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Research paper

Speeding up new product development through entrepreneurial orientation in SMEs: The moderating role of ambidexterity

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ABSTRACT

This paper analyzes the influence of small and medium-sized enterprises' (SMEs) entrepreneurial orientation (EO) on its capacity to quickly introduce new products to the market (namely, speed to market). Specifically, we suggest that firms will exhibit greater speed to market when displaying either low or high levels of EO. We also suggest that the EO – speed to market relationship will be contingent on firms' ambidexterity, or its capacity to simultaneously embrace exploratory and exploitative strategies. To test our hypotheses, we collected survey data from 384 SMEs belonging to four sectors in Spain: biotechnology, ceramic tiles, toys and footwear. Our findings confirm the existence of a U-shaped connection between EO and speed to market, and evidence that this curvilinear relationship is accentuated when SMEs exhibit greater ambidexterity.

1. Introduction

At present, firms are forced to deal with frequent and disruptive changes in customer demands and increasing technological shifts within their industries. Because these factors lead to shorter product life cycles (Langerak, Hultink, & Griffin, 2008), organizations are continuously pushed to develop new products for their current and potential markets. That is, to increase its speed to market[1] diligently (Kessler & Chakrabarti, 1996; OECD, 2018) to benefit from first-mover advantages (Feng, Sun, Zhu, & Sohal, 2012; Fosfuri, Lanzolla, & Suarez, 2013; Suarez & Lanzolla, 2007) or limit the competitors' first-mover advantages, if the focal firm is a follower (Kessler, Bierly, & Gopalakrishnan, 2000). The importance of speed to market is particularly pressing in competitive environments with high rates of technological change, where industry competition is often based on shortening product development cycle time (Sherman, Souder, & Jenssen, 2000). Moreover, the relevance of speed to market as a source of competitive advantage is not only limited to B2C businesses. Recent studies have stressed that, as industrial markets are becoming more turbulent (Ojha, Struckell, Acharya, & Patel, 2020), speed to market has become an important competitive argument for B2B firms (e.g.: Acharya, Ojha, Patel, & Gokhale, 2020; Ojha et al., 2020).

Despite the substantial competitive advantages conferred by heightened speed to market, it is still one of the least understood phenomena in the innovation-related literature (Behrens & Patzelt, 2018). This limited understanding is partly explained by the fact that most of the research on its determinants is at the project level, focusing on relationships such as product quality and innovation speed (Kessler & Bierly, 2002), or project radicalness and speed to market (Seidel, 2007). Recently, scholars have turned to the firm characteristics that systematically lead to more speed to market, such as firms' coordination mechanisms (Palmié et al., 2016) or collaboration with external partners (Allocca & Kessler, 2006; Ma, Yang, Yao, Fisher, & Fang, 2012; Thomas, 2013). Identifying firm-level factors contributing to speed to market still remains an important concern, and management scholars have urged for further research on the topic (Keupp, Palmié, & Gassmann, 2012).

This study adds to this emerging discussion in two important ways. First and foremost, we explore the role of entrepreneurial orientation

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[1] Prior research has employed different terminologies to capture the time-based dimension of new product development cycles, such as speed to market (Kessler & Chakrabarti, 1996), innovation speed (Acharya et al., 2020; Carbonell & Rodríguez-Escudero, 2009), time-to-market (Prašnikar & Škerlj, 2006) or development cycle time (Flint, 2002; Langerak et al., 2008). In this manuscript, we will refer to "speed to market", as the original scale we employed for the empirical analysis takes this terminology.

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(EO) as a pivotal antecedent of firms' speed to market. EO captures a strategic posture reflecting how firms deal with entrepreneurial decisions and actions (Moreno-Moya & Munuera-Aleman, 2016; Zellweger & Sieger, 2012), and denotes firms' emphasis on autonomy, competitive aggressiveness, innovativeness, proactiveness and risk-taking (McKenny, Short, Ketchen Jr, Payne, & Moss, 2018). The construct of EO can be used to discriminate between conservative, risk-averse firms (low EO) and bold, entrepreneurial firms (high EO) (Baker, Grinstein, & Harmancioglu, 2016; Miller & Friesen, 1982; Wales, Shirokova, Beliaeva, Micelotta, & Marino, 2021). Moreover, we know that EO is a well-established antecedent of firms' performance, particularly for SMEs (Clausen & Korneliussen, 2012; Rauch, Wiklund, Lumpkin, & Frese, 2009). So far, the literature has offered limited evidence on the importance of EO to explain firms' speed to market, but findings are not conclusive. For example, Shan, Song, and Ju (2016) found contradictory results for the different EO dimensions, while Clausen and Korneliussen (2012) limit their findings to a sample of incubator firms.

Departing from there, we theorize and empirically validate that both conservative and entrepreneurial firms can potentially display high levels of speed to market, for different reasons. On the one hand, entrepreneurial firms are characterized by a focus on knowledge exploration, risk-taking and experimentation, which will eventually facilitate speed to market. On the other hand, conservative firms tend to exploit already existing systems, process and routines, which might also help firms to innovate faster (Thoumrungroje & Racela, 2013). We thus develop arguments to argue that the relationship between EO and speed to market is not linearly positive or negative, but curvilinear. In doing so, this article provides a more complete picture of the EO-speed to market relationship, reducing the scarcity of empirical research on the topic and showing that this relationship cannot be assumed to be linear.

Second, we explore whether ambidexterity moderates the EO – speed to market relationship. Ambidexterity has been defined as an organizations' ability to simultaneously pursue exploratory and exploitative activities (Jansen, George, Van den Bosch, & Volberda, 2008; Tarba, Jansen, Mom, Raisch, & Lawton, 2020), and manifests itself in firms' ability to form a balance between opportunity-seeking (i.e. exploration), and advantage-seeking (i.e. exploitation) activities (Mihalache, Jansen, Van den Bosch, & Volberda, 2014). In recent years, the ambidexterity framework has been a key research area among organizational scholars. Overall, findings suggest that ambidexterity enhances firms' performance and competitiveness, both for B2B (e.g.: Rothaermel & Alexandre, 2009) and B2C firms (Cao, Gedajlovic, & Zhang, 2009; Junni, Sarala, Taras, & Tarba, 2013). The simultaneous pursuit of exploratory and exploitative activities in differentiated units lead to firms' development of distinct operational capabilities or competences (Jansen, Tempelaar, van den Bosch, & Volberda, 2009). We suggest that these operational capabilities will also shape the EO-speed to market relationship. Specifically, the dual structure of ambidextrous organizations will accentuate the U-shaped relationship between EO and speed to market.

A review of relevant literature is followed by two hypotheses, developing the relationship between of EO and speed to market, and the moderating role of ambidexterity. An empirical study based on 384 SMEs is presented next. After a discussion of the results, theoretical and managerial implications are developed.

2. Theory and hypotheses

As firms face exponential changes in technology development and customers' demands, the quick introduction of new products to the market has become a key objective for firms (Clausen & Korneliussen, 2012; Moreno-Moya & Munuera-Aleman, 2016). Being fast to market increases market share, establishes industry standards (Chen, Reilly, & Lynn, 2012) and allows firms to benefit from first-mover or fast-follower advantages (Menon, Chowdhury, & Lukas, 2002). This is even more pressing in industries characterized by fast-changing customer demands and shortened product life cycles, where firms should continuously look for new opportunities and quickly act upon them (Groeger, Bruce, & Rolfe, 2019; Rauch et al., 2009). In fact, we know that even short delays in market entry can substantially decrease the returns from innovation (Keupp et al., 2012). Thus, time-related measures are becoming a critical competency in new product development (NPD) programmes, which is materialized in the speed at which firms are able to introduce new products to the market (Carbonell & Rodríguez-Escudero, 2009; Wang, Zhang, Sun, & Zhu, 2016).

Speed to market aims to capture this aspect. Specifically, the concept refers to how quickly an idea moves from its initial conception to its introduction into the marketplace (Acharya et al., 2020; Chen, Reilly, & Lynn, 2005; Ma et al., 2012). Developing a capacity to quickly develop and launch new products is challenging, and understanding its antecedents still remains a key concern among innovation scholars (Keupp et al., 2012). In this respect, most of the existing research has been conducted at the project level (Chen, Damanpour, & Reilly, 2010). For instance, project newness (Tatikonda & Rosenthal, 2000) or project complexity (Harter, Krishnan, & Slaughter, 2000) are negatively correlated to the speed at which products are launched to the market. Other attributes, such as NPD goal clarity (Lynn, Reilly, & Akgun, 2000) has been positively correlated to speed to market. This approach helps to understand unique project-level attributes behind innovation speed, but limits our understanding on the firm-level differences that might systematically lay behind speed to market (Shan et al., 2016).

In this respect, studies at the firm level unpacked some strategic orientation factors related to the capacity to quickly develop and launch new products. For instance, developing a 'speed culture' (Allocca & Kessler, 2006) or counting with a top management team that supports innovation (Swink, 2003) help to reduce time to market. As the NPD process is an inherently entrepreneurial and risky endeavor, one pivotal strategic posture behind speed to market can be captured by looking at the firm' entrepreneurial orientation (EO) (Clausen & Korneliussen, 2012; Moreno-Moya & Munuera-Aleman, 2016; Shan et al., 2016). Departing from this premise, the following section expands on the concept and develops theoretical arguments to connect it with speed to market.

2.1. Entrepreneurial orientation and speed to market

Scholars have treated EO as an strategic posture reflecting strategy-making practices, management philosophies, and firm-level behaviors that are entrepreneurial in nature (Anderson, Covin, & Slevin, 2009; Covin & Slevin, 1991; Wales, 2016). Most of the existing research has conceptualized EO as an aggregate of three core sub-dimensions: innovativeness, risk taking and proactiveness. The first refers to the tolerance to new ideas, experimentation and creativity as a source of competitive advantage (Rhee, Park, & Lee, 2010). The second denotes the willingness to make large and risky resource commitments (Situmeang, Gemser, Wijnberg, & Leenders, 2016), and the third captures the propensity to take the initiative to compete aggressively against its competitors (Covin & Slevin, 1991).

In the current study, we conceive EO as a second-order construct comprised of items related to risk-taking, innovation and proactiveness (Mehrabi, Coviello, & Ranaweera, 2019). This allows us to classify companies based on its overall strategic posture, distinguishing between conservative (low EO), and entrepreneurial (high EO) firms (Miller & Friesen, 1982; Schepers, Voordeckers, Steijvers, & Laveren, 2014). Even though some scholars have suggested that each EO dimension can be treated separately (e.g.: Kreiser, Marino, & Weaver, 2002), we adhere to the view stating that the defining characteristic of EO is precisely a joint consideration of its three components as a unique EO construct (Covin, Green, & Slevin, 2006; Miller, 1983). This unidimensional approach of EO has been validated and adopted by recent studies (e.g.: Beliaeva, Shirokova, Wales, & Gafforova, 2020; Hughes, Hodgkinson, Hughes, & Arshad, 2018). Employing a unidimensional approach also allows to

view EO as falling along a continuum ranging from high (entrepreneurial firms), to low (conservative firms) (Baker et al., 2016; Miller & Friesen, 1982; Verreynne, Meyer, & Liesch, 2016).

There has been extensive research on the relationship between EO and innovation-related outcomes (e.g.: Alegre & Chiva, 2013; Arzubiaga, Kotlar, De Massis, Maseda, & Iturralde, 2018; Genc, Dayan, & Genc, 2019), particularly in the context of SMEs (Clausen & Korneliussen, 2012; Kreiser, Marino, Kuratko, & Weaver, 2013; Lechner & Gudmundsson, 2014). Although most of this work documents that EO as an essential strategic posture that facilitates firms' innovativeness, there has not been much empirical work explicitly analyzing whether EO also facilitates speed to market. In fact, we know of just two studies explicitly dealing with this relationship, and results are not conclusive. Clausen and Korneliussen (2012) found that, in the context of incubator firms in Norway, EO was positively associated to speed to market. In contrast, Shan et al. (2016) found that the magnitude and direction of this relationship was different for each component of EO. While innovativeness and autonomy were positively associated to speed to market, risk-taking decreased it. These findings suggest that the EO-innovation relationship may be more complex that can be accounted for by a simple linear relationship, and that a more nuanced conceptual understanding is needed. Departing from there, we contend that there are reasons to expect that both entrepreneurial and conservative firms can display greater levels of speed to market.

Entrepreneurial firms are characterized by a tendency to experiment, take risks, promote new ideas and depart from established practices (Dess & Lumpkin, 2005). This strategic posture will set the ground for developing the capacity to quickly develop and launch new products to the market. Entrepreneurial firms strategically pursue high risk–high reward innovation strategies with the goal of competing aggressively to gain competitive advantage (Baker et al., 2016). Furthermore, they are better at scanning the environment to anticipate future market demands (Pérez-Luño, Wiklund, & Cabrera, 2011; Tang, Kacmar, & Busenitz, 2012), and are used to deal with the risks associated to market uncertainty, making it work to their own benefit (Hitt, Ireland, Camp, & Sexton, 2001). As entrepreneurial firms are able to incorporate essential market information in their NPD programs, this can lead to clearer objectives and a greater speed in new product development (Mehrabi et al., 2019; Moreno-Moya & Munuera-Aleman, 2016). Finally, a corporate culture that tolerates failure, and an organizational structure that support cross-functional teams facilitates the quick development of new products and technologies (Ireland, Covin, & Kuratko, 2009; Parry, Song, de Weerd-Nederhof, & Visscher, 2009; Shan et al., 2016) and the adaptation of products to multiple foreign markets faster than competitors (Dai, Maksimov, Gilbert, & Fernhaber, 2014). All these arguments lead to the conclusion that highly entrepreneurial firms will display greater levels that speed to market.

It is unrealistic, however, to believe that most firms can develop the capabilities to build up and sustain a highly entrepreneurial organization. In particular, firms with limited resources (such as SMEs), often find very challenging to grow and adopt the high-risk, failure-tolerance culture that is characteristic of entrepreneurial firms (Baker et al., 2016; Chandy & Tellis, 2000). Instead, many firms follow the technology-based and market-based innovations of competitors, once proven viable, rather than pursuing high risk–high reward strategies (Matsuno, Mentzer, & Özsomer, 2002). These conservative firms, also known as 'reactors', 'stagnating firms' or 'adapters' (Miller & Friesen, 1982), prioritize innovation projects that they can realistically manage and control and thus, meet market expectancies on time (Tajeddini & Mueller, 2012). Conservative firms often rely on standardized processes to speed up their innovation processes, minimizing customization costs (Choi, Lévesque, & Shepherd, 2008) and thus, the timing of new product development (Dröge, Jayaram, & Vickery, 2000). Furthermore, empirical evidence suggests that exploiting already existing systems, processes and routines in an innovation process (Thoumrungroje & Racela, 2013) leads to fewer developmental errors and shorter waiting times to first product shipment (Schoonhoven, Eisenhardt, & Lyman, 1990; Thoumrungroje & Racela, 2013), and a more efficient adaptation to the requirements of new markets (Gassmann & Keupp, 2007).

Taken together, these arguments suggest that both EO strategic postures (represented by conservative and entrepreneurial firms) may facilitate greater speed to market, though its underlying mechanisms differ. Instead, at intermediate levels of EO, NPD cycles will tend to be slower, hence displaying lower levels of speed to market. Thus, we hypothesize:

Hypothesis 1. The relationship between firms' entrepreneurial orientation and speed to market is U-shaped, such that speed to market will be highest for firms with either high or low levels of EO, and lowest for those with moderate levels of EO.

2.2. The moderating role of firms' ambidexterity

Ambidexterity refers to a firms' ability to engage in both exploratory and exploitative innovation (Jansen et al., 2008), allowing them to obtain competitive advantage through revolutionary and evolutionary change (Tushman & O'Reilly III, 1996). Within the innovation context, ambidextrous firms can simultaneously combine exploratory and exploitative innovation. For instance, high ambidextrous organizations are able to achieve breakthrough innovation while also making steady improvement to an existing business (O'Reilly & Tushman, 2004; Strese, Meuer, Flatten, & Brettel, 2016). Developing ambidextrous capabilities is particularly useful in the context of SMEs, where the decisions regarding how and where allocate resources is critical for organizational survival (Lubatkin, Simsek, Ling, & Veiga, 2006).

In this study we suggest that ambidexterity plays a critical role in the EO-speed to market relationship, as it complements many of the benefits associated with having either low or high EO while reducing its potential drawbacks. Put it differently, we expect that the previously suggested curvilinearity between EO and speed to market will be more accentuated as firms' ambidexterity increases. This perspective is consistent with prior research acknowledging that the influence of EO over innovation-related outcomes can vary based on the alignment of this firm strategic posture with various situational factors in an effort to achieve strategic fit (e.g.: Schepers et al., 2014; Shirokova, Bogatyreva, Beliaeva, & Puffer, 2016; Wales, 2016). Achieving fit between the strategy posture and the requirement of the milieu in which a firm operates is crucial to enhance the speed to which new products are introduced into the market (Mehrabi et al., 2019).

As previously stressed, highly entrepreneurial firms display a strategic orientation towards three core dimensions: innovativeness, proactiveness and risk-taking. (Dess & Lumpkin, 2005). Although these three characteristics signal that the firm is placed in a position that facilitates speed to market, the adoption of a high EO orientation alone is not a guarantee for success (Covin & Wales, 2019). The highly exploratory nature of entrepreneurial firms may underestimate the risks and costs of failure (Assink, 2006), which may eventually erode firms' speed to market. In such a setting, ambidexterity offers the necessary strategy fit and control stimulated by exploitation to counterbalance the highly explorative nature of high EO firms (Huang, Pickernell, Battisti, Soetanto, & Huang, 2020). Moreover, entrepreneurial firms may fall into a 'failure trap', where 'failure leads to search and change which leads to failure which leads to more search, and so on' (Levinthal & March, 1993, p. 105). As ambidexterity facilitates learning from failure (Brix, 2019), we expect ambidextrous firms to be better at avoiding the potential 'failure trap' associated to an entrepreneurial strategic posture. Put it differently, the strategic fit between the explorative nature that characterize entrepreneurial firms and the capacity to exploit already existing systems, processes and routines offered by ambidexterity (Jansen et al., 2008; O'Cass, Heirati, & Ngo, 2014) will place entrepreneurial firms in an optimal position to enhance speed to market.

Additionally, we also expect ambidexterity to play an important role

for firms adopting a conservative strategic posture. This posture prioritizes the exploitation of existing knowledge and practices (Choi et al., 2008; Thoumrungroje & Racela, 2013). As previously argued, this exploitation-based strategy constitutes an alternative route to achieve high speed to market. This is often attained by performing minimum customization to existing products or by exploiting standardized, competitively priced products (Dai et al., 2014). The potential drawbacks of a conservative strategic posture are mostly associated to falling onto a 'success trap' (Levinthal & March, 1993). As firms develop greater competence in a given domain, they overemphasize exploitation efforts at the expenses of exploration investments (Walrave, van Oorschot, & Romme, 2011), which in the long run, may cause learning deficits (Baker et al., 2016) and thus, erode the firms' speed to market. In this setting, ambidexterity is crucial to reduce structural inertia and to preserve a certain degree of exploration within the firm (Gibson & Birkinshaw, 2004; Tuan, 2016). This can be achieved through different means. For instance, by creating separate organizational structures, where the core business units aligns with the existing products and markets; and the R&D department develop new technologies and keep track of emerging industry trends (Birkinshaw & Gibson, 2004). Thus, we suggest that the explorative characteristics of ambidexterity will complement the exploitative nature of conservative firms, thus helping conservative firms to avoid the 'success trap' associated to this strategic posture.

Taken together, the above arguments suggest that ambidexterity will strengthen the U-shaped relationship between EO and speed to market, particularly at both low and high levels of EO. Therefore, we posit the following hypothesis:

Hypothesis 2. Ambidexterity enhances the U-shaped relationship between entrepreneurial orientation and speed to market. Specifically, the U-shape becomes more accentuated for firms with higher levels of ambidexterity, as compared to firms with lower levels of ambidexterity.

3. Data and methods

3.1. Research setting

To test our hypotheses, we collected data from Spanish manufacturing SMEs. The importance of SMEs for the Spanish economy is critical. According to the Ministry of Industry, Commerce and Tourism of Spain, in 2019, SMEs accounted for the 99.8% of the business, and generated around 65.9% of the jobs. This makes the Spanish Economy as one of the most dependent of SMEs in Europe (MINCOTUR, 2020). Within the current context of increasing globalization and digitization, SMEs face several challenges to remain competitive, mainly due to their limited access to resources and low international activity, which may hinder their competitiveness at a global scale (Arzubiaga et al., 2018). Enhancing EO seems to be a beneficial strategy to enhance SMEs' flexibility and market adaptation speed (Liu, Ko, Ngugi, & Takeda, 2017), two key components to enhance global competitiveness. Therefore, we think that deepening onto this relationship is particularly appealing in the context of Spanish SMEs, where research exploring the connection between EO and innovation-related outcomes is rather limited.

The characteristics of the competitive environment may affect the degree of technological intensity, and hence, the amount of attention that firms pay to NPD (OECD, 2018). to implicitly account for the degree of technological intensity in our analyses, we decided to focus our study into four different industries with substantially differ in their degree of technological intensity: biotechnology, ceramic tiles, toys and footwear. Furthermore, as different technology profiles are represented in our sample, the generalization power of our findings is enhanced.

3.2. Research sample

We employed public directories to identify our target population: 1217 SMEs from biotechnology, ceramic tiles, toys and footwear industries. To motivate their participation, we offered them a personalized report summarizing the main results of the study. Following prior studies (e.g.: Karami & Tang, 2019) we assumed that this could be an interesting incentive for SMEs to participate, as they could benchmark themselves with the average numbers of their industry. We hired a specialized company to carry out computer-assisted personal interviews from December 2014 to April 2015, obtaining data from 417 companies. Due to missing values for some of the questions, the number of usable responses for this study was 384. This yields a response rate of 31.6%. Table 1 shows the sample structure. All of them are SMEs and none is a listed company. Our sample represents around 47% of the ceramic industry (ASCER, 2014), 20% of the population of the biotechnology industry (ASEBIO 2014), 38% of the toy industry (AEFJ, 2014) and 33% of the footwear industry (FICE 2016) in Spain. Both the number of responses and the response rates (31.6%) of the target population are satisfactory (Spector 1992). To ensure that our study is not affected by non-respondent bias, we compared our sample with the population of each industry in terms of revenues and sales. The results of the analysis revealed no significant differences between the groups.

Social desirability bias was reduced by informing respondents that their answers would be kept fully confidential and that the data was being collected and managed by a specialized company (Krumpal, 2013). Furthermore, common method bias (CMB) is a potential concern as we employed a single-method research design (Podsakoff & Organ, 1986). To minimize this effect, we employed several theoretical and empirical strategies (Podsakoff, MacKenzie, & Podsakoff, 2012). First, our questionnaire was split in two parts that were sent out separately to two different respondents. Following prior literature, CEO responses were used to capture firms' EO. The second respondent was the R&D manager or similar, who answered all items related to speed to market and ambidexterity. The use of multiple sources to provide information for the measures of the variables reduces CMB, as it decreases respondents' tendency to provide consistent responses across all survey items (Jakobsen & Jensen, 2015). Second, we performed a Harman's single-factor test on all survey items employed in the analysis (Podsakoff & Organ, 1986). The first factor accounted for 24.13% of the total variance, indicating that no single factor explains most of the variance. Third, prior research suggests that empirical models employing interaction effects -such as our model – mitigate the risks of suffering from CMB (Evans, 1985). Although these analyses do not fully ensure that CMB threats are fully removed, taking them together leads us to believe that it does not represent a major concern for the interpretation of our findings.

3.3. Variables

The different measurement items employed in this study were predominantly drawn from earlier studies. The constructs were measured using seven-point Likert scales (see Appendix A). To ensure content validity, we selected existing scales. To make sure that our constructs do not suffer from face validity problems, we pretested the questionnaire among four practitioners for each of the industries and three academic experts. Their comments allowed us to ensure that the items of the study

Table 1
Research sample.

Sectors	Micro firms (<10 emp.)	Small firms (10–49 emp.)	Medium-sized firms (50–249 emp.)	Total
Biotechnology	35	31	21	87
Ceramic	13	39	58	110
Footwear	58	52	8	118
Toy	40	20	9	69
Total	146	142	96	384

Notes: n = 384. Our conceptualization of SMEs refers to companies with less than 250 employees.

were accurate and unambiguous for the context analyzed.

3.3.1. Dependent variable: speed to market

Speed to market refers to the extent to which an organization introduces new products faster than the industry average. To capture this variable, we employed the scale developed by Lynn, Skov, & Abel (1999). The scale is composed by four items (e.g.: *"products are normally launched on or ahead the original schedule"*), that were assessed on a 7-point Likert scale. Prior studies have also employed very similar constructs to assess firms' speed to market (e.g. Clausen & Korneliussen, 2012; Kessler & Chakrabarti, 1996; Shan et al., 2016).

3.3.2. Independent variables

3.3.2.1. Entrepreneurial orientation. To measure firms' strategic posture regarding its entrepreneurial orientation, we used the 9-item scale adapted from Covin and Slevin (1986) and validated in a number of prior studies (Fernández-Mesa & Alegre, 2015; Lee, Howe, & Kreiser, 2019; Mehrabi et al., 2019). Following Rauch et al. (2009), each dimension of EO is the mean score of its underlying items, and EO is the mean score of its three dimensions (proactiveness, innovativeness; risk-taking).

3.3.2.2. Ambidexterity. We considered ambidexterity as a second order construct formed by two dimensions: exploration and exploitation innovation. Explorative innovation is a scale formed by six items that captures how firms apply existing knowledge to develop radical innovations (Jansen et al., 2008). The innovation can be on products or services that are completely new to the organization and that can represent opportunities in new markets. Exploitative innovation is a scale composed by six items scale that captures firms' orientation to apply existing knowledge to introduce small adaptation on the products and services offered to the market. Both measurement scales were adapted from Jansen, Van Den Bosch, and Volberda (2006) and have been used in previous studies (Fernández-Mesa & Alegre, 2015; Jansen et al., 2008). To compute the variable *ambidexterity*, we averaged the scores of exploitative innovation and explorative innovation.

3.3.3. Control variables

We controlled for several aspects that may influence speed to market. First, firms' speed to market may be partly dependent on the industry where each firm is competing. To control for this, we included four dummies to indicate the industry of each company: *Ceramic*, *Footwear*, *Toys* and *Biotech*. Each variable takes the value 1 if the correspondent firm belongs to that industry, zero otherwise. As all firms in our sample are SMEs, they are relatively homogeneous in terms of size. Nevertheless, larger SMEs may have more resources and/or capabilities to speed up their NPD projects. Thus, we controlled for firm size. To do so, we added a set of dummy variables controlling for each firm' number of employees: "*Less than 10*", "*10 to 49*", "*50 to 99*" "*100 to 149*" and "*150 to 250*". To account for the financial strength of each company, we added a set of dummies reflecting the level of revenues (Millions of EUR): "*Less than 5*", "*5 to 15*", "*16 to 25*", "*26 to 35*", "*36 to 45*" and "*more than 45*". The technological capabilities of firms were also accounted with five dummies that reflect the rate of R&D expenditure over yearly sales: *"Less than 1%"*, *"1% to 3%"*,*"4% to 6%"*, *"7% to 10%"*, *"more than 10%"*. Furthermore, speed to market can be also dependent on the strategic importance that each firm attributes to new product launching for their financial results. To account for this, firms were asked to report the estimated percentage of sales coming from new products (launched to the market <3 years ago), over total sales. Respondents could choose among five options, that we treated as dummies: *"Less than 5%"*, *"5% to 10%"*,*"11% to 25%"*, *"26% to 50%"*, and *"more than 50%"*.

3.3.4. Estimation method

Our dependent variable, *speed to market*, is continuous and computed as the average of four items, taking values ranging from 1 to 7. Due to the continuous nature of the variable, we employed a linear regression.

4. Results

Table 2 presents the means and standard deviations all variables, as well as its pairwise correlations. The psychometric properties of the measurement scales were assessed following previous studies (Ferreras-Méndez, Fernandez-Mesa, & Alegre, 2016; Gatignon, Tushman, Smith, & Anderson, 2002) and included content validity, reliability, discriminant validity, convergent validity, and scale dimensionality (See Tables B1 and B2).These assessments were satisfactory for all measurement scales. The AVE of all items was above the accepted level of 0.5 which ensure the convergent validity, and the internal consistency was satisfactory as the composite reliability of all scales is above the threshold of 0.7 (Hair, Ringle, & Sarstedt, 2013).

For assessing discriminant validity, we used Fornell-Lacker, cross loading and heterotrait-monotrait ratio (Henseler, Ringle, & Sarstedt, 2015). In relation to Fornell-Lacker criterion, results show that the AVE of each latent variable is greater than the latent variable's highest squared correlation with any other latent variable of the model, so this criterion is fulfilled. Furthermore, the cross-loading access whether the loading of each indicator is greater than all its cross-loading (Chin, 2010; Henseler, Ringle, & Sinkovics, 2009). Moreover, all indicators have higher correlation with their respective latent variables and not with other latent variables of the model which ensure the appropriateness of the measurement model (See Appendix B). Finally, the heterotrait-monotrait ratio (HTMT) of the correlations, represent the average of the heterotrait-heteromethod correlations (i.e., the correlations of indicators across constructs measuring different phenomena), relative to the average of the monotrait-heteromethod correlations (i.e., the correlations of indicators within the same construct) (Henseler et al., 2015). As the HTMT ratio between the latent constructs in the model is lower than 0.70 (See Table B3), we can confirm discriminant validity.

In Table 3 we present the main results, with *speed to market* as the dependent variable. Model 1 is the baseline model and includes only the control variables. Models 2 and 3 respectively add *Entrepreneurial Orientation* and its squared term. We then add the moderating variable *Ambidexterity* (Model 4) and its interaction with the linear and quadratic term of *Entrepreneurial Orientation* (Model 5).

Hypothesis 1 predicts that EO has a U-shaped relationship with speed to market. Model 2 shows that, when the linear term of EO is entered, its coefficient is positive and significant ($b = 0.20$, $p < 0.01$). In Model 3, the linear term turns out to be negative ($b = -0.50$, $p < 0.1$) and the squared term is positive and significant ($b = 0.09$, $p < 0.05$), suggesting the existence of a U-shaped relationship. To ensure the interpretation of our results, we performed the Lind and Mehlum U-shaped test (2010). Results confirm the existence of a U-shaped relationship ($t = 1.74$, $p < 0.05$). The inflection point of the curve occurs when EO takes the value of 2.99, which is well within the range of the variable. Therefore, Hypothesis 1 was confirmed. This curvilinear relationship can be observed in Fig. 1, where we have plotted the average marginal effects across the range of the variable EO.

Hypothesis 2 predicts that ambidexterity moderates the U-shaped relationship between EO and speed to market. We proposed that the U-shaped relationship is more accentuated for firms having higher levels of ambidexterity. Model 4 shows that the coefficient associated to ambidexterity is positive and significant ($b = 0.28, p < 0.001$). In Model 5, the interaction between the linear term of EO and ambidexterity is negative and significant ($b = -0.47, p < 0.05$), while the interaction between the squared term of EO and ambidexterity is positive and significant ($b = 0.07$, $p < 0.01$). To obtain a more accurate interpretation of our coefficients, we plotted our results over the range of the variable EO (Fig. 2), while keeping all other covariates at their means and defining

Table 2
Means, standard deviations and correlations.

	Variable	Mean	SD	1	2	3	4	5	6	7
1	Speed to market	4.86	1.15	–						
2	EO	4.34	1.23	0.23*	–					
3	Ambidexterity	5.02	1.05	0.36*	0.50*	–				
4	Industry (4)	2.3	1.07	−0.21*	−0.13*	−0.15*	–			
5	Size (5)	1.96	0.98	0.17*	0.32*	0.20*	−0.29*	–		
6	Revenues (6)	1.77	1.19	0.21*	0.31*	0.19*	−0.35*	0.70*	–	
7	R&D (5)	2.39	1.36	−0.06	0.36*	0.15*	0.06	0.27*	0.22*	–
8	New products (5)	3.1	1.6	0.25*	0.48*	0.31*	−0.17*	0.39*	0.37*	0.33*

Notes: *$p < 0.05$. SD: standard deviation; EO: entrepreneurial orientation.

Table 3
Main results (ols regression).

	Model 1		Model 2		Model 3		Model 4		Model 5	
	coef.	SE	coef.	SE	coef.	SE	coef.	SE	coef.	SE
EO			0.20***	(0.05)	−0.50*	(0.28)	−0.68**	(0.27)	1.83*	(0.95)
EO_sqr					0.09**	(0.03)	0.09***	(0.03)	−0.29**	(0.13)
Ambidexterity							0.28***	(0.06)	0.87**	(0.37)
EO*Ambidexterity									−0.47**	(0.20)
EO_sqr*Ambidexterity									0.07***	(0.03)
Ind = Footwear	0.68***	(0.18)	0.78***	(0.18)	0.81***	(0.18)	0.74***	(0.17)	0.76***	(0.17)
Ind = Toys	−0.10	(0.19)	−0.14	(0.19)	−0.11	(0.18)	−0.03	(0.18)	−0.01	(0.18)
Ind = Biotech	0.07	(0.19)	0.14	(0.19)	0.14	(0.19)	0.14	(0.18)	0.17	(0.18)
Size = 10–49	0.13	(0.14)	0.10	(0.14)	0.09	(0.14)	0.06	(0.13)	0.07	(0.13)
Size = 50–99	−0.27	(0.22)	−0.24	(0.22)	−0.26	(0.22)	−0.21	(0.21)	−0.17	(0.21)
Size = 100–149	−0.30	(0.35)	−0.32	(0.34)	−0.36	(0.34)	−0.36	(0.33)	−0.35	(0.33)
Size = 150–250	−0.22	(0.49)	−0.16	(0.48)	−0.19	(0.48)	−0.24	(0.47)	−0.25	(0.46)
Reven = 5–15	0.43**	(0.17)	0.35**	(0.17)	0.34**	(0.17)	0.36**	(0.16)	0.34**	(0.16)
Reven = 16–25	0.79***	(0.25)	0.73***	(0.25)	0.71***	(0.25)	0.65***	(0.24)	0.59**	(0.24)
Reven = 26–35	0.94***	(0.34)	0.81**	(0.33)	0.73**	(0.33)	0.69**	(0.32)	0.61*	(0.32)
Reven = 36–45	0.24	(0.51)	0.14	(0.50)	0.08	(0.50)	0.22	(0.48)	0.33	(0.48)
Reven≥ 45	1.15**	(0.48)	1.16**	(0.47)	1.19**	(0.47)	1.14**	(0.45)	1.10**	(0.45)
R&D = 1–3	−0.04	(0.15)	−0.09	(0.15)	−0.05	(0.15)	−0.07	(0.15)	−0.07	(0.15)
R&D = 4–6	0.15	(0.19)	0.07	(0.19)	0.12	(0.19)	0.14	(0.18)	0.17	(0.18)
R&D = 7–10	0.03	(0.25)	−0.06	(0.24)	−0.01	(0.24)	0.02	(0.24)	0.04	(0.23)
R&D≥ 10	−0.24	(0.22)	−0.35	(0.21)	−0.33	(0.21)	−0.37*	(0.21)	−0.35*	(0.21)
New Prod = 5–10	0.11	(0.19)	0.05	(0.19)	0.09	(0.19)	−0.05	(0.19)	−0.05	(0.18)
New Prod = 11–25	0.37*	(0.20)	0.25	(0.20)	0.30	(0.20)	0.15	(0.20)	0.15	(0.20)
New Prod = 26–50	0.42**	(0.20)	0.27	(0.20)	0.33*	(0.20)	0.17	(0.20)	0.17	(0.19)
New Prod≥ 50	0.66***	(0.18)	0.47**	(0.18)	0.51***	(0.18)	0.42**	(0.18)	0.46***	(0.18)
Constant	4.11***	(0.19)	3.39***	(0.27)	4.64***	(0.56)	3.97***	(0.56)	0.69	(1.62)
N	384		384		384		384		384	
R2	0.178		0.209		0.223		0.267		0.288	
Degrees of freedom	20		21		22		23		25	
F-value	3.942		4.549		4.709		5.696		5.787	

Notes: *$p < 0.1$; **$p < 0.05$; ***$p < 0.01''$.

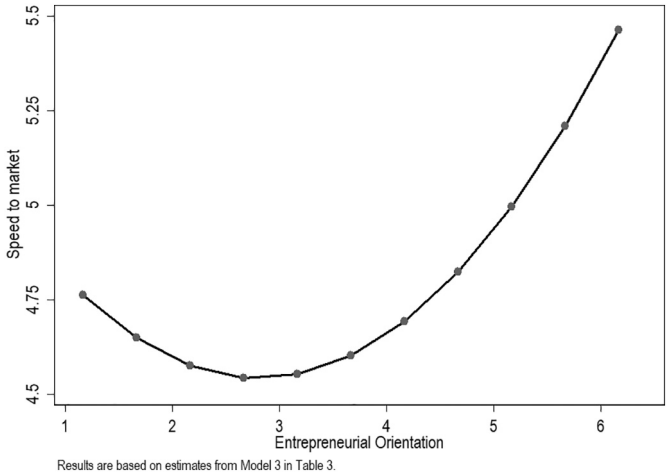

Fig. 1. Entrepreneurial orientation and speed to market.

five different levels of ambidexterity.[2] In line with our predictions, the U-shaped relationship between EO and speed to market is very accentuated for SMEs having higher values of ambidexterity. This contrasts with the shape observed for firms having low values of ambidexterity, where the U-shaped relationship disappears. This lends confirmation for our Hypothesis 2.

4.1. Robustness checks

To confirm the validity of our results, we conducted several additional analyses. First, to further confirm the existence of the U-shaped relationship between EO and Speed to market, we tested for the existence of a sigmoid function (S-shaped) among the two variables by including the cubed term of EO in our main regression (Wadhwa, Bodas Freitas, & Sarkar, 2017). Results (available upon request) show that the cubed term is not significant, and that the improvement of the overall

[2] We defined the five levels of ambidexterity as follows: Average+2SD, Average+1SD, Average, Average -1SD, Average -2SD (Aiken and West, 1991).

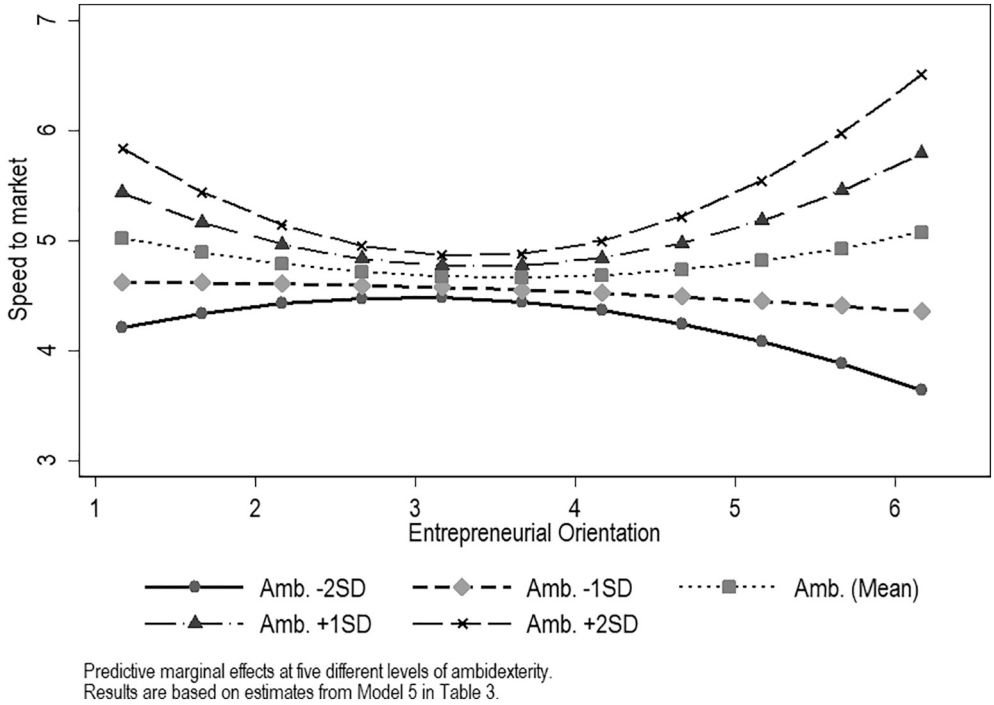

Fig. 2. The moderating role of ambidexterity

model fit (adjusted R^2) is not significant neither when compared to our main model. This indicates that the U-shaped fits the data better than the S-shaped relationship (Haans, Pieters, & He, 2016).

Furthermore, we aimed to test whether our results are sensitive to different forms to compute our moderating variable (*Ambidexterity*). In doing so, we run the main results by employing two alternative forms to compute ambidexterity. Instead of averaging the values of *Exploration* and *Exploitation*, we consider *Ambidexterity* as the result of the multiplication between exploration and exploitation. The results indicate that the interaction term between *Ambidexterity* and *EO* remains positive and significant, thus confirming the moderating effect. Previous studies have also assessed *Ambidexterity* as the sum of *Exploration* and *Exploitation* (Tuan, 2016). Thus, we replicated our results employing the "additive" model of *Ambidexterity*. Results are very similar to the ones obtained with our main indicator of *Ambidexterity*. Both results are available upon request. Furthermore, we employed an additional estimation technique. Instead of using an OLS model, we replicated results with a Tobit model, employed when the dependent variable is bounded and continuous. Since our dependent variable can range from 1 to 7, we set the lower and upper bounds accordingly for the Tobit regression. All results are consistent in sign and significance, with the OLS model.

5. Discussion

The findings of this study offer important insights into EO-speed to market relationship in SMEs, responding to recent calls for more detailed research on this relationship (Shan et al., 2016) and the role of organizational contingencies (Wales, Wiklund, & McKelvie, 2015). Consistent with prior findings (Clausen & Korneliussen, 2012; Shan et al., 2016), we observe that EO matters to explain speed to market. However, while earlier research has generally found this relationship to be positive and linear (Clausen & Korneliussen, 2012) or delimited to some components of the EO (e.g.: Shan et al., 2016), we show that this relationship is more complex in nature. Following a curvilinear relationship approach (Ferreras-Méndez et al., 2016; Laursen & Salter, 2014), we show that firms display higher speed to market when they are located at the extremes of the EO continuum. We also show that this U-shaped relationship is accentuated when firms display a greater capacity to successfully combine exploitative and explorative processes. That is, for both conservative and entrepreneurial firms, ambidexterity reinforces the positive connection between EO and speed to market. Our hypotheses received empirical support from a sample of 385 Spanish manufacturing SMEs.

5.1. Theoretical contributions

By deepening into the EO-speed to market relationship and integrating the role of ambidexterity as a contingent factor, this research offers several contributions. First, it provides a more fine-grained understanding on the role of EO as an antecedent of speed to market in SMEs. Earlier studies highlighted that firms' EO can influence innovation performance and speed to market (e.g.: Clausen & Korneliussen, 2012; Moreno-Moya & Munuera-Aleman, 2016), but this literature generally suggests that the more, the better. Building on the idea that EO is not universally beneficial (Morgan, Anokhin, Kretinin, & Frishammar, 2015; Wales, 2016), particularly in resource-constrained firms (Kreiser et al., 2013), we offer a more nuanced perspective by explicitly acknowledging that, in the context of SMEs, firms can adopt two fundamentally different strategic postures to enhance their speed to market. On the one side, entrepreneurial firms, thanks to their exploratory and risky approach to NPD, can launch their products ahead of the competition, thus achieving higher levels of speed to market (Moreno-Moya & Munuera-Aleman, 2016). On the other side, low EO firms can opt to achieve speed to market through a diametrically opposed strategy: the exploitation of existing knowledge and practices. Low EO reflects that the firm strategy is focused on prioritizing risk-averse and conservative projects. For those firms, NPD projects tend to be faster, cheaper, and less risky and hence, they might exhibit high speed to market. These arguments are in line with previous research that found a trade-off between NPD innovativeness and development speed (Langerak et al., 2008; Lin, Tu, Chen, & Huang, 2013).

Our second contribution aligns with research showing that the influence of EO is subject to contextual attributes (Wales et al., 2015). Specifically, we develop arguments to justify that ambidexterity

counterbalances the potential risks associated to both EO strategic postures. We suggest that the enhancing role of ambidexterity on the EO – speed to market relation is twofold. For conservative SMEs, exploiting the short-term benefits of existing knowledge and resources can lead to speed to market, but also increases the risks associated to falling onto a "success trap" (Junni et al., 2013; Levinthal & March, 1993). To counterbalance this risk, we argue that the ambidexterity is essential. Here, the explorative capabilities developed by ambidextrous firms will complement the conservative strategic posture of firms with low EO, thus reinforcing its speed to market. Concerning entrepreneurial firms, explorative projects can lead to innovation speed, but also to developmental errors (Harter et al., 2000), prompting firms to fall onto a 'failure trap' (Levinthal & March, 1993). We found that ambidexterity is also crucial to minimize these risks and thus, strengthening the EO – speed to market relationship. These findings align with Clausen and Korneliussen (2012), who found that radical innovation can decrease innovation speed, as the learning process is lengthier. Our results suggest that this may not be the case for ambidextrous firms.

Our findings have important implications for research on organizational ambidexterity. While previous research has mainly focused on the direct benefits of ambidexterity as an antecedent of radical and incremental innovation (He & Wong, 2004; Lennerts, Schulze, & Tomczak, 2020), our results contribute to revealing that it also provides a contextual advantage, as ambidextrous firms are better positioned to translate the potential benefits of EO in greater speed to market.

5.2. Managerial implications

This study points to relevant managerial implications. First, we confirm that, for SMEs, deploying an entrepreneurial strategic posture is an important avenue to reduce NPD time and hence, to enhance speed to market. EO can be promoted in the organization through several means (Covin & Slevin, 1989). Therefore, our results suggest that decision makers in SMEs should invest time and resources in promoting an entrepreneurial mindset inside the firm' boundaries if their strategic objective is to reap first-mover advantage benefits.

Moreover, our findings reveal the existence of two distinctive entrepreneurial strategies for SMEs when it comes to enhancing speed to market. The upper bound of the EO-speed to market curve indicates that conservative firms can achieve high levels of speed to market by exploiting existing knowledge and resources. In the opposite side, opting for an entrepreneurial strategy also brings an opportunity to increase speed to market through knowledge exploration strategies. This confirms that intermediate EO strategies might be uninteresting (Arzubiaga et al., 2018; Gupta & Batra, 2016), and that the adoption of EO strategies in SMEs cannot be halfway. If an SMEs opt of developing an entrepreneurial strategic posture, its returns in terms of speed to market will appear once the company has surpassed a certain threshold. Therefore, managers should consider EO as a sustained strategic option and persevere in its long-run application if they aim to benefit from high speed to market. This implies a sustained commitment in terms of resources and managerial interventions to ingrain EO as a fundamental aspect of the overall firm strategy.

An additional relevant implication for SMEs' decision makers relates to the interplay of ambidexterity in the connection between EO and speed to market. We found that ambidexterity pays off for both conservative and entrepreneurial firms, as it boosts the returns of EO for speed to market. Therefore, our recommendation for managers that want to pilot successful innovative SMEs would be to formulate and implement a long-term plan to jointly deploy the firm's EO and ambidexterity.

5.3. Limitations and future research

Our study is not without limitations. First, our research design is cross-sectional. This prevented us from studying causal relationships through time. From a strategy-making perspective, future research could examine whether continual managerial efforts to deploy high EO in the company is effectively manifested in reduced NPD time and higher speed to market. A dynamic approach would allow to better understand the situation of those firms that are 'stuck in the middle' with EO: some of them could be in a transition situation on their plan to achieve high EO. Second, our measures are perceptual. Including objective indicators such as actual NPD time would add robustness to our findings. Third, our analyses are performed at the organizational level. Further research could examine the connection between EO and speed to market at the project level. Fourth, empirical results are based on SMEs from a single country, Spain. While we do not expect Spanish SMEs to be significatively different from SMEs from other countries regarding our variables of interests, the generalizability of our results could be further extended by replicating our study on different contexts. Fifth, our sample is restricted to SMEs from four different manufacturing industries: biotechnology, ceramic tiles, toys, and footwear. Further research could extend our findings by analyzing whether our results hold for services' firms or for larger firms. Sixth, following previous research (Acharya et al., 2020; Langerak et al., 2008; Ojha et al., 2020), we assumed that speed to market is a relevant issue for B2C as well as for B2B. However, further research could deepen into potential differences between these types of business in terms of speed to market and its antecedents.

Speed to market is a remarkable variable that managers need to optimize without losing control on new product performance (Kessler & Bierly, 2002; OECD, 2018). Future research is required to better understand the delicate balance between speed to market and risk of losing full control over new product performance. Further still, more research is also needed to connect speed to market with innovation success and firms' competitive advantage (Yun, Lee, & Aoshima, 2019).

Future research could also look at including market orientation effects on speed to market. Market Orientation has recently been connected to EO when explaining innovation (Genc et al., 2019) and could be assumed to linearly accelerate speed to market (Carbonell & Rodríguez-Escudero, 2009; Kim, 2019).

Finally, additional factors such as the Board of Directors' characteristics (Arzubiaga et al., 2018), the firm's market knowledge sourcing (Endres, Helm, & Dowling, 2020) or the use of strategic alliances to carry out NPD projects (Hu, McNamara, & Piaskowska, 2017) could be included in our research model as moderating variables in the relationship between EO and speed to market.

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Appendix A

Entrepreneurial orientation (Covin & Slevin, 1986)

Please circle the numbers in the following scales which best describe the orientation of your business unit. Circle number "1" if the statement on the left-hand side of the scale best describes your reaction to the item. Circle number "7" if the statement on your right-hand side of the scale best describes your reaction to the item. Circle numbers "2" through "6" depending upon your best estimate of an intermediate position.

In general, the top managers of my business unit favor…								
1. A strong emphasis on the marketing of tried and true products or services	1	2	3	4	5	6	7	A strong emphasis on R&D, technological leadership and innovation
How many new lines of products or services has your business unit marketed during the past 3 years?								
2. No new lines of product or services	1	2	3	4	5	6	7	Many new lines of products or services
3. Changes in product or service lines have been mostly of a minor nature	1	2	3	4	5	6	7	Changes in product or service lines have usually been quite dramatic
In dealing with its competitors, my business unit…								
4. Typically responds to actions which competitors initiate	1	2	3	4	5	6	7	Typically initiates actions to which competitors then respond
5. Is very seldom the first business to introduce new products/services, administrative techniques, operating technologies, etc.	1	2	3	4	5	6	7	Is very often the first business to, introduce new products/services, administrative techniques, operating technologies, etc.
6. Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture	1	2	3	4	5	6	7	Typically adopts a very competitive, "undo- the-competitors" posture
In general, the top managers of my business unit have…								
7. A strong proclivity for low risk projects (with normal and certain rates of return)	1	2	3	4	5	6	7	A strong proclivity for high risk projects (with chances of very high returns)
In general, the top managers of my business unit believe that…								
8. Owing to the nature of the environment, it is best to explore it gradually via cautious, incremental behavior	1	2	3	4	5	6	7	Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives
When confronted with decision making situations involving uncertainty, my business unit…								
9. Typically adopts a cautious, "wait-and-see" posture in order to minimize the probability of making costly decisions	1	2	3	4	5	6	7	Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities

Speed to market *(Lynn, Skov and Abel, 1999).*
Please indicate your level of agreement with the following statements about your new product development programs.

1. Top management was very pleased with the time it took us to bring products to the market.
2. Was launched on or ahead of the original schedule.
3. Was completed in less time than was considered normal and customary for our industry.
4. Was developed and launched much faster than the major competitor for a similar product.

Ambidexterity (Jansen et al., 2008).
Please indicate your level of agreement with the following statements about your organization:

1. Our organization accepts demands that go beyond existing products and services.
2. We invent new products and services.
3. We experiment with new products and services in our local market.
4. We commercialize products and services that are completely new to our organization.
5. We frequently utilize new opportunities in new markets.
6. Our organization regularly uses new distribution channels.
7. We frequently refine the provision of existing products and services.
8. We regularly implement small adaptations to existing products and services.
9. We introduce improved, but existing products and services for our local market.
10. We improve our provision's efficiency of products and services.
11. We increase economies of scales in existing markets.
12. Our organization expands services for existing clients.

Note: All items were evaluated on a 7-point Likert scale.

Appendix B

Table B1
Convergent and discriminant validity analysis.

Variables	Composite reliability	Cronbach's alpha	AVE	1	2	3
1. Ambidexterity	–	–	–	1.000		
2. Entrepreneurial Orientation	0.903	0.839	0.756	0.499	0.862	
3. Speed to market	0.807	0.7	0.516	0.381	0.295	0.715

Table B2
Cross loading analysis.

Variables	Ambidexterity	Entrepreneurial orientation	Speed to market
Ambidexterity	1	0.476	0.354
Innovativeness	0.381	0.832	0.228
Proactiveness	0.421	0.872	0.326
Risk taking	0.413	0.856	0.259
SM1	0.248	0.157	0.762
SM2	0.247	0.074	0.738
SM3	0.191	0.021	0.492
SM4	0.298	0.436	0.802

Note: SM1, SM2, SM3 and SM4 are indicators of speed to market.

Table B3
Heterotrait-monotrait ratio.

Variables	1	2
1. Ambidexterity		
2. Entrepreneurial orientation	0.523	
3. Speed to market	0.405	0.307

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