



# The Impact of Strategic Orientations on the Born Globals' Export Performance: An Ambidexterity Approach

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Received: 11 February 2023 / Revised: 29 July 2024 / Accepted: 30 July 2024 /

Published online: 26 August 2024

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## Abstract

According to international entrepreneurship scholars, the success of Born Globals (BGs) depends on their capacity to develop an organizational ambidexterity perspective, i.e. a dual function of simultaneous knowledge exploration and exploitation. In this respect, it has been pointed out that ambidexterity can be associated with the ability to balance the development of different strategic orientations (SOs), namely, entrepreneurial orientation (EO), market orientation (MO), and learning orientation (LO). While several authors have investigated the impact of MO, EO and LO on BGs' performance, the results of such research are often inconsistent. Based on the resource orchestration view, we assume that the combined – rather than the single – contribution of resources and capabilities provided by EO, MO, and LO, ultimately result in a superior export performance. Such an indicator is typically adopted to evaluate international performance, especially for micro and small companies. More specifically, the study aims to verify the significance of dyadic (namely, MO\*EO, EO\*LO, and MO\*LO) and triadic (MO\*EO\* LO) interactions of the SO typologies on BGs' export performance. Moreover, the paper aspires to verify if some of these interactions are more relevant than others. We test our hypotheses on a sample of 100 Italian hi-tech BGs located inside a technological cluster near Rome through a longitudinal analysis. Our findings show that all the investigated interactions positively and significantly impact on the BGs' export performances, independently of the adopted measurement variable. However, a certain type of hierarchy emerges among the different impacts of the investigated interactions among the three SO typologies.

**Keywords** Strategic orientation · Born global companies · Export performance · Ambidexterity approach

## 1 Introduction

Management scholars have devoted increased attention to companies implementing early internationalization strategies and conceptualizations (Baier-Fuentes et al., 2019; Rialp et al., 2005; Romanello & Chiarvesio, 2019). While specific definitions may vary according to export intensity threshold, speed, and global reach (Evers et al., 2019; Knight & Cavusgil, 1996, 2004; Madsen & Servais, 1997; Oviatt & McDougall, 1994), scholars agree that these firms started international activities very early (Hennart, 2014). In this paper, we will refer to them as born globals (BGs) and conceptualize them as “small technology-oriented companies that operate in international markets from the earliest day of their establishment” (Knight & Cavusgil, 1996, p. 11; Cavusgil & Knight, 2015).

Several lines of empirical evidence show how BGs generally operate in high-tech industries (Freixanet & Federo, 2022; Monferrer et al., 2015), and they tend to frequently develop innovations in terms of new products or variants of existing products (Hurley & Tomas, 1998; Wang & Ahmed, 2007). Therefore, BGs' success depends on their capacity to simultaneously develop an organizational ambidexterity perspective, i.e., develop a dual function of knowledge exploration and exploitation (Lin & Si, 2019; O'Reilly & Tushman, 2008; Peng, 2019; Reese, 2019; Tirado et al., 2019). In this respect, it has been pointed out that the ambidexterity behaviour of BGs (Dhanaraj et al., 2004; Taylor & Jack, 2012) can be associated with their ability to balance the development of different strategic orientations (SOs), seen as the set of principles that directly influence a firm's business performance (Autio et al., 2000; Gatignon & Xuereb, 1997; Widjaja & Sugiarto, 2022; Zahra, 2005). Therefore, BGs represent an interesting research target since the role of SOs' typologies has rarely been addressed in this field of study (Ruokonen & Saarenketo, 2009; Zahra, 2005).

Among SOs, three typologies have mainly attracted the attention of scholars, namely, entrepreneurial orientation (EO), market orientation (MO), and learning orientation (LO) (Chen et al., 2020a, b; Widjaja & Sugiarto, 2022). EO provides organizations with a basis for addressing innovative, proactive, and risk-taking decisions and actions (Covin & Slevin, 1989; Karami & Tang, 2019; Rauch et al., 2009; Wales, 2016; Wales et al., 2013). Such behaviour assumes a critical role during the exploration phase, which is aimed at developing new organizational norms and routines (Mom et al., 2007). At the same time, MO – which aligns BGs with their own markets – leads companies to proactive behaviour, supporting both the exploration and exploitation phases (Chen et al., 2020a, b). Finally, LO (Cadogan, 2012; Martens et al., 2016) supports the process of acquiring, distributing, integrating, and creating information and knowledge among organizational members of a specific company or between different organizations (Boso et al., 2012; Huber, 1991). EO, MO and LO are assumed to be distinct firm resources that may have little relevance in terms of a direct effect on BGs' performance (Falahat et al., 2018). However, when such resources are combined, they may become a more valuable predictor of superior results (Barney et al., 2011; Ordanini & Rubera, 2008).

Authors have pointed out that performance is the key and ultimate dependent variable of interest of BGs' scholars (Huang et al., 2021; Jiang et al., 2020; Jones et al., 2011). Among the different performance areas that may be analysed within a

BG, the one regarding exporting activities emerges as extremely relevant since such companies start to sell abroad very early on. In this respect, export performance has been conceptualized and measured in several ways (Papadopoulos & Martín, 2010). In this paper, the construct is defined as “the outcome of a firm’s activities in export markets” (Katsikeas et al., 2000, p. 497, citing; Shoham, 1996). Such a research topic has been heavily investigated in the extant literature, as shown in several literature reviews (Aaby & Slater, 1989; Madsen, 1987; Sousa et al., 2008; Zou & Stan, 1998), independently of the firm’s characteristics. However, the impact of different SOs on firms’ export intensity has been investigated quite rarely. In this respect, Sousa et al. (2008) found that MO has a positive impact on firms’ export intensity in 13% of sampled companies, while the company’s “risk-taking propensity” – which can be assumed to be a proxy of EO – was found in only 4% of analysed cases. However, the different SOs’ typologies have generally been investigated as independent variables, but not in combination. Therefore, following the resource orchestration view, this contribution aims to investigate the combined impact of resources and capabilities provided by EO, MO, and LO on BGs’ export performance. Therefore, first, the significance of three dyadic interactions (namely, MO\*EO, EO\*LO, and MO\*LO) is evaluated, followed by that of the triadic interaction (MO\*EO\* LO).

We test our hypotheses on a sample of 100 Italian hi-tech BGs located inside a technological cluster near Rome, which has been investigated in earlier studies (Presutti & Odorici, 2019; Presutti et al., 2007, 2016). The sample assumes specific relevance because of its multi-industry nature; moreover, embedded firms belong to different high-risk sectors (i.e. the ones in which BGs traditionally operate), such as the computer, electronics (in the strictest sense), telecommunications, and so-called new economy industries. This issue assumes further relevance when it is considered that very few studies have specifically investigated the export performance of service firms (Sousa et al., 2008), which are the large majority (approximately 95%) of our sample. Moreover, the selected technological cluster assumes a special role within the BGs context since its creation was supported – since 1980 – by several local authorities (i.e. Roma Capitale municipality, Chamber of Commerce of Rome Province, Lazio Region) to promote the industrial reconversion of more traditional manufacturing activities located in the area since the 1940s. To support such a reconversion towards information and communication technologies, stronger links to publicly-owned research centres located in the area (e.g., the National Agency for Alternative and Renewable Energy and the Earth Observation Center of the European Space Agency (ENEA) were promoted and supported (Statista Research Department, 2021).

On a more macro level, the study of an Italian sample is of interest since Italian small and micro sized enterprises play a pivotal role in the national economy (European Investment Bank, 2021). There are approximately 4.3 m companies, 95% of which are micro ones (fewer than 10 employees). Moreover, they account for approximately 80% of total national employment and 70% of the Italian added value. Finally, their contribution to exports (40% of the total national sales in foreign markets) is greater than that of other EU countries (around 25% in both France and Germany). Finally, from an academic perspective, it is worth noting that Italy was among the countries in which no previous studies were explicitly conducted to evalu-

ate the determinants of export performance, at least between 1998 and 2005 (Sousa et al., 2008).

In order to shed new light on the impact (if any) of different SOs on the BGs' export performance, we implemented several innovative methodological approaches. The first is regarding the adoption of three different measures of export performance, namely, foreign sales as a percentage of total BG sales (which is a proxy of the BG's international scale), the number of foreign markets served (geographic scope) and finally, the number of foreign customers – which is a relevant feature in the case of BGs operating in B2B markets (Furlan & Grandinetti, 2008). The chosen measures are consistent with those of Jiang et al. (2020), who preferred those related to market share over those related to financial performance when investigating BGs' ability to penetrate foreign markets (Gerschewski et al., 2015; Khan & Lew, 2018). Moreover, adopting three variables related to foreign market penetration allowed us to obtain more robust results. Second, we enrich the empirical analysis by performing a longitudinal analysis, as suggested by Buccieri and Park (2022). At the same time, following the orchestration approach, we assumed BGs implement an ambidexterity approach; therefore, we tested the impact of the three SOs in all possible dyadic and triadic combinations. This approach allowed us to verify which single SO has a more relevant impact, as it is still an open question in the extant literature on export performance (Evers et al., 2019; Hakala, 2011; Wahyuni & Sara, 2020).

The remainder of this paper is structured as follows. In the next section the theoretical background is described, and four hypotheses developed. After this, the methodology adopted is illustrated and the findings obtained are presented and discussed. In the last section, theoretical and managerial implications are summarized, and future research directions developed on the basis of the paper's limitations.

## 2 Literature Review and Hypothesis Development

### 2.1 EO, MO and LO as Firms' Resources

The resource orchestration theory represents an extension of the resource-based theory and combines resources and managerial acumen to realize superior firm performance (Chadwick et al., 2015). Thus, resource orchestration focuses on the combined effects – rather than on the single ones – of resources and capabilities on a company's performance (Haddoud et al., 2018). Within the international business literature, such a theoretical approach has been adopted to investigate combinations of innovation types (conceptualized as a firm's resources) and export performance (Lopez et al., 2022). For the aims of our paper, EO, MO and LO are assumed to be distinct firm resources that may have a limited impact in terms of BGs' performance (Falahat et al., 2018); however, when combined, they may support a firm's superior results (Barney et al., 2011; Ordanini & Rubera, 2008).

More specifically, the ability of a BG to exploit its current resources and explore new opportunities represents the core of organizational learning. Exploitative and exploratory activities (Jansen et al., 2006; March, 1991) can be considered as two kinds of LO (Cadogan, 2012; Martens et al., 2016) that support the process of acquir-

ing, distributing, integrating, and creating information and knowledge among organizational members of the same company or between different organizations (Boso et al., 2012; Huber, 1991). In this specific context, firms either emphasize the exploration LO seeking effectiveness in new business opportunity development or exploit the LO seeking efficiency of more traditional and excellent operations (Andersson & Wictor, 2003; Gupta et al., 2006). At the same time, EO provides organizations with a basis for addressing innovative, proactive, and risk-taking decisions and actions (Covin & Slevin, 1989; Karami & Tang, 2019; Rauch et al., 2009; Wales, 2016; Wales et al., 2013). Therefore, EO leads firms to assume a proactive and risk-taking behaviour, which can be easily associated with the exploration phase that is aimed at developing new organizational norms and routines (Mom et al., 2007) based on recognizing what the company does not know (Hohenthal et al., 2003). In other words, during the exploration phase, companies experiment, discover, and innovate (March, 1991), taking a high level of risk to develop and manage new knowledge they do not own (Eshima & Anderson, 2017).

Finally, MO represents implementing the marketing concept (Kohli & Jaworski, 1990) to align the company with its market (Arpa et al., 2012). More specifically, MO is based on listening to current and future customers' needs and preferences through various sources (Kohli & Jaworski, 1990), monitoring competitors, and developing innovative solutions using an inter-functional approach (Deshpandé & Farley, 1999). Therefore, MO leads companies to display proactive behaviour, supporting the exploration and exploitation phases (Chen et al., 2020a, b). The exploitation phase supports companies in transforming existing knowledge into value for customers (Monferrer et al., 2015; Peng, 2019; Reese, 2019; Tirado et al., 2019), requiring managing implementation activities, refining the acquired knowledge and assuming an efficiency-oriented approach.

## 2.2 The Impact of EO and MO on BGs' Performance

EO and MO are the most investigated strategic dimensions impacting business performance; they are strongly correlated and complement each other, despite their single impact on the international performance of small and medium enterprises (SMEs) (Frishammar & Andersson, 2009; Li et al., 2008; Zahra & Garvis, 2000). EO and MO have rarely been explored in the context of BGs (Deutscher et al., 2016; Ibeh et al., 2018; Madsen et al., 2015). Consequently, conceptual and measurement issues related to understanding MO and EO for BGs require further exploration, as most studies have used the same motivations applied to SMEs (Covin & Miller, 2014; Ripollés & Blesa, 2012). These studies support the importance of combining EO and MO to reinforce the international performance of SMEs abroad, with a few exceptions postulating that high levels of EO may cancel the positive effects of MO (Acosta et al., 2018). In the case of BGs, the common idea is that the adoption of EO is a successful strategy that influences their international success when combined with high levels of MO (Frishammar & Andersson, 2009; Ripollés et al., 2012; Ruokonen & Saarenketo, 2009).

On the one hand, BGs must cope with the risks and uncertainties associated with the foreignness of their target markets without having accumulated the experience

and resources needed for their internationalization process. Thus, the development of high levels of EO could be an effective strategy to reinforce their export performance (Eshima & Anderson, 2017). On the other hand, MO fosters the BGs' EO, helping them to design products that meet the needs and preferences of their target customers and leading to higher customer satisfaction and loyalty (Knight & Liesch, 2016). This combination leads to the development of dynamic organizational capabilities, allowing BGs to swiftly adapt to changing international environments (Andersson & Victor, 2003).

The importance of combining EO and MO to reinforce the BGs' international performance is confirmed in the few specific empirical studies on this particular context of firms (Lau & Bruton, 2011). Boso et al. (2012) reported that the simultaneous presence of high levels of EO and MO enhances the BGs' export performance. At the same time, they point out that the two dimensions of SO, if considered singly, may have downside effects. In effect, an excessive emphasis on EO may induce a company to take too many risks, which, in turn, has negative consequences for its international performance (Monferrer et al., 2012).

Moreover, an excessive focus on innovation can absorb resources for MO and consequently affect BGs' growth (Wiklund & Shepherd, 2005). At the same time, the extreme prominence of MO can create structural inertia, reducing firms' receptivity towards new foreign market opportunities. Therefore, Boso et al. (2012) suggested that EO and MO should be considered as complementary and interdependent. In other words, EO maximizes its benefits only when coupled with MO, since the firm's innovative activities (supported by EO) produce greater performance in foreign markets when the firm's knowledge of markets, customers, and competitors (supported by the MO) is greater. Moreover, MO allows innovative efforts (related to EO) to be more focused in terms of the market segment (Monferrer et al., 2012). Finally, Monferrer et al. (2021) found that EO facilitates the process through which BGs obtain information about customers and competitors in foreign markets. They also found that the interaction between EO and MO positively impacts BGs' international competitive position.

Based on the earlier discussion, we speculate the following hypothesis:

**H1.** BGs adopting an ambidexterity approach characterized by a high level of EO and MO achieve greater export performance.

### 2.3 The Impact of EO and LO on BGs' Performance

There is still little empirical evidence regarding the combined effect of LO and EO on BGs' performance in foreign markets. At a more generic level, studies on SMEs have shown that EO is paramount during the exploration phase and that its interaction with LO is likely to improve export performance (Knight et al., 2020). Therefore, EO can help BGs overcome the liabilities of newness and foreignness by enabling them to differentiate themselves from competitors, adapt to changing market conditions, and leverage their unique resources and capabilities. At the same time, LO is considered one of the key aspects of the entrepreneurial nature of BGs, that increases their com-

mitment to the innovation process; thus, it has often been considered an antecedent of innovation (Calantone et al., 2002; Rindova & Kotha, 2001).

Learning-oriented firms eventually gain a competitive advantage through EO, which contributes to superior long-term performance. In fact, LO involves not only acquiring knowledge from customers and competitors but also encompasses the acquisition, creation, and transfer of knowledge. Additionally, it challenges existing values and norms, leading to the generation of new insights and knowledge that reinforce innovation activities (Herath & Karunaratne, 2017). Thus, LO complements EO in the BG exploration phase, as it reinforces and optimizes the innovative efforts connected to EO towards higher performance levels by enhancing BGs' ability to recognize and exploit new opportunities, especially in dynamic and uncertain environments (Wolff et al., 2015). Moreover, LO is a key aspect of an organizational culture which fosters an environment of experimentation and creativity, both of which are essential for entrepreneurial innovation; it helps the BG to incorporate the innovative environment created by EO that allows firms to carry out operations that are useful for efficiently exploring foreign markets (Jiang et al., 2018).

Finally, high levels of LO encourage the firm's adoption of innovative and proactive behaviour, as connected with high levels of EO, creating the new knowledge required to achieve novel distinctive capabilities. LO and EO could be important measures of how organizations use knowledge-based resources to discover and exploit fresh opportunities (Wiklund & Shepherd, 2003). This lays the foundation for novel entrepreneurial competencies or the revitalization of existing ones (Newman et al., 2019).

At the same time, Baker and Sinkula (2009) claim that EO is a learning construct whose excessive level may be mitigated by the adoption of a profitable LO. Moreover, Daoud et al. (2021), investigating the relationship between the earliness of internationalization and BGs' international performance, found that EO can be considered a type of "distraction" in the case of large and old BGs, which can slow the positive effect of precocity on BGs, in terms of international growth. This means that EO reflects an exploratory learning tension that exposes BGs to high levels of risk, which can become a trade-off between the benefits and costs of being innovative, and performance. Therefore, a more structured learning process, assured by high levels of LO, may reduce the risks connected with high levels of EO.

Based on the earlier discussion, we speculate the following hypothesis:

**H2.** BGs adopting an ambidexterity approach characterized by a high level of EO and LO achieve greater export performance.

## 2.4 The Impact of LO and MO on BGs' Performance

The connection between LO and MO has been deeply analysed. Hurley and Tomas (1998) point out that MO promotes LO since, in order to develop specific knowledge on firms' competitors and customers (MO), it is necessary to elaborate and share information within organizations, i.e., to activate a learning process (LO). The adoption of a certain MO allows the firm to accept and implement a profitable LO (Farrell,

2000). This means that MO acts as a major cultural foundation for learning organizations, so establishing MO inherently implies being a learning-oriented organization (Farrell, 2000). In addition, Liu et al. (2002) suggest that a strong LO should include a strong MO. More specifically, LO will increase market information generation and dissemination (Sinkula et al., 1997; Wadson, 2020).

The LO and MO concepts, either synergically or independently, affect company performance (Baker & Sinkula, 1999). Calantone et al. (2002, p. 517) state that LO improves the possibility of seizing the “opportunities created by emerging market demand because it increases the knowledge and the ability to understand and anticipate customer need”. In addition, Ruokonen and Saarenketo (2009) inductively found that MO combined with LO is a strong indicator of whether rapidly internationalizing small companies can achieve superior performance at the international level. At the same time, Gutiérrez-Villar et al. (2014) postulated that LO mediates the relationship between MO and firms’ performance. In this sense, without strong LO, market-oriented behaviours are less likely to promote a rate of improvement or organizational performance that exceeds that of competitors (Baker & Sinkula, 1999), thus being able to create a sustainable competitive advantage (Ruokonen & Saarenketo, 2009).

Based on the earlier discussion, we speculate the following hypothesis:

**H3.** BGs adopting an ambidexterity approach characterized by a high level of LO and MO achieve greater export performance.

## 2.5 The Combined Impact of EO, MO and LO on BGs’ Performance

The triadic relationship between the three SOs has rarely been addressed in the extant literature with specific reference to companies’ performance at the international level, including export performance (Cadogan et al., 2002; Grinstein, 2008). The extant literature suggests that small market-oriented businesses have a high probability of combining EO and LO (Grinstein, 2008) and that the reciprocal influence between the three SO typologies is not always orthogonal but often results in greater complexity (Gnizy et al., 2014). To date, empirical studies have provided controversial results for international performance (Hakala, 2011). The combination of the three SOs is required to obtain long-term profits (Calantone et al., 2002) and launch endeavours in foreign markets (Gnizy et al., 2014). With regard to the latter, Cake et al. (2020), when analysing the case of radical innovation launch (which is consistent with an EO perspective), found that LO has a direct effect on MO and EO; moreover, LO and MO are critical links to being successful in launching radical innovations.

At the same time, the literature focused on SMEs’ export performance has tended to examine single SOs or, at most, two of them. However, Falahat et al. (2018), specifically analysing BGs, found that multiple SOs facilitate the development of business capabilities and, in so doing, contribute to the speed and scope of internationalization as well as financial and strategic performance.

As anticipated, the relationships between EO, MO and LO and international performance (which also includes the case of export performance) have been disregarded by BG scholars (Knight & Cavusgil, 2004). For instance, the study conducted



by Zhou and Li (2009) which focused on the export performance of Chinese and US BGs, tested only the impact of each single SO on IT capabilities. Among the very few available contributions, the qualitative study of Ruokonen and Saarenketo (2009, p. 32) suggested that strong EO alone does not guarantee success in the international market if it is not combined with strong LO and MO.

Based on the earlier discussion, we speculate the following hypothesis:

**H4.** BGs adopting an ambidexterity approach characterized by a high level of EO, MO and LO achieve greater export performance.

## 2.6 Methodology

### 2.6.1 Research Setting

To test the hypotheses presented above, a sample of high-tech BGs belonging to a cluster near Rome was used, which has been investigated in earlier studies (Presutti & Odorici, 2019; Presutti et al., 2007, 2016). To identify the BGs to be sampled, we applied the following three criteria proposed by Taylor and Jack (2012):

- a) international process implemented no later than the third year after the firm's establishment;
- b) a minimum of 25% foreign share of total sales;
- c) an international presence in a minimum of three foreign countries.

The key informant was the entrepreneur, who was considered to be representative of the entire small firm. This is consistent with Sousa et al. (2008), who noted that "the use of single informants is warranted in export studies when the information being sought is so unique to the export function that there is only one person with access to the appropriate data" (pp. 364–365).

Although BGs' performance has been widely investigated in the extant literature (Huang et al., 2021; Jiang et al., 2020; Jones et al., 2011), few studies (Gabrielsson & Gabrielsson, 2013; Mudambi & Zahra, 2007; Prashantham & Young, 2011; Zahra, 2005) have adopted a longitudinal approach, as recently suggested by Buccieri and Park (2022). Therefore, we collected data in two different periods (February–September 2017 and September 2020) by implementing a survey through structured questionnaires.

Therefore, at the beginning of the data collection period in 2017, we identified 150 firms, 90% of which agreed to participate in the survey, resulting in a total of 135 completed and usable questionnaires. During the second wave of the data collection period (2020), 100 out of the initial 135 companies were still active, and 80 of them agreed to participate in the second wave of the survey. A comparison of the differences in the mean values of the sales and employees (calculated as an average of the last three years) of the responding and non-responding companies did not reveal any significant no-response bias.

In 2017, BGs were, on average, two years old, and they started their internationalization process, on average, 1.5 years after their establishment. At that time, their average ratio of the impact of foreign sales on total sales was 25%. Moreover, they were small in size (the average number of employees was 18). Finally, they served, on average, two foreign markets with three foreign customers on average in each country. Data related to 2020 (Table 1) show a growth in export performance in terms of the foreign sales ratio (28% of total sales against 25% in the previous period), the number of foreign markets (4 vs. 2), the number of foreign customers in each country (5 vs. 3) and the number of new products/services launched each year in foreign markets (3 vs. 2).

In terms of geographical dispersion, while in 2017 the presence in the US markets was quite marginal, it sharply increased in 2020. Correspondingly, between the two waves of data collection, the larger European countries (UK, France, and Spain) reduced their relevance in terms of total foreign revenues.

For data collection, we developed and tested a structured questionnaire based on Likert scales to capture the three investigated SOs. The questionnaire also contained other sections aimed at collecting data on the foreign international process implemented by the BGs (i.e., number of served markets, number of foreign customers, the age of internationalization). To reinforce the efficiency and validity of the data, we also used secondary data, for instance, the percentage of foreign sales to total sales, which was extracted from the annual reports of the sampled BGs.

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

Variable	2017	2020
Age at first internationalization	1.5	4.5
Total sales (thousand euros)	240	320
% of foreign sales to total sales	25%	28%
Number of foreign markets served	2	4
Total employees	18	20
Number of foreign customers	3	5
Entrepreneurs' age	40	43
Number of new products or services launched each year abroad	2	3
Computer firms (of total companies)	30%	30%
Electronics firms (of total companies)	23%	23%
Telecommunication firms (of total companies)	34%	34%
New economy industry (of total companies)	13%	13%
Division of foreign sales among different countries (in percentage of total number):	22%	15%
France	18%	13%
UK	12%	12%
Spain	10%	11%
Belgium	10%	12%
Netherlands	3%	3%
Switzerland	3%	4%
Austria	1%	10%
Eastern Europe	1%	2%
USA		
Other countries		

*N*=80 Firms

## 2.6.2 Variables and Measures

We used standard and validated measurements taken from the extant literature. The items were all measured on a seven-point Likert scale ranging from “1”, indicating strongly disagree, to “7”, indicating strongly agree, if not specified otherwise.

## 2.6.3 Independent Variables

*MO*: We used a composite index (Boso et al., 2013) that includes three dimensions: market intelligence generation, dissemination, and responsiveness. Following Jaworski and Kohli (1993), we used two items to measure market intelligence generation and dissemination and three items to measure market responsiveness.

*EO*: We adopted the scale proposed by Lumpkin and Dess (1996), which includes three dimensions: innovativeness (measured by three items), proactiveness (three items), and risk propensity (two items).

*LO*: We considered four dimensions: commitment to learning, shared vision, open-mindedness, and intraorganizational knowledge sharing. Following Sinkula et al. (1997), we adopted one item for each dimension.

Table 2 shows the selected items used to measure *EO*, *MO* and *LO*.

## 2.6.4 Dependent Variable

Our dependent variable is the export performance of the sampled BGs; more specifically, we considered their growth between 2017 and 2020. Although the large majority of studies analysing export performance have used only one type of performance measurement (Hult et al., 2008), it has been pointed out that the construct is multidimensional (Zou et al., 1998). Therefore, we measured the BGs' export performance by adopting multiple dimensions. More specifically, following Cavusgil and Zou (1994) and Katsikeas et al. (2000), we adopted both economic and non-economic measures. Regarding the former, we adopted the ratio of export sales to total sales (*% foreign sales/total sales*), which is considered useful for describing the scale dimension of export activity (Lu & Beamish, 2001). With respect to non-economic measures, we first selected a variable describing the geographical scope of the sampled BGs, namely, the number of foreign markets (*Number of foreign markets*) the company is selling to (Brush et al., 2002). At the same time, since our sample is based on high-tech companies, following Furlan and Grandinetti (2008), we also measured the number of foreign customer relationships (*Number of foreign customers*). Using this third measure, it is possible to differentiate between firms with customers in just a few foreign countries and those with business customers in many foreign countries (Håkansson & Snehota, 2006).

## 2.6.5 Control Variables

Several authors have pointed out that control variables assume a relevant role in export performance studies (Cadogan et al., 2002; Katsikeas et al., 2000); moreover, Sousa et al. (2008) found that their use has increased in recent decades. Therefore,

**Table 2** Model measurement

Measures	Measurement item	Stan- dardized loading	Cron- bach's alpha
<i>MO</i>	We generate a large amount of information concerning trends in our target markets.	0.52**	0.80***
	We are quick to detect fundamental shifts in our target markets.	0.63***	
	Information that can influence how we serve our customers takes forever to reach relevant personnel.	0.88***	
	Important information about our customers is often “lost in the system.”	0.51***	
	Information about our competitors’ activities often reaches relevant personnel too late to be of any use.	0.55***	
	We quickly respond to important changes in our competitors’ price structures in target markets.	0.49*	
	We rapidly respond to competitive actions that threaten us in our target markets.	0.70**	
<i>EO</i>	Our company is known as an innovator among businesses in our industry.	0.50**	0.84***
	We promote new, innovative products/services in our company.	0.76**	
	Our company provides leadership in developing new products/services.	0.79***	
	The top managers of our company generally invest in high-risk projects.	0.60***	
	This company shows a great deal of tolerance for high-risk projects.	0.61**	
	We seek to exploit anticipated changes in our target market ahead of our rivals.	0.50**	
	We seize initiatives whenever possible in our target market operations.	0.79***	
	We act opportunistically to shape the business environment in which we operate.	0.75***	
<i>LO</i>	Entrepreneurs agree that our organization’s learning ability is the key to our competitive advantage.	0.75**	0.69**
	The basic values of this organization include learning as the key to improvement.	0.65**	
	Learning in my organization is seen as a key commodity necessary to guarantee organizational survival.	0.83**	
	All employees are committed to the goals of this organization.	0.77***	

Goodness-of-fit index (GFI)=0.87, and adjusted goodness-of-fit index (AGFI)=0.79

\* $p < 0.05$ , \*\* $p < 0.01$ , and \*\*\* $p < 0.001$ ;  $n = 80$

we included four control variables. First, the age of the BG (*BGAge*), measured as the number of years since the company’s founding until the end of the data collection period (*log value*). We also included age at first internationalization (*BGAgeInt*), since it may influence a BG’s ability to learn within the customer relationship and influence knowledge acquisition abroad. Following similar studies (e.g., Presutti et al., 2016), we also included the average geographical distance (*GeoDist*) to the foreign countries in which a BG operates. Finally, we controlled for the psychic distance factor (*PsDist*) (Håkanson & Ambos, 2010), following Shenkar’s (2001) methodology.

### 2.6.6 Reliability and Validity

To ensure the data's validity and reliability, we first asked three entrepreneurs to test the survey and review it closely. Second, we used as many measures that were previously validated as possible. Third, we relied on the opinions of the entrepreneurs when there were no perfect proxies of the variables we considered. We used previously validated measures and Harman's one-factor test to overcome common method variance, which verified that common method variance did not cause relationships among our study's variables. Fourth, we used exploratory factor analysis to assess the one-dimensional nature of EO, MO and LO through the principal axis method. This method was confirmed for each measure except for a single factor with an eigenvalue greater than 1.0 in each case. The internal reliability was confirmed with alpha coefficients greater than 0.75. After that, we conducted confirmatory factor analysis through the LISREL system, the results of which are presented in Table 2. Looking at the factor loadings, we could establish the optimal performance of the measurement model with standardized factors greater than the recommended minimum of 0.40. Even a goodness-of-fit index exceeding the value of 0.85 reflects the fit of the measurement models to the data.

## 3 Results

Table 3 shows the zero-order correlations among the variables. The variation inflation analysis allowed us to exclude a multicollinearity distortion problem because the variance inflation factor was below the Allison (1994) cut-off point of 2.5.

Table 4 contains the regression analysis results when we considered the international scale measured in terms of foreign sales as a percentage of total sales as the dependent variable. In Model 1, it is possible to observe regression results with only control variables; in Model 2, we added the independent variables; and in Model 3, we added the interactive effects. The performance was satisfactory, with the last model accounting for approximately 69% of the total variation in foreign sales as a percentage of the total sales of the sampled BGs.

We solved the survivorship bias in the sample following the procedure of Heckman (1979). First, we estimated the parameters of the full sample, in which the dependent variable is whether the firm survived (*Survival of companies*). This binary variable assumes a value of one if the firm survived until 2020 and zero otherwise. Similar to other studies conducted on the same cluster (e.g., D'Angelo & Presutti, 2019), we used the duration of access to local public funding (*Duration of access to local public funding*) between 2017 and 2020 as an exclusion restriction variable. As shown in the correlation matrix, the restriction variable is significantly correlated with the survivor variable but not with the three selected international performance measures. Moreover, for each dimension of international performance, we undertook a robustness check by running the full model, where we included the restriction variable as an independent variable to estimate international performance growth. The results confirm that this variable is independent, reinforcing the decision to use it as a restriction variable.

**Table 3** Correlation coefficients

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. <i>BGAge</i>	1											
2. <i>BGAgeInt</i>	0.55*	1										
3. <i>GeoDist</i>	0.08	0.31	1									
4. <i>PsDist</i>	0.12	0.22	0.23	1								
5. <i>Duration of access to local public funding</i>	0.02	0.11	0.54	0.77	1							
6. <i>Survival of companies</i>	0.14	0.44	0.09	0.21	0.34***	1						
7. <i>LO</i>	0.12	0.28	0.39	0.11	0.34	0.55	1					
8. <i>MO</i>	0.48*	0.51*	0.10	0.34**	0.09	0.14	0.33	1				
9. <i>EO</i>	0.45*	0.70*	0.57**	0.56*	0.70*	0.02	0.44	0.09	1			
10. <i>% foreign sales/total sales</i>	0.22	0.31	0.08	0.15	0.22*	0.89*	0.21*	0.05	0.32	1		
11. <i>Number of foreign markets</i>	0.15	0.66	0.89	0.90	0.33*	0.22*	0.43*	0.21	0.46*	0.18*	1	
12. <i>Number of foreign customers</i>	0.24	0.98	0.43	0.05	0.07*	0.97*	0.99*	0.32	0.44**	0.88**	0.15	1

\* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$ ;  $n = 135$

Focusing on the first dimension of export performance (Table 4), the results of the probit for the three different models show that the likelihood of a firm surviving in 2020 increases with:

- (a) The duration of access to local funding during the period 2017–2020;
- (b) Both the number of years between the founding of the company until the end of the data collection period and the age at the first internationalization (Probit 1);
- (c) High levels of EO, MO and LO and their dyadic or triple interactions (Probits 2, 3).

In the second step, we run our three OLS models where the coefficients of the inverse Mills ratio coefficient ( $\lambda$ ) correction are not significant, implying that survivorship bias is not a problem in the investigated model.

The findings obtained in Model 1 show that two of the adopted control variables (BG age and age at first internationalization) are positive and significant, while neither geographical nor psychic distance is significant. The results obtained by Model 2 show that LO, EO and MO have positive and significant impacts on BG export performance. Finally, the analysis of Model 3 yields significant observations concerning the different suggested interactive effects. First, the combined effects of MO and EO – i.e., the implementation of an ambidexterity strategic approach – have a positive and very significant impact. Therefore, BGs simultaneously characterized by high levels of EO and MO have greater levels of export performance in terms of scale than those with only high levels of either EO or MO. Consequently, Hypothesis 1 is supported. Additionally, Hypothesis 2 is confirmed, as the interaction effect of EO and LO is positive and significant. Finally, Hypothesis 3 is also confirmed, as the interaction effect of LO and MO is positive and significant. Finally, the interaction among all three strategic dimensions results is very significant and positive, confirming Hypothesis 4.

When considering the growth of export performance in terms of the geographic scope (which is measured by the growth of the number of foreign-served markets in Table 5), we followed the same procedure previously adopted for the scope dimension. We obtained the same results as in the previous case, confirming that survivorship bias is not a problem. Moreover, in this case, all four hypotheses were confirmed.

Finally, similar findings were obtained by measuring export performance in terms of the number of foreign customers (Table 6). The overall model performance was always satisfactory. In particular, the variables included in the final model accounted for approximately 55% of the total variation in the number of foreign customers of the sampled BGs.

Additionally, in this case, the results of the probit estimate of the selection equation for the three different selected models verify that the likelihood of a firm surviving in 2020 increases with the same variables selected for the previous dimension of international performance. Moreover, the coefficients of the inverse Mills ratio coefficient ( $\lambda$ ) correction are not significant, implying that survivorship bias is not a problem in the investigated model. In this case, all four hypotheses were confirmed.

To better analyse the suggested interactive effects between the three strategic dimensions, we graphically represented the results following the suggestion of Aiken

**Table 4** Results of the regression: export performance growth in terms of foreign sales as a percentage of total sales (international scale)

	Probit 1	Model 1	Probit 2	Model 2 (Full Model)	Probit 3	Model 3 (Interac- tions)
<i>Constant</i>	0.290 (0.001)	0.776 (0.022)	0.132 (0.133)	0.221 (0.990)	0.113 (0.190)	0.556 (0.018)
<i>Duration of access to local public funding</i>	0.156 (0.008)**		0.091 (0.008)***		0.133 (0.004)***	
<i>BGAge</i>	0.011 (0.112)	0.022 (0.197)*	0.771	0.339 (0.005)*	0.513 (0.998)*	0.190 (0.009)*
<i>BGAgeInt</i>	0.335 (0.987)	0.108 (0.887)	0.134	0.219*	0.111 (0.008)*	0.073 (0.118)*
<i>GeoDist</i>	0.031 (0.018)	0.210 (0.245)	0.761	0.140	0.089 (0.888)	1.028 (0.001)
<i>PsDist</i>	0.441 (0.001)	0.215 (0.005)	0.088 (0.008)	0.332	0.323 (0.118)	0.089 (0.007)
<i>MO</i>			0.115 (0.567)	0.011 (0.018)*	0.133 (0.001)*	1.115 (0.974)*
<i>EO</i>			0.215 (0.002)	0.111 (0.976)**	0.556 (0.333)*	0.153 (0.345)**
<i>LO</i>			0.088 (0.001)	0.191 (0.934)*	0.011 (0.997)*	0.211 (0.007)*
<i>MO*EO</i>					0.882 (0.007)*	0.128 (0.023)***
<i>EO*LO</i>					0.112 (0.001)*	0.253 (0.006)**
<i>MO*LO</i>					0.083 (0.018)*	0.154 (0.008)*
<i>MO*EO*LO</i>					0.001 (0.002)**	0.185 (0.003)***
<b>Lambda</b>		0.142		0.011		0.559
<b>R<sup>2</sup></b>		<b>0.40</b>		<b>0.45</b>		<b>0.69</b>
<b>Var R<sup>2</sup></b>				<b>0.05</b>		<b>0.24</b>
<b>F statistics</b>		<b>42.11**</b>		<b>43.55**</b>		<b>46.18**</b>

All two-tailed tests were performed. Huber-White standard errors in parentheses; \* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$ ;  $n = 135$

and West (1991). We used values corresponding to 1 S.D. above and 1 S.D. below the mean for continuous variables.

In all the following three figures, Figs. 1, 2 and 3, the Y-axis represents the dependent variable, i.e., the growth of export performance measured in terms of the scale. They support the three supposed interactive effects between the strategic dimensions.

Equivalent results are also shown in the case of the other two selected variables, which for space reasons are not included.



**Table 5** Results of the regression: export performance growth in terms of the number of foreign markets (geographic scope)

	Probit1	Model 1	Probit 2	Model 2 (Full Model)	Probit 3	Model 3 (Interac- tions)
<i>Constant</i>	0.011 (0.555)		0.087 (0.459)		0.112 (0.008)	
<i>Duration of access to local public funding</i>	0.555 (0.001)**		0.302 (0.011)*		0.443 (0.008)**	
<i>BGAge</i>	0.221 (0.017)*	0.112 (0.099)*	0.565 (0.333)*	0.223 (0.007)*	0.111 (0.045)	0.111 (0.005)
<i>BGAgeInt</i>	0.089 (0.011)**	0.128 (0.007)*	0.089 (0.001)***	0.111 (0.056)	0.089 (0.099)	0.044 (0.118)
<i>GeoDist</i>	0.112 (0.011)	0.330 (0.077)	0.221 (0.005)	0.155 (0.656)	0.112 (0.008)	1.033 (0.112)
<i>PsDist</i>	0.589 (0.098)	0.002 (0.005)	0.521 (0.119)	0.522 (0.009)	0.456 (0.556)	1.144y (0.112)
<i>MO</i>				0.055 (0.005)**	0.323 (0.009)	1.090 (0.001)**
<i>EO</i>				0.109 (0.001)*	0.554 (0.099)	0.112 (0.134)*
<i>LO</i>				0.111* (0.009)	0.323 (0.009)	0.112 (0.009)*
<i>MO*EO</i>					0.323 (0.005)	0.112 (0.001)***
<i>EO*LO</i>					0.112 (0.115)	0.115 (0.002)**
<i>MO*LO</i>					0.089 (0.099)	0.134 (0.001)*
<i>MO*EO*LO</i>					0.112 <b>(0.110)</b>	0.155 (0.002)***
<b>Lambda</b>		<b>0.445</b>		<b>0.336</b>		<b>0.041</b>
<b>R<sup>2</sup></b>		<b>0.42</b>		<b>0.45</b>		<b>0.65</b>
<b>Var R<sup>2</sup></b>				<b>0.03</b>		<b>0.20</b>
<b>F statistics</b>		<b>43.01**</b>		<b>44.78**</b>		<b>47.11**</b>

All two-tailed tests were performed. Huber-White standard errors in parentheses; \* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$ ;  $n = 135$

## 4 Discussion

### 4.1 The Effects of Each SO on Export Performance

The findings obtained from high-tech BGs that implement an ambidexterity perspective showed that all three dyadic relationships and the triadic relationship improve the BGs' export performance, independently of the adopted performance measures.

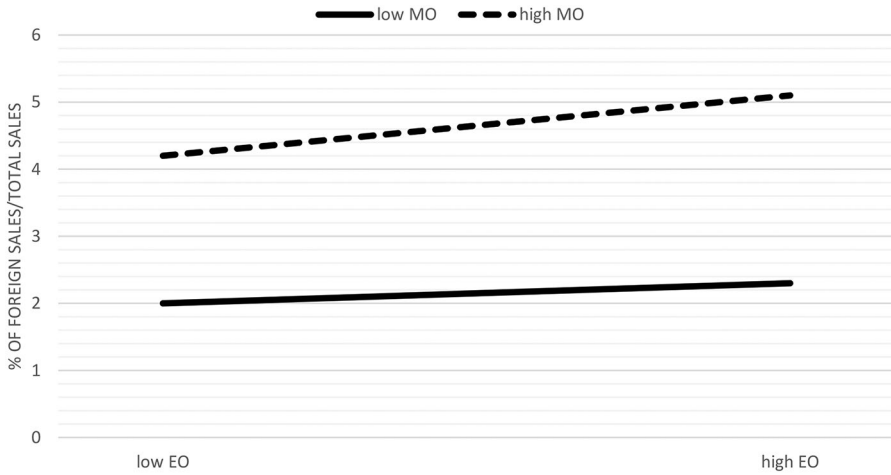
Each of the three single SOs of the BGs, taken independently, has a positive and significant impact on BGs' export performance (i.e., Daood et al., 2021; Hsu et al., 2013). However, it is worth noting that there are some differences in terms of the degree of significance that each dimension individually assumes in the analysis. This confirms the existence of a hierarchy among the three investigated SOs, further sup-

**Table 6** Results of the regression: export performance growth in terms of the number of foreign customers

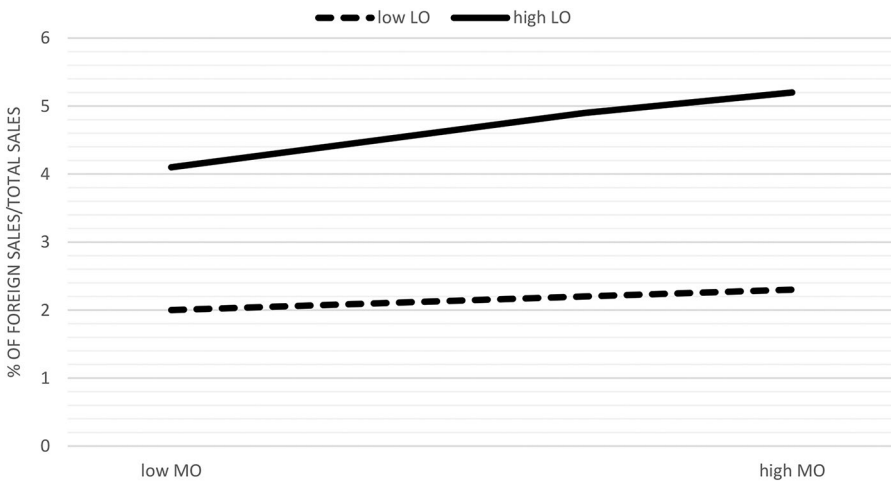
	Probit 1	Model 1	Probit 2	Model 2 (Full Model)	Probit 3	Model 3 (Interac- tions)
<i>Constant</i>	0.190 (0.015)	0.115 (0.008)	0.129 (0.113)	0.115 (0.005)	0.213 (0.022)	0.556 (0.278)
<i>Duration of access to local public funding</i>	0.189 (0.007)*		0.121 (0.015)**		0.188 (0.009)**	
<i>BGAge</i>	0.011 (0.007)*	0.052 (0.011)*	0.088 (0.002)**	0.339 (0.076)*	0.421 (0.008)*	0.130 (0.018)*
<i>BGAgeInt</i>	0.541 (0.005)**	0.238 (0.007)*	0.112 (0.009)*	0.219 (0.034)*	0.089 (0.006)**	0.134 (0.007)*
<i>GeoDist</i>	0.311 (0.008)	0.330 (0.876)	0.421 (0.278)	0.140 (0.113)	0.112 (0.007)	1.255 (0.022)
<i>PsDist</i>	0.012 (0.989)	0.132 (0.008)	0.201 (0.007)*	0.985 (0.887)	0.332 (0.555)	0.377 (0.113)
<i>MO</i>			0.556 (0.005)	0.034 (0.007)*	0.881 (0.002)***	1.089 (0.007)*
<i>EO</i>			0.234 (0.008)*	0.111 (0.088)**	0.565 (0.002)***	0.173 (0.002)**
<i>LO</i>			0.459 (0.005)**	0.121 (0.120)*	0.022 (0.002)*	0.321 (0.033)*
<i>MO*EO</i>					0.322 (0.007)**	0.348 (0.004)***
<i>EO*LO</i>					0.011 (0.003)*	0.173 (0.001)**
<i>MO*LO</i>					0.545 (0.008)**	0.244 (0.022)*
<i>MO*EO*LO</i>					0.011 (0.005)*	0.129 (0.003)***
<b>Lambda</b>		<b>0.112</b>		<b>0.509</b>		<b>0.334</b>
<b>R<sup>2</sup></b>		<b>0.38</b>		<b>0.42</b>		<b>0.55</b>
<b>Var R<sup>2</sup></b>				<b>0.04</b>		<b>0.13</b>
<b>F statistics</b>		<b>41.33**</b>		<b>42.55**</b>		<b>44.28**</b>

All two-tailed tests were performed. Huber-White standard errors in parentheses; \* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$ ;  $n = 135$

porting the previous results of Presutti and Odorici (2019) and Keh et al. (2007), who found that EO and MO are the two most significant dimensions of a firm's SO. However, our findings offer a more granular comprehension of the hierarchy between such dimensions. More specifically, while EO is the most significant single SO dimension when export performance is evaluated in terms of scale (percentage of exports to total sales) and the number of foreign customers, MO is the most significant in the case of internationalization scope, measured in terms of the number of foreign markets (Knight et al., 2020). Finally, LO is the least significant SO influencing the BGs' export performance. This is consistent with the assumption that LO is directly included in the exploitation and exploration phases of BGs' foreign expansion, which, in turn, are connected with EO and MO, respectively. In other words, it can be conceptualized as a necessary condition for the exploitation and exploration activities of a BG, more than an autonomous strategic dimension.



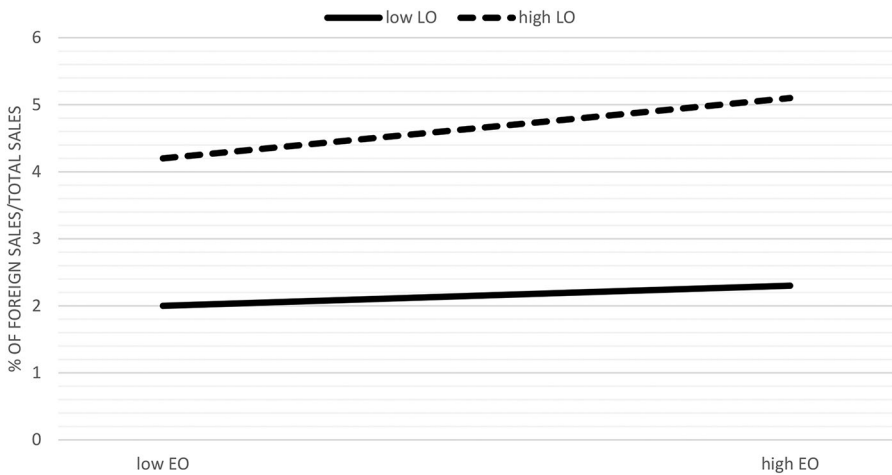
**Fig. 1** The growth of BGs' export performance: interactive effects of EO and MO on the % of foreign sales/total sales



**Fig. 2** The growth of BGs' export performance: interactive effects of MO and LO on the % of foreign sales/total sales

These results show that it is important for BGs to concentrate their resources and efforts on marketing activities, improving their exploitation learning aims. This might be partially explained by the need to develop specific knowledge for multiple foreign markets, considering that improving the international scope of BGs requires entering several foreign markets. This finding is quite interesting since the growth of the international scope dimension is usually assumed to be influenced mainly by EO, given the greater risk involved (Monferrer et al., 2015).

In contrast, a high level of foreign scale may also be reached by focusing on a single or a few foreign markets. Therefore, such a performance aim might be more



**Fig. 3** The growth of BGs' export performance: interactive effects of EO and LO on the % of foreign sales/total sales

influenced by the EO dimension – conceptualized, among others, in terms of a high propensity for risk-taking and innovation – independently of the number of foreign markets in which a company decides to invest (Presutti et al., 2023). Thus, high levels of EO do not negatively impact the BG's export performance growth, in contrast to what has been found in other studies (e.g., Acosta et al., 2018). This result suggests how BGs must continually renew, innovate, and constructively take risks while avoiding assuming a passive and inertial strategic approach. This finding is consistent with the idea that EO is mainly connected to the exploration of learning activities.

#### 4.2 The Effects of the Three Dyadic SO Relationships on Export Performance

Further interesting insights emerge when considering the three dyadic relationships (namely, MO\*EO, EO\*LO, and MO\*LO). First, our findings clearly show that all three dyadic relationships positively and significantly impact BGs' export performance. This finding is consistent with previous results obtained by Wahyuni and Sara (2020) and Knight et al. (2020) regarding the coexistence of EO, MO and LO as critical elements for BGs' export performance. Moreover, it extends the idea that a single SO is “necessary but not sufficient” (Tho, 2019) for BGs to achieve better performance. At the same time, we did not observe the inertia effect of MO suggested by Wiklund and Shepherd (2005) and Su et al. (2015), according to which a focus on MO may limit BGs' capacity to recognize opportunities. In contrast, our results showed that MO, when combined with LO and EO, has a greater effect on the growth of export performance in terms of international scope.

When analysing a single dyadic relationship, it emerges that the level of significance of relationships involving EO (namely, MO\*EO and EO\*LO) is greater than that related to single SO dimensions, independently of the adopted measurement variable. This means that the interaction of EO with either MO or LO represents an “added value” in terms of export performance for BGs, characterized by a high level

of EO. These findings are in line with most of the extant literature on EO and MO related to both BGs (Monferrer et al., 2012) and more traditional internationalizers (Cake et al., 2020; Su et al., 2015; Wiklund & Shepherd, 2005). In contrast, our findings are at odds with Acosta et al.'s (2018) speculation that EO may cancel the positive effects of MO in the case of BGs.

The most significant dyadic relationship is MO\*EO, which is simultaneously requested to implement the exploration and exploitation phases based on an ambidexterity perspective. This is quite an interesting finding, since it expands on the previous results of Daood et al. (2021), who found that the MO\*EO interaction improves BGs' export performance only when they are large and old. Moreover, these results contrast with some previous studies (i.e., Boso et al., 2016), which found that MO is always more relevant than EO in explaining the performance of SMEs in foreign countries. In contrast, the two investigated SOs are complementary and mutually reinforcing: while EO encourages a proactive approach for BGs towards identifying and exploiting market opportunities, MO provides a systematic approach to understanding market dynamics, customer behaviour, and competitive forces (Acosta et al., 2018). Indeed, EO drives BGs to be innovative, while MO ensures that innovation is aligned with customers' needs and preferences, calculates risks, and increases the likelihood of success (Wang, 2008; Wiklund & Shepherd, 2005). In summary, the interaction between EO and MO makes a BG more adaptable to changes in the foreign business environment: EO encourages a proactive approach, and MO ensures that BGs remain responsive to evolving customer needs and market conditions (Jantunen et al., 2008).

Even more innovative insights emerge when considering the dyadic relationship EO\*LO, which is positive and significant for all three adopted measures of export performance. This dyadic relationship was the second most effective among the three relationships. Our finding is quite relevant since the dyadic relationship EO\*LO has yet to be addressed by international business scholars (Bruneel et al., 2010; D'Angelo & Presutti, 2019; Jantunen et al., 2008). More specifically, the obtained results confirm that both SOs are essential for BGs in order to cope with a dynamic business environment and reinforce their export performance. Thus, BGs with a strong EO are usually characterized by a dynamic and forward-thinking culture in which LO can further encourage a culture of openness, curiosity, and a willingness to experiment and learn from both successes and failures (Wales, 2016). While EO can encourage BGs to be adaptable and flexible in the face of the changes required by foreign expansion, LO complements this by providing the tools and processes necessary to facilitate continuous learning and quick adaptation to new circumstances. Finally, LO contributes to reinforcing export performance by creating mechanisms for assessing and managing the traditional risks associated with growth in foreign contexts (Tho, 2019).

Finally, our findings on the MO\*LO dyadic relationship emerge as quite innovative within the academic debate on BGs. At the same time, these results are at least partially consistent with previous results regarding more traditional internationalized SMEs. In this respect, our data show a positive but marginally significant interaction between MO and LO, providing, albeit limited, support for previous findings by Hurley and Tomas (1998) in terms of innovation processes. The synergetic interaction

between LO and MO results in a deep understanding of customers, which, however, could require more investment over time to lead to the development of personalized services that better meet the needs of foreign customers. At the same time, the combination MO\*LO enables BGs not only to try innovative ideas but also to learn from the foreign market response, but with less significance than in the case of the EO\*LO combination. In that case, the learning propensity of the company is likely to find the optimal situation to achieve more effective performances (Rauch et al., 2009). In summary, exploration learning processes are more effective in our sample than exploitation learning processes when the combined effects are considered.

### 4.3 The Effects of the Triadic Relationship on Export Performance

When considering the triadic relationship between the investigated strategic dimensions (MO\*EO\*LO), we obtained very strong and significant effects on BGs' export performance, independently of the adopted measure. In particular, the combination of the three SOs reinforces their individual effects, confirming the assumptions of the resource orchestration view (Chadwick et al., 2015). Thus, our findings confirm that every SO should not be viewed in isolation but rather combined with the other two (Cadogan, 2012; Lonial & Carter, 2015; Lumpkin & Dess, 2001; Wang, 2008). Our results demonstrate the need to combine innovative, proactive, and risk-taking decisions (EO) based on a firm's learning processes (LO) considering customers' needs in the served foreign markets (MO) (Prashantham & Young, 2011). These results stress the importance of coordinating resources that BGs accumulate through EO, MO and LO operating in foreign markets to reinforce their competitive advantage. In other words, based on the resource orchestration perspective, BGs are required to identify and allocate different contemporary resources, according to a dynamic approach to pursue the opportunities derived from EO, MO and LO. Our results also confirm the idea of considering exploitative and exploratory activities as two kinds of LO that support and reinforce MO activities for exploitation aims and EO for exploration aims.

Our empirical findings contribute in several ways to the debate on BGs' internationalization process; more specifically, our attention has been focused on BGs' export performance, which has only recently been investigated (i.e., Gabrielsson & Gabrielsson, 2013). At the same time, the obtained results add value to the academic debate on ambidexterity and verify the importance of each SO and their dyadic relationships. The existence of a hierarchy between EO, MO and LO emerged as another relevant finding.

Notably, unlike in the extant literature referring to traditional internationalizers, all three SOs and their dyadic and triadic relationships positively impact BGs' export performance, independently of the adopted measure. This allows us to consider the dimensions of the scale and scope of BGs and the specificity of B2B markets. In this respect, it is also worth noting that all the proposed hypotheses were confirmed independently of the adopted measures, with significant importance placed on which SO has a more relevant impact on BGs' export performance. To the best of our knowledge, this is the first attempt to simultaneously evaluate all (dyadic and triadic) interactions of SOs within the BG context assuming an ambidexterity approach. Finally,

these results provide insight at the BG level into the extent to which export performance advantages depend on the ability of such companies to create value from their orchestration of different organizational resources provided by EO, MO and LO.

## 5 Conclusions

Based on the assumptions of the ambidexterity and resource orchestration approaches, the main aim of this paper was to assess the importance of both the dyadic interactions between three of the BGs' SOs (MO\*EO, EO\*LO and MO\*LO) and the triadic interaction of all three SOs (MO\*EO\*LO). Additionally, we expected to define whether specific interactions hold greater significance than others.

The obtained results indicate that all investigated (dyadic and triadic) relationships enhance export performance compared with the effect deriving from each single SO. This improvement is observed independently of the adopted performance measures. At a more granular level, it emerges that the triadic relationship has greater significance than the dyadic relationships, confirming the importance of following a resource orchestration approach to better evaluate the positive effects of the combination of EO, MO and LO.

This paper offers valuable insights for the academic debate but also has practical implications for managers and entrepreneurs. The results suggest that BGs should adopt an ambidexterity approach, combining strategies that concurrently enhance EO, MO and LO to achieve superior export performance. Therefore, managers and entrepreneurs are advised to design strategies that foster the simultaneous development of all three SOs, considering the complexity of integrating these dimensions based on specific goals related to exploitation and exploration processes. In so doing, they should carefully consider the complexity of integrating such dimensions according to the specific fixed aims in terms of exploitation and exploration. In this respect, greater levels of entrepreneurial processes entail high degrees of uncertainty and risk, but they also offer greater growth opportunities, thus reaching exploration aims. Conversely, market-oriented operations involve more certainty and less risk, but they may also lead to structural inertia and reduced firm innovativeness, reinforcing exploitation aims. Finally, making significant investments in learning processes helps increase the possibilities of acquiring knowledge or accelerating innovative processes, supporting exploitation and exploration activities abroad.

Therefore, we encourage entrepreneurs to manage these dimensions effectively and find a good fit between EO, MO and LO, at least from a medium-term perspective.

This study also contributes to the existing literature on BGs' survival (Freixanet & Renart, 2020; Khan & Lew, 2018), offering a nuanced understanding of how they may enhance their survival prospects through strategic resource orchestration. As known, survival is a fundamental measure of BGs' performance. BGs by their nature, operate in high-risk environments and face significant pressures on their resources to sustain their international expansion (Sapienza et al., 2006). Therefore, the ability to manage the dual functions of knowledge exploration and exploitation plays a pivotal role in ensuring BGs' long-term survival (Mudambi & Zahra, 2007). More specifically, our findings support the idea that the combined effect of MO, EO and LO positively influences BGs'

performance. This suggests that an ambidextrous approach can also enhance their survival prospects. In this respect, the paper reinforces the idea that firms which take more time to prepare their entry into international markets tend to have a higher survival rate, while early internationalization can be risky (Sapienza et al., 2006).

When considering the contribution to the academic debate, other future research avenues emerge when considering the limitations of our paper. First, according to previous considerations concerning BGs survival, future studies should analyse the most effective orchestration of MO, EO and LO resources along a more longitudinal perspective, in order to better take into account, the BGs survival. Secondly, the analysis should be replicated in other countries, including less industrialized ones. Moreover, our study relied on self-reported data to measure MO, EO and LO, which ensures concept-specific accuracy but creates a possible same-source bias that is quite common among cross-sectional research designs (Yli-Renko et al., 2001). Therefore, future studies could explore the role of potential contingent factors in influencing the investigated SOs, especially by identifying more effective ways to evaluate the obtained results (Kwon & Adler, 2014; Prashantham & Birkinshaw, 2015; Sepulveda & Gabriellsson, 2013; Slotte-Kock & Coviello, 2010). Finally, future studies should investigate the impact of geographic and psychic distance between the BG home country and those of its foreign partners, in order to verify any possible mediating role.

**Funding** Open access funding provided by Alma Mater Studiorum - Università di Bologna within the CRUI-CARE Agreement.

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