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Does international orientation intermediate in the relationship between entrepreneurial orientation and firm performance?

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ABSTRACT

Objective: This article aims to augment the literature on entrepreneurial business primarily by assessing how the synergies between international orientation (IO) and entrepreneurial orientation (EO) promote the overall performance of Portuguese exporting companies after controlling for the effect of several firm and country characteristics commonly cited in the literature.

Research Design & Methods: The study considers the impact on overall firm performance of aggregated and individual dimensions of EO and IO using survey data collected from 341 companies through online questionnaires in 2015. We validated the proposed hypotheses using covariance-based structural equation modelling (CB-SEM).

Findings: We found three main relationships: (1) the positive impact of EO on firm performance is greater than the influences through the IO pathway; (2) the effect of firm innovativeness is noticeably higher than the proactiveness and risk-taking components of EO; and (3) IO positively and significantly reinforces the relationship between EO and firm performance.

Implications & Recommendations: Taken together, the results indicate that innovations to improve the international positioning of Portuguese exporters will make the greatest contribution to their overall performance. Thus, it is recommended that managers adopt governance structures that motivate and reward employees with novel ideas on how to foster penetration into new overseas markets.

Contribution & Value Added: This study fills the gap in the literature by emphasising: (1) the importance of combining IO with EO to boost the overall performance of risk-averse Portuguese exporters, and (2) the differential effects of the several EO dimensions on IO and overall firm performance.

Article type:	research article
Keywords:	entrepreneurial orientation; international orientation; performance; exporting firms; structural equation modelling
JEL codes:	L25, L26

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INTRODUCTION

Although the literature evidences a strong link between entrepreneurial orientation (EO) and corporate performance, scholars have paid little attention to the hypothetically intermediating effects of internationalisation on the relationship between EO and firm performance. Therefore, we aimed to fill this gap in the entrepreneurship literature by investigating whether international orientation (IO) is an effective mediator in the relationship between EO and the overall performance of Portuguese exporting firms. As a small open economy with a growing export sector, Portugal provides an ideal setting to explore these interactive relationships. To the best of our knowledge, there are no empirical studies that considered international alignments as a controlling factor in the relationship between these two variables in the

Portuguese context. Our findings should illustrate how intangible non-substitutable resources, such as entrepreneurship and internationalisation, bestow competitive advantage on exporting firms in small open economies like Portugal. Such information should inform managers on whether efforts made to develop such idiosyncratic firm characteristics are worthwhile. Then, too, given the poor economic climate in Portugal, we argued that a company's capability to proactively participate in product-market innovation is most crucial to exploiting new overseas business opportunities.

The remainder of this article is structured as follows. Section 2 reviews the literature on intrapreneurship and overall firm performance. Section 3 describes the research design involving the data collection process and the characteristics of the estimation techniques employed. Section 4 presents the results of our structural equation model analysis. The final section concludes with the policy implications of our main empirical results while recognising areas for further research and limitations of this study.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

McDougall and Oviatt (2000) used the concept of international entrepreneurship (IE) to describe how a combination of innovation, proactiveness, and risk inherent in foreign markets influences the direct relationship between entrepreneurship and internationalisation. Hence, Autio (2017) noted that entrepreneurship and internationalisation complement each other to strengthen a company's competitive advantage with associated growth in market share. Evidence on the important role that entrepreneurship and its components play in the development of countries at different economic stages is widely recognised in the literature (Brás & Soukiazis, 2019; Lumpkin & Pidduck, 2021). Further, Parker (2011) and Vatavu *et al.* (2022) differentiated between the types of entrepreneurial activities undertaken by firms.[1] They suggested that intrapreneurship applies to the exploitation of endogenous resources by organisations to develop new business ventures. By contrast, when new initiatives are endorsed outside an organisation, the firm is said to be engaged in entrepreneurship. Hence, we may define corporate entrepreneurship as a process of creating new businesses through the modernisation of existing products/services and/or processes to improve the organisations' competitive position (Di Vaio *et al.*, 2022). Moreover, Ireland *et al.* (2009) characterised intrapreneurship as a strategy to continuously rejuvenate an organisation's governance systems to identify innovative products and market opportunities.

Nevertheless, whether the emphasis is on the internal and external regulatory conditions that support entrepreneurship within a company to engage in innovation (intrapreneurship), it is important to understand how variations in entrepreneurial orientation across organisations are reflected in their overall performance (Antoncic & Hisrich, 2003). Therefore, scholars have identified entrepreneurship as a firm-level phenomenon –more commonly known as EO (Covin & Miller, 2014) – to reflect the extent to which firms are innovative, proactive, and risk-averse in their management philosophies (Anderson *et al.*, 2009).[2] However, Rutherford and Holt (2007) observed that not all EO dimensions have a direct and positive effect on corporate performance and that innovativeness is the most influential factor in determining profitability. Hernández-Perlines *et al.* (2019) underline this evidence. They found that innovativeness is a necessary and sufficient condition for strategic EO to differentiate a firm from its competitors. Moreover, Čović *et al.* (2023) and Yaqub *et al.* (2024) recognised that EO is a critical factor influencing both internal organisational dynamics and external market strategies. Internally, EO manifests through managerial philosophies that prioritise innovation, risk-taking, and proactivity (Surin *et al.*, 2023), while externally it is reflected in sustainable competitive behaviours and market entry strategies (Wales *et al.*, 2023). This implies that EO is an endogenous resource, shaped by several contextual factors, including a firm's level of innovation, proactiveness, risk appetite and IO (Abu-Rumman *et al.*, 2021; Gull

[1] Scholars have used different concepts to describe entrepreneurship within organisations, such as: intrapreneurship (Pinchot, 1986), corporate entrepreneurship (Zahra, 1991), corporate venturing (Macmillan *et al.*, 1986), entrepreneurial orientation (Covin & Slevin, 1989), internal corporate venturing (Zajac *et al.*, 1991) or internal corporate entrepreneurship (Schollhammer, 1982).

[2] To preserve the academic authenticity, we chose to maintain the author's terms throughout the literature review (intrapreneurship or corporate intrapreneurship) rather than to standardise in one term. Whether referring to corporate entrepreneurship or to intrapreneurship, the focus is on the extension of entrepreneurial capabilities within the firms, that is EO.

et al., 2021). It follows that one should examine the relationship between EO and firm performance from the perspective of resource-based theorists (Barney, 1991; Peteraf, 1993), which recognizes the role of a firm's unique set of rare, valuable and non-substitutable tangible and intangible assets in achieving and sustaining its competitive advantages (Campbell & Park, 2017).

The theory of international new ventures (INVs), initially developed by Oviatt and McDougall (1994), illustrates how benefits from resource endowments enable firms to introduce innovative products/services ahead of competitors. Various studies focused on the dimensions of EO that significantly positively influenced the speed at which a firm internationalised using the INV approach (Gull *et al.*, 2021; Lim & Kim, 2022). In contrast, the stage theory of internationalisation, for which the Uppsala model is the main reference, proposes a positive product positioning achieved through continuous employee training (Pellegrino & McNaughton, 2017) and the gradual commitment of an appropriate share of the firm's resources to growing foreign markets (Vahlne & Johanson, 2017). The implication is that the speed of internationalisation is crucial in determining whether (or not) a firm follows the INV approach from the outset (Hennart *et al.*, 2021). Therefore, regardless of the pace of international firms' commitment, from these prior conclusions on the favourable impact of EO on firm internationalisation, we hypothesised that:

H1: EO has a direct and positive effect on the IO of Portuguese exporters.

Scholars have approached research on the effect of EO on firm performance from a variety of business management disciplines (Lin *et al.*, 2011; Nudurupati *et al.*, 2021; Schwens *et al.*, 2018). However, the argument lacks a coherent body of theory. For example, whereas Elango (2006) suggested a positive linear relationship between the two concepts, Luu *et al*. (2023) concluded that the connection was negative. Moreover, some authors supported a nonlinear relationship between internationalisation and firm performance in diverse contexts, involving different countries, markets, and organisational structures, ranging from S-shaped (Contractor, 2007; Lu & Beamish, 2004), M-shaped (Almodóvar & Rugman, 2014), W-shaped (Fernández-Olmos *et al.*, 2016; Zhou, 2018), U-shaped (Rossmannek & Rank, 2019) and inverted U-shaped (Brida *et al.*, 2016; Fernández Olmos & Díez-Vial, 2015). For the current study, IO was reported to lead to higher firm performance (Moen *et al.*, 2016), either through the influence of international expertise (Billing *et al.*, 2010), greater export cooperation (Racela *et al.*, 2007), innovation (Boermans & Roelfsema, 2016), CEO attributes (Hsu *et al.*, 2013), or the expansion into new high-growth geographic and product markets (Colpan *et al.*, 2013).

To reconcile the disagreement in the literature on the relationship between IO and overall firm performance, Rezaei and Ortt (2018) underline the interacting positive influence of idiosyncratic firm attributes, including access to critical resources and absorptive capacity. That is, firms with greater access to resources and the ability to formulate strategies to develop and manage diverse networks in both domestic and international markets will experience a stronger IO effect on firm performance. Thus, based on the theoretical framework developed by Rezaei and Ortt (2018), we proposed that:

H2: IO has a direct and positive effect on the performance of Portuguese exporters.

Scholars study firm performance not only due to its relationship with internationalisation, but also because of its relationship with entrepreneurial behaviour. Specifically, some authors proposed that EO can have a moderating or interactive effect on corporate international characteristics, with consequent performance improvements including sales growth, market share and new product development (Lumpkin & Dess, 1996; Rezaei & Ortt, 2018). Indeed, an earlier study by Felício *et al.* (2012) commented on the interceding role of intrapreneurship in the relationship between EO and business performance for Portuguese firms. Then, too, Rezaei *et al.* (2012) noted that a firm's entrepreneurial capability is positively associated with competitive advantages to facilitate positive performance outcomes. This prediction is consistent with the RBT that successful firms gain competitive advantages through knowledge creation and access to high-quality scarce resources (Ray *et al.*, 2004). In this regard, Urbano *et al.* (2013) emphasised the importance of access to critical resources to help firms develop intrapreneurship to engender positive performance outcomes. Consequently, we proposed that:

H3: EO has a direct and positive effect on the performance of Portuguese exporters.

To resolve the confusion surrounding the relationship between EO and firm performance, several authors considered the role of various internal or organisational variables that intermediate in the hypothesised EO-Performance relationship. They consist of functional performance (Rezaei & Ortt, 2018), absorptive capacity and improvisation (Hughes *et al.*, 2018), product quality (Yang & Ju, 2017), governance structure (Lee & Chu, 2017) knowledge intensity (Schwens *et al.*, 2018) and corporate entrepreneurship (Lim & Kim, 2020).

Other studies on the IE assessed the impact of strategies designed to extend firm entrepreneurship across national borders by combining innovation, proactiveness, and risk-taking behaviour (McDougall & Oviatt, 2000). Using the same conceptual framework, Zahra and George (2002) argued that firms that creatively internationalise their operations tend to achieve significant gains that go beyond financial performance. However, Etemad (2018) cautioned that the IE approach is a multi-layered and multi-dimensional process, hence requiring extensive research. Previously, Zehir *et al.* (2015) examined the mediators of the EO-Performance relationship, focusing on factors related to international alliances. Their research builds on the study by Kollmann and Stöckmann (2014), which recognises innovation as an effective intermediating factor.

Further, Wang (2008) analysed the mediating factors in the EO-performance through a learning orientation paradigm. Other authors, including Boso *et al.* (2013) and Johanson and Mattsson (2015), have considered the mediators in the EO-Performance using models that include resources acquired through international connections. Thus, we may predict that those Portuguese exporters who cultivate inter-organisational relationships through international ventures should strengthen the link between their entrepreneurial activities and overall performance outcomes. Several international business researchers support this anticipated positive intermediation effect of IO (Brouthers *et al.*, 2015; Semrau *et al.*, 2016). Consequently, we hypothesised that:

H3': IO positively intermediates the connection between EO and the performance of Portuguese exporting firms.

Figure 1 presents the structural model (base) to be tested with the respective research hypotheses.

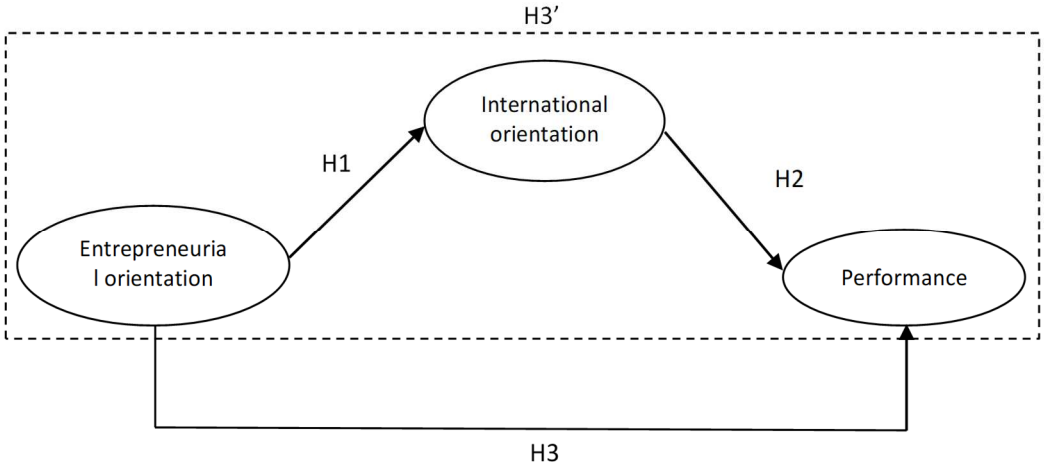

Figure 1. Entrepreneurial orientation
Source: own elaboration.

RESEARCH METHODOLOGY

Despite the economic challenges of recent decades, including the financial crisis and the COVID-19 pandemic, the number of Portuguese exporting firms has risen steadily, reflecting the government's commitment to promoting global trade. Moreover, Carreira *et al.* (2024) and (Leitão, 2023) recognised that the implicit improvement in Portuguese firms' international competitiveness was underscored by the country's trade policy stability and subsequent economic growth. Broadly speaking,

the traditional sectors of textiles, footwear, and cork have dominated exports to three main destinations, including Spain, France, and Germany (AICEP, 2023).

Figure 2 shows the sectoral distribution of Portuguese exporting firms in 2022. Manufacturing is the leading sector, accounting for 23% of Portuguese exports since 2013, highlighting its long-standing importance in the national economic activity (Informa – Dun & Bradstreet, 2024).

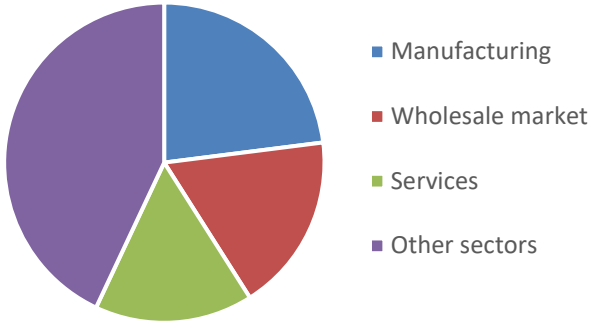

Figure 2. Sectoral distribution of Portuguese exporter firms in 2022
Source: own elaboration based on Informa – Dun and Bradstreet (2024).

According to Informa Dun and Bradstreet – Portugal's official data, 46 562 Portuguese firms exported in 2013. We requested a randomly selected sample of 8 002 firms (17% of all exporters) for analysis to ensure representativeness in size, international experience, strategy, sales, and inter-organisational relationships. Due to issues such as incorrect emails and company protections, we excluded 827 firms, resulting in a final sample of 7 175 firms.

To test the appropriateness of the questionnaires, we conducted a pilot test by sending pre-addressed stamped envelopes to 200 randomly selected managers responsible for their firm's internationalisation strategy, ensuring responses came from those with relevant business knowledge. Based on feedback from 16 firms, we made minor changes before publishing the final questionnaire on the LimeSurvey platform between 15 February and 15 March 2015, a period when firms typically have validated data. The questionnaire comprised four sections: (i) company profile, (ii) EO, (iii) IO, and (iv) overall firm performance. We received a total of 527 responses, but we deemed only 350 as valid, as respondents either completed all items or omitted just one. We applied the Mahalanobis distance method (alpha level of 0.001; (Kline, 2011) to detect and remove outliers, further reducing the sample to 341 Portuguese exporting firms.

Figure 3 compares the sectoral distribution of Portuguese exporting firms in 2013, 2015 (sample), and 2022 with our 2015 dataset for 341 firms. The close alignment of our 2015 sample with the dominant companies confirms its representativeness. Moreover, a chi-square goodness of fit test showed no statistically significant difference between the universe and our final sample at the 0.05 level (p-value $\{\chi^2_{12} = 12.332\}$ = 0.419). Based on the final dataset, we collected information on: (i) company size, (ii) business sector, (iii) share of foreign sales in total revenue and (iv) years in operation before entering the foreign markets (internationalisation speed). Table 1 presents the distribution of firms across these characteristics.

The first part of the questionnaire (company profile) consisted of questions on: (i) the average number of employees in 2014 and (ii) the firm's business activity. We used Likert scales (1-5 points) for all items in the second, third, and fourth sections. It is standard practice to include both reversed and non-reversed items in multi-item Likert scales (Swain *et al.*, 2008). We presented reverse-polarity items in the IO and EO factors adapted from Knight and Kim (2009) and Kreiser *et al.* (2002), respectively. To ensure consistency, we retained the original EO and IO scales, measuring agreement levels from (1) strongly disagree to (5) strongly agree. Likewise, the performance scale assessed corporate outcomes from (1) very poor to (5) very good.

Table 1. Characteristics of the respondents (number of firms)

Company size[3]	Business sector	Share of foreign sales in total revenue[4]	Internationalisation speed[5]
Microenterprise– 166 Small enterprise – 111 Medium-sized enterprise – 59 Large enterprise – 14	Manufacturing – 173 Wholesale & retail – 88 Services – 38 Others[6] – 51	1-20% – 112 21-40% – 62 41-60% – 40 61-80% – 41 More than 81% – 92	Less than 3 years – 31 Up to 3 years – 122 Up to 8 years – 180 More than 8 years – 146

Source: own study.

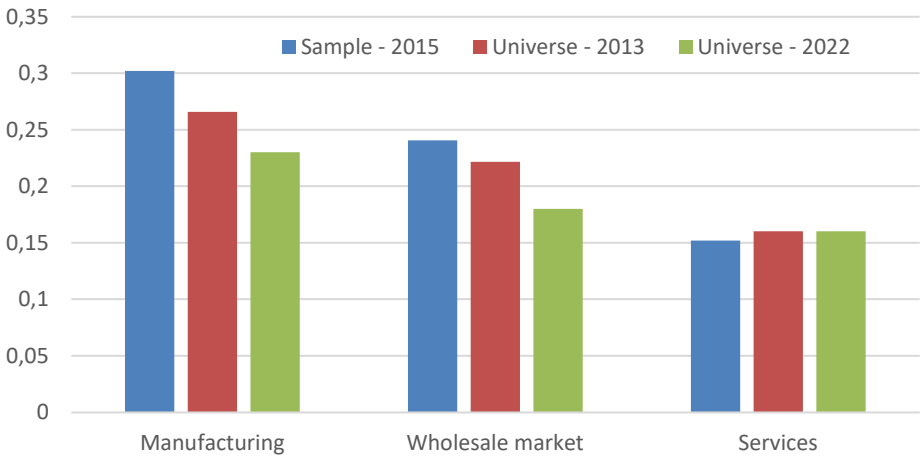

Figure 3. Share of the top three Portuguese exporting sectors by sample (2015) and universe (2013-2022)
Source: own elaboration based on Informa – Dun and Bradstreet (2015) and Informa – Dun and Bradstreet (2024).

The scale proposed by Covin and Slevin (1989), though frequently adapted, remains the most widely used for assessing a company's EO. To maintain its structure, we adopted a multidimensional approach as confirmed by Kreiser *et al.* (2002).[7] In contrast, we chose a unidimensional scale publicised by Knight and Kim (2009) to measure a firm's IO due to its broader scope, encompassing 11 items. Following previous studies (Baker & Sinkula, 1999; Slater & Narver, 2000), we employed both multifaceted and unidimensional scales to capture five key areas of corporate performance: (i) customer loyalty, (ii) new product success, (iii) sales growth, (iv) return on investment and (v) overall performance.

We conducted a first-order factor analysis to determine the effects of firm characteristics on five key variables: innovation, risk, proactiveness, IO and performance. A second-order factor analysis then examined how the latent variables (innovation, risk and proactiveness) influence the aggregated EO series. We used covariance-based structural equation modelling (CB-SEM) to validate the relationships between exogenous and endogenous latent variables. Consistent with (Hair *et al.*, 2005) and (Ripollés *et al.*, 2012), we selected CB-SEM due to the complexity of the model, which involves multiple simultaneous variables and latent traits.

Appendix I shows the summary statistics for all the variables used in our CB-SEM. Notably, the two risk-taking items (Risk1 and Risk2) exhibited the lowest average values across all observable variable categories. Five items (Inov2, IO1, IO2, IO11, Perf1) had average values above four, while six (Pro3,

[3] Micro firms employ less than 10 employees, small firms employ 10-50 employees, medium-sized firms 51-250 employees, and large firms more than 250 employees.
[4] Three missing values were reported.
[5] All incomplete questionnaires from firms that answered this question were also considered.
[6] Activities related to the primary sector, gas, electricity and water, construction, transports, housing and restauration, retail, financial activities, real estate activities and telecommunications.
[7] As proposed by Kreiser *et al.* (2002), the 9th item from original scale measuring bold posture was dropped.

Risk1, Risk2, IO5, IO6, IO7) fell below three. We analysed data dispersion using the coefficient of variation, with six items exceeding the threshold of 30% threshold proposed by Brown (1998), indicating relatively high dispersion. Moreover, normality tests confirm that the variables in Appendix I follow a normal distribution with skewness between -2 and +2 and kurtosis between -7 and +7 (Byrne, 2013). To mitigate potential bias from multiple data sources, we employed a bootstrap resampling method with 1000 replications, aligning with the 500 to 1 000 range proposed by Cheung and Lau (2008). Following Marôco (2010), we used the maximum likelihood estimator to test the indirect effects of aggregated and EO dimensions on overall performance, ensuring a 95% confidence interval.

RESULTS AND DISCUSSION

Descriptives

The descriptive statistics in Table 1 show that circa 9.5% of the Portuguese exporters were start-ups, while 45% entered overseas markets after eight years in operation. Given that nearly half of these firms internationalised later in their business cycles, the results suggested that Portuguese exporters align more closely with the Uppsala Model than the INV approach. Additionally, the EO dimension with the lowest mean values was risk-taking (Risk1 and Risk2) (Appendix I), supporting the argument that Portuguese exporters are considerably risk-averse (Ribeiro *et al.*, 2018). Compared to firms in other countries, Portuguese firms adopt more conservative strategies when entering new overseas markets (Ferreira *et al.*, 2017). Carvalho *et al.* (2012) attributed this to a national culture that discourages risk-taking, leading to committing fewer resources to foreign markets perceived as having a significant risk of costly failure in order to protect their reputations.

Measurement Model

Given that the internal consistency measures based on Cronbach's alpha and the Kaiser-Meyer-Olkin (KMO) models revealed unsatisfactory results for the proactiveness and risk dimensions, we concluded that the multidimensionality of the EO variable was not accurately defined. Therefore, we rescaled these latent items (innovation, proactiveness, and risk) as unidimensional components. Further, two proactiveness items (Pro1 and Pro3), two risk-taking items (Risk1 and Risk2), three IO factor items (IO5, IO6, and IO7) and the Perf2 variable from the performance construct were removed from the model. Table 2 displays the estimation results of the measurement model after these adjustments.

As shown in Table 2, all items had high factor weights (FW> 0.5) and showed adequate individual reliability (SMC> 0.25).

Concerning composite reliability (CR) based on Dillon-Goldstein criterion, all factors exhibited strong reliability, with values ranging from 0.7 to 1 (Tenenhaus *et al.* (2005). Given that the AVE values for all factors in our model exceed 0.5, we concluded that all items demonstrated convergent validity and construct reliability (Fornell & Larcker, 1981; Hair *et al.*, 2005)

Regarding discriminant validity, the AVE values for the three factors consistently exceed the square of the construct's correlations, confirming their discriminant validity. This is reinforced by the heterotrait-monotrait ratio of correlations (HTMT) matrix, where all values remained below the 0.85 threshold suggested by Kline (2011) (Appendix II). Moreover, the Cronbach's alpha values listed in Table 2 (fourth column) fell within the internal consistency ranges proposed by George and Mallery (2010). Thus, we concluded that the scales for EO, IO, and Performance met the accepted theoretical standards.

The sampling adequacy was rated as good to excellent, as the KMO measure for all the factors exceeded the 0.7 threshold (Kaiser, 1974). Moreover, Harman's single-factor test indicated that our six factors explained 62.90% of the total variance, confirming that the dataset was not affected by common method bias. Moreover, following Mardia's (1970) standardised coefficient of multivariate kurtosis, we obtained a value of 22.2 for our sample, which is considerably above the usual cutoff of 3. Thus, we concluded that the hypothesis of multivariate normality in our empirical model cannot be rejected.

Finally, an assessment of the validity of our measurement model based on various adjustment indexes/parameters confirms a good overall fit, notably (χ^2/gl = 1.734; RMSEA = 0.046; PCFI = 0.800; CFI = 0.970; TLI = 0.964; NFI = 0.932).

Consistent with the findings of Ferreira (2007) for the Portuguese manufacturing industry, along with other studies in different contexts (Sorama & Joensuu-Salo, 2023; Wach *et al.*, 2023), our results do not support the multidimensionality of EO in Portuguese firms. Consequently, we treated EO as a unidimensional construct in our subsequent analyses.

Table 2. Estimation results: The measurement model

Factor	CR[8]	AVE[9]	α[10]	KMO[11]	Items	FW[12]	SMC[13]
Entrepreneurial orientation Adapted from Kreiser *et al.* (2002)	0.83	0.56	0.74	0.74	(Inov1) In general, the top managers of my firm favour a strong emphasis on R&D, technological leadership, and innovations.	0.58	0.33
					(Inov2) In the past five years, my firm has marketed many new lines of products or services.	0.69	0.47
					(Inov3) My firm usually promotes significant changes in product lines/services offered.	0.77	0.59
					(Pro2) My firm is very often the first business to introduce new products/services, administrative techniques, and operating technologies, among others.	0.59	0.35
International orientation Adapted from Knight and Kim (2009)	0.92	0.59	0.87	0.89	(IO1) Top management tends to see the world, instead of just Portugal, as our firm's marketplace.	0.54	0.29
					(IO2) The prevailing organisational culture at our firm (management's collective value system) is conducive to active exploration of new business opportunities abroad.	0.71	0.50
					(IO3) Management continuously communicates its mission to succeed in international markets to firm employees.	0.79	0.63
					(IO4) Management develops human and other resources for achieving our goals in international markets.	0.77	0.59
					(IO8) Our top management is experienced in international business.	0.63	0.40
					(IO9) Management communicates information throughout the firm regarding our successful and unsuccessful customer experiences abroad.	0.61	0.37
					(IO10) Top management is willing to go to great lengths to make our products succeed in foreign markets.	0.69	0.48
					(IO11) Vision and drive of top management are important in our decision to enter foreign markets.	0.68	0.46
Performance Adapted from Farrell *et al.* (2011)	0.92	0.74	0.86	0.80	(Perf1) Customer retention.	0.53	0.28
					(Perf3) Sales growth.	0.84	0.71
					(Perf4) Return on investment.	0.85	0.72
					(Perf5) Overall performance.	0.91	0.83

Source: own study.

[8] Composite reliability.
[9] Average variance extracted.
[10] Cronbach's alpha.
[11] Kaiser-Meyer-Olkin.
[12] Factor weights (standardised).
[13] Squared multiple correlation.

Structural Model and Hypothesis Testing

Table 3 summarises the main results from our base structural model, obtained using the bootstrap resampling method, with all results available in Appendix III. For comparison, Appendix IV provides the results without bootstrap resampling. Moreover, Figure 4 illustrates the estimated standardised coefficients and significance levels for the estimated relationships between the key latent variables of interest.

Table 3. Results of the estimation of the standardised parameters of the model

Relationships	Standardised coefficients	*p*-value	Hypotheses	Results
EO → IO	B1 = 0.677***	0.002	H1	**Supported**
IO → Performance	B2 = 0.326***	0.002	H2	**Supported**
EO → Performance	B3 = 0.189**	0.047	H3	**Supported**
EO → IO → Performance	B3' = 0.221***	0.001	H3'	**Supported**

Notes: **The coefficient is significant at the 0.05 level; ***the coefficient is significant at the 0.01 level.
Source: own study.

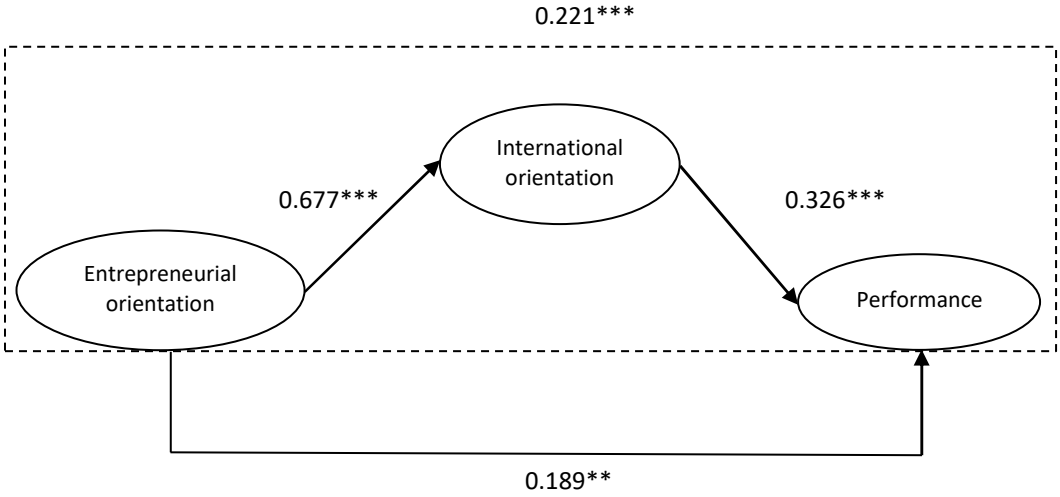

Figure 4. Structural model results (base model)
Notes: **The coefficient is significant at the 0.05 level; ***the coefficient is significant at the 0.01 level.
Source: own elaboration.

Collectively, the results in Table 3 and Figure 4 support all the hypotheses proposed in our structural model, showing a good overall fit (χ^2/gl = 1.715; RMSEA = 0.048; PCFI = 0.801; CFI = 0.963; TLI = 0.954; NFI = 0.929).

Most specifically, the EO-IO pathway has the greatest impact, followed by the IO-Performance route, with both being statistically significant at the 1% level. These results imply that the impact of EO on the overall performance of Portuguese exporters is influenced by their degree of internationalisation. This conclusion aligns with the evidence from Brás and Preto (2024) on Portuguese technology firms, underscoring the importance of fostering EO to enhance international market growth (Solano Acosta *et al.*, 2018). Moreover, the strong interrelationships with IO align with previous findings for SMEs (Pangarkar, 2008) and multinational enterprises (Loncan & Nique, 2010).

The EO-Performance path was statistically significant at the 5% level, meaning that we could not reject hypothesis 3. Moreover, with a statistical significance level of 1%, we concluded that the impact of the EO was intermediated by the IO dimension, exerting an indirect and positive effect on the overall firm performance,[14] thereby, supporting hypothesis 3'. Thus, the total effect of EO on firm performance was 0.41 points (0.189 + 0.221).

[14] The product of the standardised coefficients measures this indirect effect (0.677 x 0.326 = 0.221) and it is statistically significant at the 1% level (Appendix V).

For Portuguese exporters, this finding implies that the indirect effect of EO, when reinforced by IO, is stronger than its direct effects on overall performance. Similarly, Karami and Tang (2019) acknowledged the management implications of such aggressive international ventures and their interplay with EO and overall firm performance. Besides, Gull *et al.* (2021) advocated that managers of Portuguese exporting firms should focus on maximising the potential EO-IO synergies through targeted staff training programs.

Finally, our study reveals that innovativeness contributes to raising corporate performance. Hence, we argue that Portuguese exporters should accentuate the innovative dimension of their EO to optimise overall performance.

CONCLUSIONS

Our study contributes to the existing EO literature in three important ways.

Firstly, it confirms that Portuguese exporters exhibit high risk aversion, favouring conservative strategies based on the Uppsala framework to mitigate the risks associated with internationalisation.

Secondly, it highlights that the innovativeness dimension of EO is particularly effective in fostering IO within the Portuguese export sector, leading to enhanced overall performance beyond the direct positive impact of IO.

Thirdly, it validates the hypothesis that intrapreneurship plays a critical role in leveraging internationalisation. Hence, we should view the attempts of Portuguese exporters to develop these strategic areas as an investment in business functions, ultimately driving future performance outcomes.

Overall, we confirmed IO as a reliable link in the relationship between EO and the overall performance of Portuguese exporters. Following Cumming *et al.* (2015), we considered IO as a strategic endogenous resource that firms should cultivate to enhance their competitive advantages. Accordingly, authorities should implement policies to support Portuguese exporters in optimising their entrepreneurial and international orientations. From a government policy perspective, this may include providing financial assistance to develop and maintain governance systems that (i) foster and reward creativity and (ii) facilitate training in international business management and networking. From a corporate viewpoint, managers should be encouraged to prioritise initiatives that (i) boost R&D investments in international business ventures and (ii) leverage institutional resources such as AICEP Portugal Global to navigate the complexities of the international business landscape.

Finally, we recognise the limitations arising from the low response rate to our survey questionnaires. Besides, as our study covers only a specific period, a longitudinal study is needed to validate the findings. We also recognise that the analysis relies on a dataset from 2015, which may have affected the reliability of the EO constructs in our model. Thus, we recommend that future researchers collect updated data from E-Informa Dun & Bradstreet – Portugal to validate the robustness of our findings in light of changes in the entrepreneurial and internationalisation orientation of Portuguese firms and their overall performance. Moreover, scholars should conduct sensitivity tests to authenticate the results of our CB-SEM model across different product and service exporting firms in various international markets. This would help determine whether our conclusions remain applicable to the emerging global challenges faced by Portuguese exporters in the post-COVID pandemic era.

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Appendixes:

Appendix I. Descriptive statistics

Variables	N	Minimum	Maximum	Mean	Std. deviation	Skewness	Kurtosis	Coeff. variation
Inov1	341	1	5	3.57	1.008	-0.804	0.169	0.282
Inov2	341	1	5	4.04	0.839	-1.189	1.758	0.208
Inov3	341	1	5	3.62	0.911	-0.729	0.067	0.252
Pro1	341	1	5	3.48	0.925	-0.322	-0.666	0.266
Pro2	341	1	5	3.21	0.942	-0.165	-0.419	0.293
Pro3	341	1	5	2.83	1.191	0.07	-1.146	0.421
Risk1	341	1	5	2.25	0.804	1.43	2.324	0.357
Risk2	341	1	5	2.28	0.95	0.673	-0.198	0.417
IO1	341	1	5	4.03	0.95	-1.101	0.986	0.236
IO2	341	2	5	4.09	0.673	-0.807	1.684	0.165
IO3	341	1	5	3.77	0.93	-0.919	0.724	0.247
IO4	341	1	5	3.76	0.866	-0.794	0.693	0.230
IO5	341	1	5	2.54	0.902	0.727	-0.36	0.355
IO6	341	1	5	2.33	0.796	1.092	0.935	0.342
IO7	341	1	5	2.4	0.988	0.561	-0.53	0.412
IO8	341	1	5	3.81	0.899	-0.985	0.913	0.236
IO9	341	1	5	3.4	1.012	-0.562	-0.452	0.298
IO10	341	1	5	3.93	0.777	-1.129	2.261	0.198
IO11	341	1	5	4.13	0.631	-0.951	3.766	0.153
Perf1	341	2	5	4.03	0.778	-0.73	0.527	0.193
Perf2	341	1	5	3.75	0.771	-0.538	0.332	0.206
Perf3	341	1	5	3.36	0.983	-0.393	-0.309	0.293
Perf4	341	1	5	3.27	0.867	-0.232	-0.206	0.265
Perf5	341	1	5	3.6	0.794	-0.494	-0.043	0.221

Source: own study.

Appendix II. HTMT matrix

–	EO	IO	Performance
EO	**1**	–	–
IO	0.688	1	–
Performance	0.444	0.466	1

Source: own study.

Appendix III. Standardised regression weights (with bootstrap)

Parameter			Estimate	Lower	Upper	P
IO	<—	EO	0.677	0.557	0.785	0.001
Performance	<—	IO	0.326	0.079	0.546	0.003
Performance	<—	EO	0.189	-0.045	0.434	0.047
Innov1	<—	EO	0.577	0.447	0.681	0.001
Innov2	<—	EO	0.687	0.578	0.771	0.002
Innov3	<—	EO	0.770	0.665	0.853	0.001
Pro2	<—	EO	0.593	0.468	0.699	0.001
IO1	<—	IO	0.537	0.413	0.636	0.001
IO2	<—	IO	0.706	0.608	0.780	0.001
IO3	<—	IO	0.791	0.715	0.855	0.001
IO4	<—	IO	0.765	0.679	0.833	0.001
IO8	<—	IO	0.631	0.516	0.716	0.002

Parameter			Estimate	Lower	Upper	P
IO9	<—	IO	0.606	0.489	0.704	0.001
IO10	<—	IO	0.693	0.598	0.772	0.001
IO11	<—	IO	0.675	0.579	0.759	0.001
Perf1	<—	Performance	0.526	0.414	0.633	0.001
Perf3	<—	Performance	0.841	0.782	0.888	0.001
Perf4	<—	Performance	0.848	0.790	0.890	0.002
Perf5	<—	Performance	0.908	0.861	0.946	0.001

Source: own study.

Appendix IV. standardised regression weights (without bootstrap)

Parameter			Estimate	P
IO	<—	EO	0.677	***
Performance	<—	IO	0.326	***
Performance	<—	EO	0.189	0.044
Inov1	<—	EO	0.577	–
Inov2	<—	EO	0.687	***
Inov3	<—	EO	0.770	***
Pro2	<—	EO	0.593	***
IO1	<—	IO	0.537	–
IO2	<—	IO	0.706	***
IO3	<—	IO	0.791	***
IO4	<—	IO	0.765	***
IO8	<—	IO	0.631	***
IO9	<—	IO	0.606	***
IO10	<—	IO	0.693	***
IO11	<—	IO	0.675	***
Perf1	<—	Performance	0.526	–
Perf3	<—	Performance	0.841	***
Perf4	<—	Performance	0.848	***

Source: own study.

Appendix V. Indirect effects: Two-tailed significance (BC) by bootstrapping

–	EO	IO	Performance
IO	...	...	...
Performance	**0.001**	...	...
Perf5	0.001	0.003	...
Perf4	0.001	0.003	...
Perf3	0.001	0.003	...
Perf1	0.001	0.002	...
IO11	0.001	...	...
IO10	0.001	...	...
IO9	0.001	...	...
IO8	0.001	...	...
IO4	0.001	...	...
IO3	0.001	...	...
IO2	0.001	...	...
IO1	0.001	...	...
Pro2	...	...	...
Inov3	...	...	...
Inov2	...	...	...
Inov1	...	...	...

Source: own study.

Authors

The contribution share of authors was equal and amounted to ⅓ for each of them
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Use of Artificial Intelligence

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