforce innovativeness, proactiveness, risk taking, openness and learning (Fernández-Mesa & Alegre, 2015) that are all values embedded in the EO/LO constructs. In other words, members of the management team can see the experience of the CEO as a signal related with success and feel more confident, innovative and proactive to take the risk of growing internationally[1]. This, in turn, should help the organization to reduce the increased uncertainty and complexity associated with high level of EO and LO (Deb & Wiklund, 2017; Wang & Chugh, 2014) allowing them to unleash their positive effect on SMEs' international growth. Therefore, we argue that the founder-CEO's prior start-up experience and prior industry-specific experience positively moderate the EO/LO-foreign growth relationship. We posit the following:

HP 3. Prior start-up entrepreneurial experience and industry-specific (but not general) managerial experience positively moderate the relationship between EO, LO and the international growth of SMEs (Fig. 1).

3. Data and methodology

3.1. Data setting

The field setting of this research consists of a sample of newly established SMEs located in the Rome province. The Rome province is characterized by a large concentration of firms in high-tech sectors with significant technological capabilities and a high-performing competitive presence both in national and foreign markets. The development of the high number of high-tech firms in this area has been improved by the presence of a very famous high-tech urban cluster in Rome, namely, the Tiburtina Valley, which has been studied in previous works (i.e., Presutti, Boari, & Fratocchi, 2016). According to Chamber of Commerce data, at the end of 2005, the sectors represented in this area were as follows: electronics (330 firms); media (280 firms); and new economy, e.g., manufacturers of new hardware, firms in the information services industry, Internet access providers, and telecommunication network managers (395 firms).

We focused both on the electronics sector, which, according to the definition of the National Federation of Electronics Firms, consists of the computer industry, electronics in the strictest sense, and telecommunications, and new economy industry. The data collection process for both analyzed periods lasted approximately three months (September-December 2005; September-December 2015). For each period, we completed 150 total hours of interviews. Because the questionnaire constitutes the primary data source for this research, when necessary, we conducted third interviews to complete the questionnaire. Thus, we gained a full understanding of all critical points necessary to realize our research goals. We met with the same entrepreneurs at both moments of observation. We completed our data set by collecting additional, firm-specific information.

Our key informant was the founder-CEO, considered to be representative of the whole small firms. In both periods of observation, we administered a structured questionnaire with Likert scales to obtain not only entrepreneurs' opinions about EO, LO plus all the items selected to measure the level of experience (both entrepreneurial and managerial), but also other variables such as the number of founders, size and age of companies. In the case of more entrepreneurs (less than 10% of the sample), we calculated the level of experience with an average of the obtained values weighted with the number of total entrepreneurs. The survey process was developed in the following four phases: (1) conducting literature reviews to develop the measurement scales; (2) developing the questionnaire (structured in a closed question-answer form); (3) pre-testing the questionnaire on three randomly selected sample firms; and (4) data collection.

Before starting the data collection, we carried out a preliminary detailed study through open interviews with selected firms within the Rome province to reconstruct, at least from a qualitative perspective, the most significant events influencing the development of high tech SMEs in this area. This qualitative step of the research has been very useful for reinforcing the research hypotheses. We also tested the questionnaire randomly on three sample firms before the data collection. In 2005, we obtained responses from 320 of the 700 companies belong to our sample (Chamber of Commerce database). Then, in 2015, we contacted the same firms, and we found that 220 (of the 320) had survived. This high survival rate is not surprising because the local incubator and authorities granted these firms favorable financial terms. We obtained responses from 170 (of the 220) firms; therefore, in the analysis we included only the results about the same companies in the two investigated periods (that is 170 companies). To realise the statistical analysis, we included the differences in both periods.

The entrepreneurs had an average age of 42 years. The firms had an average of 80 employees. Although the percentages of both non-respondents and non-surviving firms are very low and statistically non-significant (Churchill, 1979), for the non-surviving firms, we tested for response bias by checking some secondary data as usual procedure in empirical dynamic studies. In particular, for the 100 non-surviving firms, we considered data up to their last year of life, except for 45 firms who failed in less than a year. No significant differences in terms of firm size (average sales or employees) or customer size were found. Thus, the results of the statistical tests for response bias suggested that our sample is representative of the population.

Table 1 reports the descriptive statistics for the untransformed variables. Of note, the investigated companies significantly increased their total revenues in the two considered periods. At the end of our data collection (2015), the average sales of all the respondent firms amounted to €792,000 (> 50% of sales from abroad), and the firms had an average age of 17 years (9 years old in 2005).

3.2. Research setting, variables and measures

An early definition of IE focused on studying new small and young firms that venture abroad (Oviatt & McDougall, 1994). Recently, Coviello, McDougall, and Oviatt, 2011: p. 628) stated that 'not firm size or even scope of foreign operations should be the defining characteristic when studying international new ventures (INVs) or born globals (BGs). Rather, it is firm age that is their defining characteristic'. They continued by saying that: 'researchers must clarify the stage of the firms' life-cycle they are studying'. In this paper, we focus on new technology-based firms defined as firms that are independently owned (i.e., the founder(s) owns at least 50% of the company), are less than 25 years old and belong to a high technology sector (Tether & Storey, 1998).

[1] We thank an anonymous referee for raising this point.

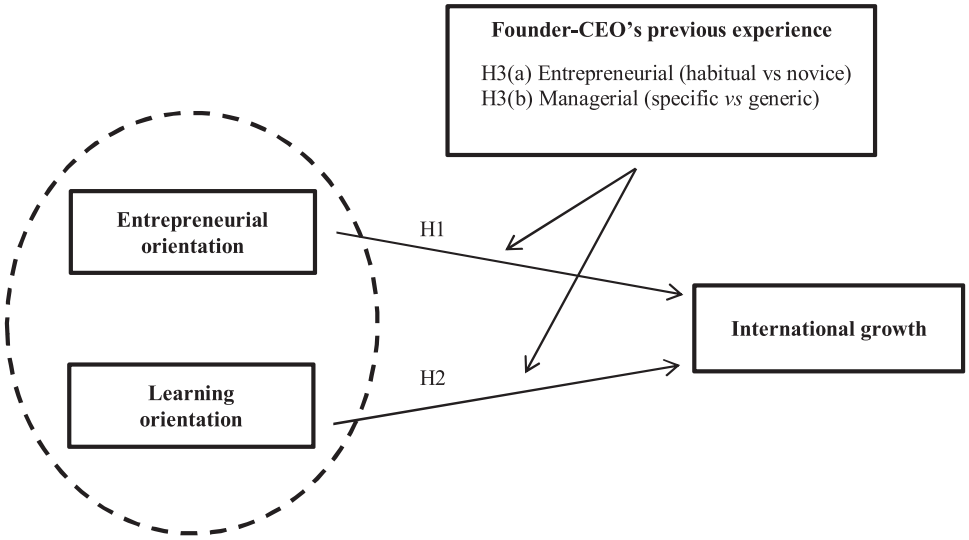

Fig. 1. Theoretical model.

Table 1
Descriptive statistics of the untransformed variables (average values).

	2005	2015
Firm total sales (K€)	520	792
Foreign total sales (K€)	280	398
Firm age (years)	9	17

Firms in our sample are of small or medium size and operate abroad. However, the data at our disposal do not allow us to match with the original definition (e.g., Knight & Cavusgil, 1996) used to specify BGs (must export 25% of their sales within 3 years of inception), because we lack the date when firms started to internationalize. However, as reported in Table 1, the new and young SMEs in our sample (firms aged 9 years old on average in 2005) have at least 50% of sales derived from abroad in both periods of times.

To carry out our research on the growth of SMEs in foreign markets, we used standard and validated measurements from the literature. All items were measured on a seven-point Likert scale ranging from '1', strongly disagree, to '7', strongly agree, unless otherwise specified.

Dependent variable. In line with previous studies (Presutti, Boari, Majocchi, & Xavier Molina, 2017; Yli-Renko, Autio, & Sapienza, 2001), we measured the firms' international growth by considering the growth rate of the firms' total foreign annual sales between the two periods of observation (2005–2015).

Independent variables. We had two main independent variables. For *Entrepreneurial Orientation* (EO) we used the measurements of Lumpkin and Dess (1996) based on five dimensions (proactiveness, innovativeness, risk propensity, proclivity to be aggressively competitive and autonomy). In our research, only three dimensions assume levels of significance, i.e., innovativeness (measured with 3 items), proactiveness (3 items), and risk propensity (2 items). To capture a dynamic perspective, we considered the difference (positive or negative) in the values of the all 8 items between the two periods of observation.

The second main independent variable is *Learning Orientation* (LO) that was conceived as composed by four factors as follows: commitment to learning, shared vision, open-mindedness, and intra-organizational knowledge sharing. The items were derived from Galer and van der Heijden (1992); Sinkula et al. (1997), and Hult and Ferrell (1997). To capture a dynamic perspective, we considered the difference (positive or negative) in the values of the all 4 items between the two periods of observation.

Moderating variables. To account for *previous experience,* we used three different indicators. For *entrepreneurial experience*, we distinguished between (a) habitual (entrepreneurs launched one or more companies before foundation) and novice (for the first time) entrepreneurs (dummy 0/1). For *managerial experience*, we used (b) the number of years as managers before the company's foundation (*generic* managerial experience); and (c) the number of years as managers before the company's foundation in the same sector (*industry-specific* managerial experience).

In the model, we also included five *control variables*. First, an important factor influencing foreign growth is the size of the company (Acs & Audretsch, 1991), in line with the idea that larger firms may invest more resources in R&D activities. As several studies suggest (e.g., Kogut & Zander, 1992), both superior resources and economies of scale allow larger firms to exploit resources successfully for their foreign growth. We computed the size variable as the logarithm of total sales at the end of our two periods of observation (Laforet, 2013; Yli-Renko et al., 2001). We also decided to include the age of firms as a control variable able to influence the ability to grow abroad (Presutti et al., 2017). Finally, we included the growth rates of the three analyzed sectors in the industrial cluster during both periods of observations.

3.3. Reliability, validity and robustness

To ensure data reliability and validity, we took several precautions. First, before launching the empirical survey at the end of 2005, we conducted an introductory, detailed exploratory study through unstructured interviews with selected actors (local entrepreneurs and institutions) in the cluster to map (from a qualitative perspective) the potential international relationships developed by principal actors in the cluster. We also randomly tested the questionnaire on 3 sample firms during both analyzed periods. Second, we used multi-item factors to measure the two selected dimensions of strategic orientation. As a first step of measure validation, to assess the mono-dimensionality of the research constructs (Churchill, 1979), we factor analyzed the final scales for both EO and LO using the principal axis method, positing a single factor (exploratory factor analysis). After exploring the factor structure of the data, we submitted the data to confirmatory factor analysis. The results of this analysis verify that in both the periods the measurement model performed well because the selected constructs demonstrate good internal consistency and reliability: the standardized factors are all above the recommended minimum of 0.40, and the average variances extracted are all above the recommended minimum of 0.50. All of our multiple-item constructs achieved Cronbach alphas of 0.71 or higher, indicating strong internal consistency (Table 2).

Table 2
Model measurement in both analyzed periods.

Strategic orientation dimension	Measurement item	Standardized loading		Cronbach's alpha	
		2005	2015	2005	2015
EO	Our company is known as innovator among businesses in our industry.	0.65**	0.69**	0.78**	0.80***
	We promote new, innovative products/services in our company.	0.75***	0.73***		
	Our company provides leadership in developing new products/services.	0.78***	0.72***		
	Top managers of our company, in general, tend to invest in high-risk projects.	0.72***	0.78***		
	This company shows a great deal of tolerance for high risk projects.	0.78***	0.76***		
	We seek to exploit anticipated changes in our target market ahead of our rivals.	0.76***	0.75***		
	We seize initiatives whenever possible in our target market operations.	0.77***	0.71***		
	We act opportunistically to shape the business environment in which we operate.	0.70***	0.78***		
LO	Entrepreneurs basically agree that our organization's ability to learn is the key to our competitive advantage.	0.68**	0.71**	0.75**	0.81**
	The basic values of this organization include learning as key to improvement.	0.65***	0.75**		
	Learning in my organization is seen as a key commodity necessary to guarantee organizational survival.	0.68***	0.72***		
	There is a commonality of purpose in my organization.	0.75***	0.78***		
	There is total agreement on our organizational vision across all levels, functions, and divisions.	0.78***	0.79***		
	All employees are committed to the goals of this organization.	0.70***	0.77***		
	We continually judge the quality of our decisions and activities taken over time.	0.78***	0.75***		
	Entrepreneur repeatedly emphasizes the importance of knowledge sharing in our company.	0.75***	0.76***		

Moreover, as for many critical variables in this study there are no perfect proxies, we relied on the entrepreneurs' opinions and we are aware that some relationships among variables can be affected by common method variance. We employed previously validated measures and Harman's one-factor test to address this issue. This analysis resulted in three factors with eigenvalues greater than one, with the first factor accounting for only 29% of total variance and the dependent and independent variables loading on different factors. Thus, common method variance is unlikely to be causing the relationships among variables in our study.

Finally, as we have 10% of the sample of companies run by a team of entrepreneurs, we realized a robustness check without them to ensure that team effects were not affecting our results (17 companies on a total of 170 companies). We run again all models without the 10% of the sample of companies managed by a team of entrepreneurs. We compared the obtained results with the results from the total sample. We reported very similar or almost equal results (available on request).

4. Results

Descriptive statistics and zero-order correlations among the variables are presented in Table 3.

To test our hypotheses, four models were analyzed using the ordinary least squares technique with Release 11 of the Stata software package. Table 4 presents the regression results for all models. To check for multicollinearity problems, we conducted variance inflation analysis (VIF) by regressing the entrepreneurial and learning orientation variables on the other explanatory variable and on the control variables. This analysis indicates no significant parameter distortion due to multicollinearity, as VIF values are below the recommended cut-off ; point of 2.5 (Allison, 1999). In Model 1, we regressed our control variables on the foreign growth. In Model 2, we added both EO and LO. In Model 3 we included the three supposed moderator variables. Finally, in Model 4 we included the supposed interaction effects. The overall model performance is always satisfactory. In particular, the variables included in the final model account for approximately 69% of the total variation in the growth of firms' foreign growth.

To correct the survivorship bias in the sample, we used the two-step procedure of Heckman (1976). In the first step, we estimate the parameters of the full sample where the dependent variable is whether the firm still survives. That is, a binary variable is equal to one if the firm still exists at the end of 2015, and zero otherwise. We selected as exclusion restriction variable the "duration of access to local public funding", which measures how many time (that is how many years) the company has accessed to local public funding between 2005 and 2015. The local public funding is aimed to increase the likelihood to grow and so to survive inside the local context and it's totally different and independent from "local public funding for international growth",

Table 3
Descriptive statistics and correlation coefficients (2005–2015).

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age of firm (log)	1													
2. Size of firm (log)	0.34*	1												
3. Growth rate of computer science firms	0.28	0.21	1											
4. Growth rate of telecommunication firms	0.11	0.18	0.10	1										
5. Growth rate of electronic firms	0.15	0.05	0.17*	0.25*	1									
6. Growth rate of new economy	0.11	0.04	0.12*	0.29*	0.40*	1								
7. EO	0.11	0.34	0.22	0.18	0.228	0.29	1							
8. LO	0.11	0.13	0.30	0.24	0.28	0.13	0.55**	1						
9. Number of years as managers before the company foundation	0.35*	0.20	0.12	0.03	0.05	0.40	0.25	0.20	1					
10. Number of years as managers in the same sector before the company foundation	0.20**	0.11	0,01	0,03	0,8	0.22	0.11*	0.41*	0.10*	1				
11. Habitual versus novice entrepreneurs	0.01	0.03	0.01	0.22	0.13	0.11	0.55*	0.25*	0.28	0.39*	1			
12. Duration of access to local public funding	0.09*	0.01	0.08	0.11	0.08	0.11	0.15*	0.14*	0.10	0.15	0.09	1		
13. International growth	0.11	0.34*	0.12	0.35*	0.12	0.02*	0.13*	0.22*	0.03	0.02	0.13	0.08	1	
14. Survivor of companies	0.02	0.12*	0.03*	0.011	0.09	0.13*	0.08	0.10*	0.22*	0.10	0.15*	0.25**	0.20	1

Note: * p-value at the 10% level; ** p-value at the 5% level; *** p-value at the 1% level.

Table 4
Results of regression analysis for the SMEs foreign sales growth (2005–2015).

	Probit 1	Model 1	Probit 2	Model 2	Probit 3	Model 3	Probit 4	Model 4
Constant	−1.234	−1.101	−1.114	−1.223	−1.200	−0.998	−0.198	−1.112
	(0.133)	(0.009)	(0.001)	(0.111)	(0.118)	(0.099)	(0.399)	(0.123)
Duration of access to local public funding	0.465		0.096		0.888		0.013	
	(0.119)***		(0.110)***		(0.099)***		(0.011)***	
Firm Size	0.123	0.110	0.183	0.105	0.123	0.088	0.048	0.123
	(0.009)**	(0.011)**	(0.011)**	(0.009)**	(0.011)**	(0.011)**	(0.022)**	(0.112)**
Firm Age	0.009 (0.112)	0.019	0.019 (0.102)	−0.330	−0.380	0.109	0.229	0.339
		(0.012)		(0.234)	(0.254)	(0.001)	(0.041)	(0.031)
Growth rate of electronic sector	0.111	0.050	0.211	0.028	0.018	0.012	0.002	0.019
	(0.009)	(0.011)*	(0.109)	(0.111)*	(0.145)	(0.001)*	(0.006)	(0.232)*
Growth rate of computer sector	0.234	0.097	0.289	0.049	0.069	0.556	0.250	0.134
	(0.011)	(0.021)*	(0.015)	(0.001)*	(0.009)	(0.222)*	(0.211)	(0.122)*
Growth rate of telecommunications	0.023	0.082	0.029	0.045	0.1125	0.178	0.144	0.045
	(0.110)	(0.122)*	(0.118)	(0.001)*	(0.008)	(0.321)*	(0.300)	(0.009)*
Growth rate of new economy	0.111	0.670	0.118	0.506	0.566	0.009	0.022	0.199
	(0.009)	(0.111)*	(0.005)	(0.121)*	(0.120)	(0.122)*	(0.120)	(0.009)*
EO			0.023	0.480	0.540	0.135	0.122	0.229
			(0.256)*	(0.811)**	(0.800)*	(0.234)**	(0.230)*	(0.112)**
LO			0.011	0.118	0.108	0.130	0.150	0.485
			(0.455)*	(0.024)*	(0.034)*	(0.032)*	(0.030)*	(0.011)*
Number of years as managers before the company foundation					0.335	0.123	0.120	0.134
					(0.023)	(0.001)	(0.008)	(0.009)
Number of years as managers in the same sector before the company foundation					0.014	0.109	0.111	0.120
					(0.011)	(0.111)**	(0.131)	(0.123)**
Habitual versus novice entrepreneurs					0.898	0.118	0.110	0.223
					(0.333)	(0.009)**	(0.011)	(0.011)**
EO* Number of years as managers in the same sector before the company foundation							0.001	0.133
							(0.001)	(0.111)***
EO* habitual versus novice entrepreneurs							0.101	0.504
							(0.003)	(0.022)***
LO* Number of years as managers before the company foundation in the same sector							0.234	0.308
							(0.001)	(0.001)***
LO* habitual versus novice entrepreneurs							0.002	0.300
							(0.112)	(0.111)***
Lambda		0.123		0.111		0.106		0.222
		(0.111)		(0.009)		(0.008)		(0.001)
R^2		0.33		0.45		0.59		0.69
Var R^2				0.12		0.14		0.10
F statistics		43.25*		44.99*		45.33*		46.22**
VIF (mean)		1.60		1.63		1.66		1.69

All two-tailed tests. Huber-White Standard errors in parentheses. Note: * p-value at the 10% level; ** p-value at the 5% level; *** p-value at the 1% level.

another kind of funding available in the cluster. The independence of this restriction variable is confirmed also by the correlation matrix (Table 3) which shows how the "duration of access to local public funding" is significantly correlated with the survivor but not with the international growth. Finally, we realised a robustness check running the full model of Table 4 where we included the restriction variable as independent variable to estimate the international growth. Results assured us the independence between this two variable, confirming our decision to consider "duration of access to local public funding" as a reliable restriction variable.

We report in Table 4 the results of the probit estimates of the selection equation for our four different selected models. The likelihood of a firm to survive at 2015 is found to increase with the duration to access to local funding during the period 2005–2015 and the firm's size (Probit 1, 2, 3, 4) and also with high levels of EO and LO (Probit 2, 3 and 4). In the second step, we run our four OLS models where the coefficients of the inverse Mills ratio coefficient (λ) correction are not significant, implying that the survivorship bias is not a problem in the investigated model.

Moving to the hypotheses, Model 1 represents the baseline including the selected six variables: the growth rate of the investigated sectors has positive and significant influence on the foreign growth.

Model 2 verifies that both EO and LO have a positive and significant influence on foreign growth, confirming Hypotheses 1 and 2. Model 3 includes the moderator effects; we observe that the generic level of managerial experience does not have a significant effect while both the industry-specific managerial experience and entrepreneurial experience have a positive and significant effect. Finally, in Model 4, we include only the interaction effects that were previously significant, excluding the generic level of experience. We verify that the interaction variables have a positive interactive effect, increasing the level of significance and confirming Hypotheses 3a and 3b.

We followed the work of Aiken and West (1991) to better address the interaction effect and graphically present the results. We used the values 1 and 0 to code categorical variables and the values corresponding to 1 S.D. above and 1 S.D. below the mean for continuous variables. In all of the figures, the Y-axis represents the dependent variable, which is the growth of foreign sales during the period of observation.

Figs. 2 and 3 show the interaction effects between EO and specific managerial experience and entrepreneurial experience respectively. Figs. 4 and 5 show the interaction effects between LO and both specific managerial experience and entrepreneurial experience. The results clearly support the supposed interaction effects; the growth of SMEs' foreign sales is positively influenced by EO and LO for high levels of both specific managerial experience and entrepreneurial experience. For low levels of experience (both managerial and entrepreneurial), the impact of both EO and LO is limited.

5. Discussion

Most SMEs are not growth-oriented; for them, survival on the

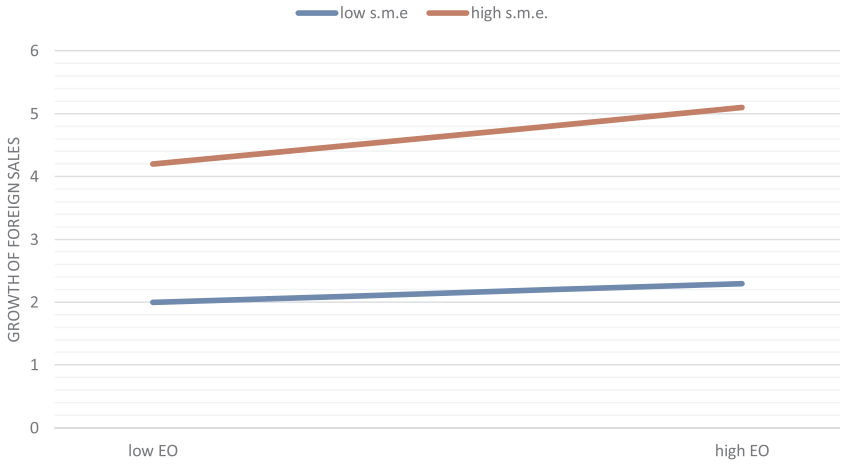

Fig. 2. The growth of foreign sales: interaction effects of EO and specific managerial experience (s.m.e.).

market is often enough (Nummela et al., 2005). Only a few SMEs achieve true growth in international markets due to the limited resources (Wiklund & Shepherd, 2003) and various types of liabilities (Zahra, 2005). Previous studies have used founder-CEO's characteristics, resources, motivation, personal capabilities, strategy and networks as variables in their models (e.g., Barringer et al., 2005; Wiklund et al., 2009). However, extant research has predominantly looked at these factors separately from the entrepreneurial characteristics of the organization (Demir et al., 2017). In this paper, we focus on two key firm's strategic orientation dimensions (Lumpkin & Dess, 1996), namely EO and LO, and we use the founder-CEO's characteristics as internal contingent variables (Demir et al., 2017) explaining growth of new and small internationalized firms (Pellegrino & McNaughton, 2017).

The results of our research indicate that SMEs' foreign growth is positively related to both EO and LO. Previous studies have analyzed different types of orientations in relation to the superior performance of, often rapidly, internationalized firms. Knight (2000), for example, reports on the impact of EO on the performance of the born global firm. Jantunen et al. (2008) highlight the need for strategic orientations (including EO) as a prerequisite to becoming a born global firm. LO has also been identified as instrumental to the success of firm's accelerated internationalization (Bruneel et al., 2010; Weerawardena et al., 2007; Yeoh, 2004). Our results, despite not focusing on rapid/accelerated internationalization or BGs, as defined in the literature, support previous findings that SMEs that possess greater EO and LO have higher international growth. Moreover, we also support that the founder-CEO's prior entrepreneurial experiences and prior managerial experience in the same industry of the new firm are positively associated with SMEs foreign growth. These results are in line with previous studies by Colombo and Grilli (2005), and we remark, besides the direct effect, the contingent role of these entrepreneurial traits on the relationship between EO, LO and international growth. Previous studies have highlighted that orientations, both at the firm and at the individual level, depend on previous entrepreneurial experience. Filatotchev, Liu, Buck, and Wright, (2009), for example, found an association between returnee entrepreneurs 'international experience and the export orientation of Chinese firms, supporting previous literature establishing a link between the international experience of the founder of the internationalizing firm and the growth in international markets (e.g., Bloodgood et al., 1996; Crick & Jones, 2000; Fernhaber et al., 2009; Evangelista, 2005; Johnson, 2004; Madsen & Servais, 1997; Reuber & Fischer, 1997; Sapienza et al., 2006; Weerawardena et al., 2007; Zucchella et al., 2007). The role of the founder-CEO in general, particularly of his/her experience, has assumed a significant role in understanding decision making in IE studies (e.g., McDougall & Oviatt, 2000). Despite the shift in locus of decision making from the firm to the entrepreneur (Autio, 2005) being one of the distinctive features of IE studies, these elements have received little attention in the literature (Evangelista, 2005; McDougall et al., 2003; Pellegrino & McNaughton, 2017). Following previous scholars who remarked the role of entrepreneurial learning 'embedded within the organization that they manage' (Zhang et al., 2006: p. 305), our findings reveal that prior entrepreneurial experience in starting up a business and industry-specific managerial experiences of the founder-CEO play an important

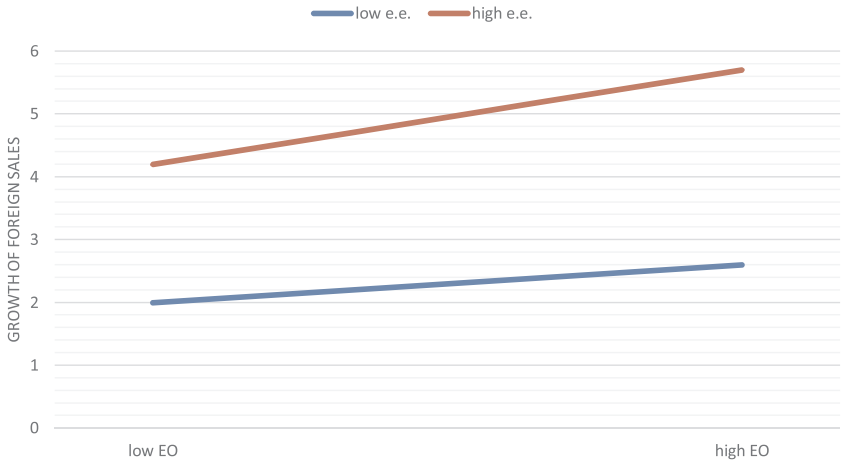

Fig. 3. The growth of foreign sales: interaction effects of EO and entrepreneurial experience (e.e.).

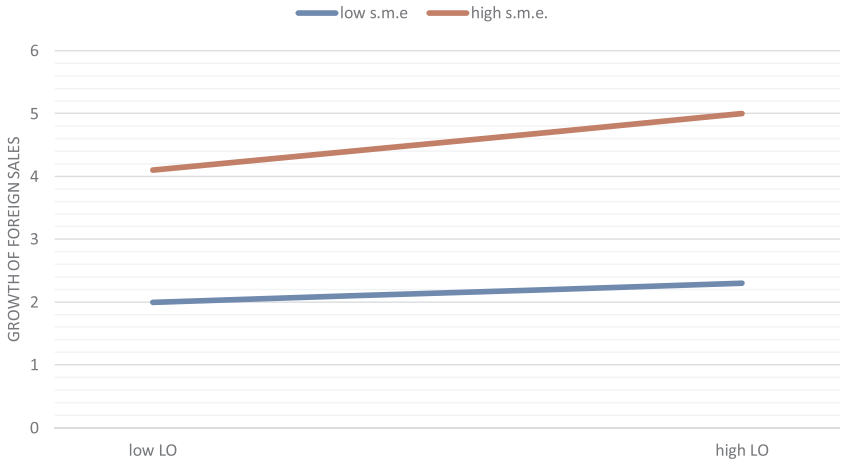

Fig. 4. The growth of foreign sales: interaction effects of LO and specific managerial experience (s.m.e.).

contingent role in moderating the impact of firm's level EO and LO on the foreign growth of SMEs. This confirms previous qualitative work by Voudouris et al. (2011): p. 238) who reported that in small firms, orientations at the organizational level are processes often initiated at the individual level that progressively encompass the whole company and its networks. We now extend their findings by linking the founder-CEOs' prior entrepreneurial experience and industry-specific managerial experience to SO dimensions, namely, EO and LO, which, in turn, enhance SMEs' international growth.

6. Conclusions, limitations and future research directions

In the IE literature (e.g., Jones, Coviello, & Tang, 2011), there is considerable knowledge regarding new ventures going international; however, not enough is known about their post-entry phases (Morgan-Thomas & Jones, 2009; Prashantham & Young, 2011) or their growth or success (Kuivalainen et al., 2007). Following a dynamic temporal perspective, this study establishes EO and LO as two key drivers of SMEs' international growth. Moreover, we revealed also the importance of the founder-CEO's previous entrepreneurial and industry-specific managerial experience as reinforcing element moderating the relationships between EO, LO and SMEs' foreign growth. The findings of this study enhance our understanding in several ways benefiting scholars, entrepreneurs and policy makers alike.

First, due to their relatively young age and small size, firms that may suffer from a lack of legitimacy in foreign markets and limited resources (Zahra, 2005) could address these shortcomings by reinforcing their EO and LO. Thus, entrepreneurs could formulate an intense long-term strategy with high levels of both EO and LO to achieve foreign growth, and policy makers should promote programs to support that. However, EO and LO bring increasing uncertainty and complexity (Deb & Wiklund, 2017; Wang & Chugh, 2014) that need to be considered. SMEs where the founder-CEO has prior experience in start-up firms and his/her prior industry-specific experience seem to carry an advantage. Indeed prior experience acts as a signal of his/her unique set of skills, knowledge, contacts, vision and drive that help the organization to reinforce innovativeness, proactiveness, risk taking, openness and learning (Fernández-Mesa & Alegre, 2015) that are all values embedded in EO/LO constructs. This, in turn, reduce the increased uncertainty and complexity associated with EO and LO (Deb & Wiklund, 2017; Wang & Chugh, 2014) allowing them to finally unleash their positive effect enhancing SMEs international growth. We extend previous studies (Pellegrino & McNaughton, 2017) that reported that firms acquire knowledge through the founders' prior experience, but it is important only for their initial internationalization. We now claim that firms acquire knowledge through the founders' prior experience also during subsequent growth phases in international markets. Founders' prior experience acts as a contingent element that sustain the positive effects of EO/LO on the international growth of SMEs. This indication is particularly relevant for policy makers dealing with tailoring their international aid programs.

Second, we confirm that the generic managerial experience is not directly effective in achieving foreign growth, while the experience in similar settings (i.e., industry-specific experience) together with the

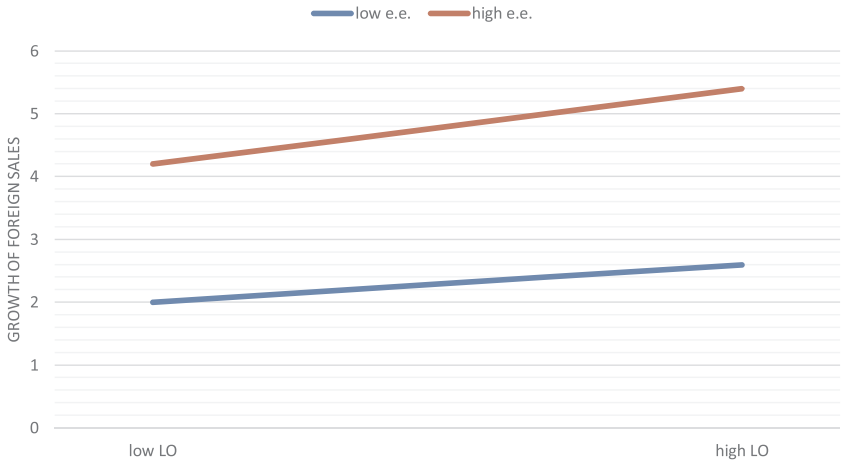

Fig. 5. The growth of foreign sales: interaction effects of LO and entrepreneurial experience (e.e.).

founder-CEO prior entrepreneurial experience are very efficient and effective. Entrepreneurship constitutes a gradual learning process, accumulated over time, rather than a single-event action (Westhead et al., 2005). Taken together the two previous points highlight the main assumption that human capital is an important influence on SMEs' foreign growth (Colombo & Grilli, 2005). New and small firms achieve better results with respect to foreign growth when the leading roles are assumed by entrepreneurs/managers possessing prior professional experience in the same sector and prior experience in setting up entrepreneurial ventures. Valid indications can be derived here for both policy makers and business lenders.

Some limitations of our study must also be discussed to pinpoint opportunities for further research. First, our study refers to entrepreneurs and small and new firms operating in the high-tech environments (Savarese, Orsi, & Belussi, 2016) that, besides the "classical" resources constraints and liabilities encountered when operating in an international environment (Zahra, 2005), are also subject to rapid changes in demand, rapid changes in standards, increasing competitive pressures and regulation which are often nonlinear and largely unpredictable (Bourgeois & Eisenhardt, 1988: p. 816). For them, overseas markets represent not only a risky opportunity (Crick & Jones, 2000; D'Angelo, 2012; Love & Ganotakis, 2013) but also the only way to deal with the global competition. To generalize our theoretical model, a test with other kinds of sectors less international exposed should be performed. However, we believe that most of the firms today operate in high-velocity environments with the same opportunities and risks. Second, our research focuses exclusively on entrepreneurs and firms from a high-tech cluster in a particular region (Rome) in Italy. Previous research show that entrepreneurial experience, managerial experience, business skills and education levels are all influenced by the external environment (Barringer et al., 2005), and hence affected by the interactions with groups to which the entrepreneur is related (Cope, 2005). Future research should be conducted on entrepreneurs and firms from other clusters or even outside any cluster, and in other countries so to control for opportunity pursuing that might be dependent on the geographic location of the activity.

Moreover, future studies could further investigate the precise mechanisms by which previous entrepreneurial and managerial experience, for example by considering the length of time in entrepreneurial or managerial roles, exert their impact on EO and LO[2]. Additionally, it could be interesting also to extend the topic of experience to entrepreneurial/managerial team level and their effective learning process as the key factors for SMEs' international growth. Finally, other internationalization outcomes such as number of countries and relative distance (both geographic and psychic) or entry mode choices could also be related to the investigated dimensions.

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