



Dynamic capabilities as a moderator: enhancing the international performance of SMEs with international entrepreneurial orientation

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Abstract

This paper explores the impact of International Entrepreneurial Orientation (IEO) on the international performance of Small and Medium-sized Enterprises (SMEs), with a focus on the post-COVID-19 era. IEO, treated as a subdimension of entrepreneurial orientation, is crucial for SMEs in global markets, especially given the challenges posed by the pandemic. The study examines dynamic capabilities as a moderating factor in the IEO-international performance relationship, based on the resource-based view (RBV). A survey involving 120 internationalized SMEs from industrial and service sectors was conducted, and data were analyzed using Structural Equation Modeling (SEM) through Partial Least Squares (PLS). The findings indicate that seizing and reconfiguring capabilities significantly enhance the IEO-international performance link while sensing capabilities do not show a notable impact. This research contributes to the literature by affirming the role of dynamic capabilities in strengthening SMEs' international performance through IEO, highlighting the differential impact of various dynamic capabilities, and offering insights into the specific roles of these capabilities as moderators in the IEO-international performance relationship. The study underscores the importance of strategic entrepreneurial orientation and dynamic capabilities for SMEs in the global market.

Keywords International entrepreneurial orientation · Dynamic capabilities · International performance · SMEs

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1 Introduction

International entrepreneurial orientation (IEO), as a subcategory of entrepreneurial orientation (EO) (Covin and Miller 2014), refers to discovering, enacting, evaluating, and exploiting opportunities across national borders to create future goods and services (Anwar et al. 2022; Oviatt and McDougall 2005). The significance of IEO to international performance is suggested by existing studies. For instance, research on Chinese firms has generally shown positive relationships between IEO and various international performance indicators (Covin and Miller 2014). Liu et al. (2011) found that IEO is positively associated with internationalization activities, assisting a firm in seeking foreign markets, selling its products or services in foreign markets, and entering overseas locations via foreign direct investment. Also, Zhang et al. (2012) explored the relationship between IEO and the degree of internationalization, revealing that firms with strong EO in the international context can proactively engage in innovative ventures, expand into new markets, and assimilate novel knowledge and practices. As an emerging research topic, IEO has recently gained attention (Escandón-Barbosa et al. 2016). However, the majority of studies have primarily centered their attention on the influence of IEO on a company's overall performance (Covin and Miller 2014). This focus may serve as a factor in the disparate outcomes observed in existing research between IEO and international performance. For instance, Bianchi et al. (2017) were unable to verify the presence of a positive or negative relationship between the IEO and international performance. At the same time, Jin and Cho (2018) assert that the influence of IEO on international performance is noteworthy. Given these divergent findings, further research is imperative to unravel the complex interplay between IEO and international performance, particularly in the context of Small and Medium-sized Enterprises (SMEs).

The influence of IEO on the international performance of SMEs remains an under-explored yet critical area of inquiry, especially in the post-COVID-19 operational landscape. This is especially pertinent given the unprecedented challenges posed by the COVID-19 crisis (Dejardin et al. 2023), which has made the study of IEO and its impact on international performance among SMEs more critical. SMEs play a vital role in the European economy because they are involved in 46% of imports and 37% of exports in total trade (EIM 2015; Escandón-Barbosa et al. 2016). At the same time, the proportion of SMEs engaging in foreign direct investment shows an increasing trend, currently standing at 2% (EIM 2015). SMEs are known for their adaptability, entrepreneurial spirit, and community embeddedness as unique resources to respond to risks (Clauss et al. 2021). Holding the IEO equips SMEs with enhanced innovation, risk-taking, and proactive behaviors that help them survive and sustain while operating internationally (Karami and Tang 2019). However, SMEs are also viewed as vulnerable in an unstable environment, leading to fluctuating performance (Felice-tti et al. 2023; Kraus et al. 2020). Their inherent resource scarcity and unpreparedness often limit their strategic choices (Clauss et al. 2021). Also, SMEs are less diversified in their businesses than large firms (Clauss et al. 2021). The lack of diversification can pose challenges in securing additional financial resources, as institutions often perceive SMEs as high-risk ventures (Piette and Zachary 2015). The COVID-19 crisis disrupted supply chains, leading to market shortages of materials supply and

demand fluctuations (Dejardin et al. 2023; Huang et al. 2023; Kraus et al. 2020). This crisis underscored the need for SMEs to be prepared. As a result, IEO's importance for SMEs has grown, driving them to accumulate resources to gain advantages in engaging in new ventures and expanding the market under the international context.

Considering the vulnerability and heterogeneity of SMEs, incorporating dynamic capabilities when examining the relationship between IEO and international performance is necessary (Mikalef et al. 2021). Organizational capabilities are derived from the interactions of the firm's resources, cultivating the firm's routines, which firms can rely on repetitively in dealing with international challenges (Mikalef et al. 2021). Dynamic capabilities are a type of resource a firm can rely on to modify, extend, adapt, or even create capabilities (Drnevich and Kriauciunas 2011; Hernández-Linares et al. 2021; Leso et al. 2023; Nguyen et al. 2023). These capabilities are crucial intangible resources for firms to secure competitive advantages in the international market (Kurtulmus et al. 2020; Hernández-Linares et al. 2021; Teece 2007). For instance, a firm's assets, processes, and structures allow the firm to sense and seize new opportunities and subsequently update the existing asset base to respond to the dynamic environment (Fabrizio et al. 2022; Felicetti et al. 2023), thereby gaining a competitive advantage (Jantunen 2005). Given the advantages of dynamic capabilities, the IEO's role in supporting international performance becomes increasingly salient (Mostafiz et al. 2022). However, among the existing studies, a critical gap remains in understanding how dynamic capabilities impact the relationship between IEO and international performance in SMEs. This oversight in the existing studies limits the applicability of IEO frameworks for SMEs seeking to navigate the complexities of international markets, particularly in the post-pandemic world. Besides, while the existing studies suggest that dynamic capabilities may serve as a moderator, it is crucial to clarify the rationale behind this choice of a moderating role. Not all dynamic capabilities exert the same level of influence on the IEO-international performance relationship (Fabrizio et al. 2022; Michaelis et al. 2021; Nguyen et al. 2023). Teece (2007) drew on extensive research and characterized dynamic capabilities as an integration of sensing, seizing, and reconfiguring capabilities, and these capabilities can vary independently to benefit firms. For instance, 'sensing' capabilities are critical for opportunity identification but may not directly translate into performance outcomes. On the other hand, 'seizing' capabilities are more action-oriented and may have a more immediate impact on performance. 'Reconfiguring' capabilities, which involve realigning and transforming resource configurations, could have long-term strategic implications (Teece 2007). This motivates us to consider the sensitivity of the effect of dynamic capabilities (i.e., sensing, seizing, and reconfiguring) on the relationship between IEO and international performance. Thus, in order to close the gap, we propose to study the impact of IEO on international performance and answer the research question: *Which dynamic capabilities impact the relationship between IEO and the international performance of firms?*

Drawing on the resource-based view (RBV), we hypothesize that IEO is positively related to the international performance of SMEs, and dynamic capabilities can positively moderate the relationship between IEO and international performance. Relying on a survey, we received 120 responses from top management teams from 120 internationalized SMEs in the industrial and services sectors. We employed

structural equation modeling (SEM) through Partial Least Squares (PLS) as the estimation method to observe the impact of IEO on international performance while treating dynamic capabilities as moderators. Our study makes three significant contributions: (1) It enriches the application of the RBV in the context of international entrepreneurship, confirming and extending RBV to explain the importance of dynamic capabilities in supporting SMEs' international performance through IEO. (2) It provides empirical evidence to demonstrate the differential impacts of various types of dynamic capabilities—specifically, sensing, seizing, and reconfiguring—on the relationship between IEO and international performance. (3) It introduces a novel framework for assessing the relationship between specific dynamic capabilities and international performance, offering new insights into how SMEs can strategically leverage their capabilities for international success. First, we assessed the effect of IEO on firms' international performance underpinned by RBV. The results confirm the importance of employing dynamic capabilities as a valuable resource that allows SMEs to characterize forward-looking behavior and constantly search for opportunities with entrepreneurial behavior focused on internationalization (Anwar et al. 2022). This confirms and extends RBV into EO under an international context. Second, we explored the impact of each type of dynamic capabilities (i.e., sensing, seizing, and reconfiguring) on firms' IEO and international performance. The results identify that seizing and reconfiguring capabilities are more crucial to international performance than sensing capabilities for international SMEs. Our results demonstrate the capabilities to learn from the context and reconfigure the business competencies, positively impacting the relationship between IEO and international performance. Third, we offer a new assessment for interpreting the relationship between specific dynamic capabilities and international performance. Our study emphasizes dynamic capabilities as essential moderators while investigating IEO and international performance. More importantly, our study shows the different impacts of dynamic capabilities (i.e., sensing, seizing, and reconfiguring) on the relationship between IEO and international performance.

2 Theory and hypothesis

2.1 RBV, IEO, and International performance

The RBV theory asserts that a firm's competitive advantage is derived from its resources (Barney 1991). These resources should be valuable, enabling the firm to exploit opportunities or counteract threats in the market, and rare enough that few competitors possess them. Additionally, these resources should be challenging for other firms to replicate and should not be easily replaced by other products or services. Based on the RBV, IEO can be conceptualized as resources featured by innovative, proactiveness and risk-taking behaviors from an environment to accumulate knowledge and technological resources, which SMEs can utilize to gain competitive advantages in an international market (Covin and Miller 2014; Karami and Tang 2019; Michaelis et al. 2021).

IEO extends the core components of EO by incorporating international elements, such as the propensity for cross-border market entry (Covin and Miller 2014). This international dimension of IEO manifests in various ways. For instance, the risk-taking component of IEO reflects a firm's willingness to navigate uncertainties in foreign markets, thereby stepping outside conventional boundaries to operate on a global scale. Similarly, the innovative aspect of IEO is pivotal for firms to grow and introduce new products or services in international markets, as supported by research (Boso et al. 2017; Story et al. 2015). Furthermore, IEO's proactive nature signifies a firm's eagerness to identify and exploit lucrative opportunities in the global marketplace (Anwar et al. 2022; Boso et al. 2017; Karami et al. 2023). This proactive orientation enables firms to outperform their international competitors by effectively mitigating the inherent risks associated with the volatile global landscape (Zhou et al. 2010; Acosta et al. 2018; Kallmuenzer et al. 2024; Karami et al. 2023).

The RBV framework further substantiates the role of IEO as a strategic resource by highlighting its capacity to enhance a firm's adaptability to international activities (Zahra 2005; Knight and Kim 2009). This adaptability, or 'international preparedness,' is crucial for a firm's performance in international contexts (Freixanet et al. 2021; Kim and Nguyen 2024; Knight 2000; Hagen et al. 2012). Essentially, firms that cultivate IEO are better equipped to navigate the complexities of the global market, fulfilling the RBV criteria of a valuable and rare resource that is difficult for competitors to imitate. Recent empirical evidence corroborates the positive impact of IEO on international performance (Escandón-Barbosa et al. 2016; Acosta et al. 2018; Mostafiz et al. 2022). These findings underscore the importance of fostering an entrepreneurial orientation to excel in today's global business landscape. In essence, a proactive and growth-oriented approach to international operations can significantly enhance a company's overall performance on the international stage.

Therefore, in alignment with the RBV framework and the arguments presented, we propose our first hypothesis:

H1. IEO positively impacts international performance.

2.2 Dynamic capabilities as moderators

Anchored in the RBV, we argue that dynamic capabilities serve as strategic resources that are valuable, rare, and difficult to imitate, thereby fulfilling the criteria for sustainable competitive advantage (Barney 1991; Fabrizio et al. 2022). These dynamic capabilities—sensing, seizing, and reconfiguring—act as pivotal mechanisms that enable firms to adapt and thrive in the volatile international market (Fredrich et al. 2022; Nguyen et al. 2023; Khan et al. 2020; Teece 2007). The seminal work of Amit and Schoemaker (1993) laid the foundation for understanding dynamic capabilities as strategic resources that enable firms to continuously adapt and innovate in response to changing market conditions. Subsequent research has further elaborated on the role of these capabilities in shaping international performance (Cepeda and Vera 2007; Danneels 2008; Fabrizio et al. 2022; Kogut and Zander 1992; Peng et al. 2020). Dynamic capabilities facilitate the reconfiguration of both tangible and intangible resources, thereby aligning with the RBV framework as strategic resources that are valuable and rare (Gupta et al. 2024; Kogut and Zander 1992; Peng et al. 2020).

These capabilities enable firms to enter and excel in international markets by dynamically enabling firms to adapt their strategies and resources to diverse and evolving market conditions (Gupta et al. 2024; Tallman and Fladmire-Lindquist 2002; Sapienza et al. 2005).

It is crucial to distinguish dynamic capabilities from operational capabilities, which are more routine and focused on maintaining current products (Baia and Ferreira 2024; Helfat and Winter 2011). Dynamic capabilities, on the other hand, are aligned with a firm's strategic adjustments to its environment (Baia and Ferreira 2024; Felicetti et al. 2023), enabling new resource configurations in response to market changes (Eisenhardt and Martin 2000; Gupta et al. 2024; Leso et al. 2023; Teece 2007; Zahra et al. 2006). These capabilities are particularly relevant for firms engaged in international activities, as they allow for tailored export strategies responsive to country-specific market conditions (Brock and Hitt 2024; Matysiak et al. 2018). In the context of IEO, dynamic capabilities can amplify the impact of IEO on international performance. These capabilities align closely with the entrepreneurial, innovative, and strategic aspects of IEO, thereby serving as moderators that strengthen the relationship between IEO and international performance (Weerawardena et al. 2007; Teece 2014; Knight and Liesch 2016; Acosta et al. 2018).

Therefore, in line with the RBV framework and the extant literature on dynamic capabilities, we propose our second research hypothesis:

H2. In Fig. 1 we present our theoretical model dynamic capabilities (H2a: sensing; H2b: seizing; H2c: reconfiguring) positively moderate the relationship between IEO and international performance.

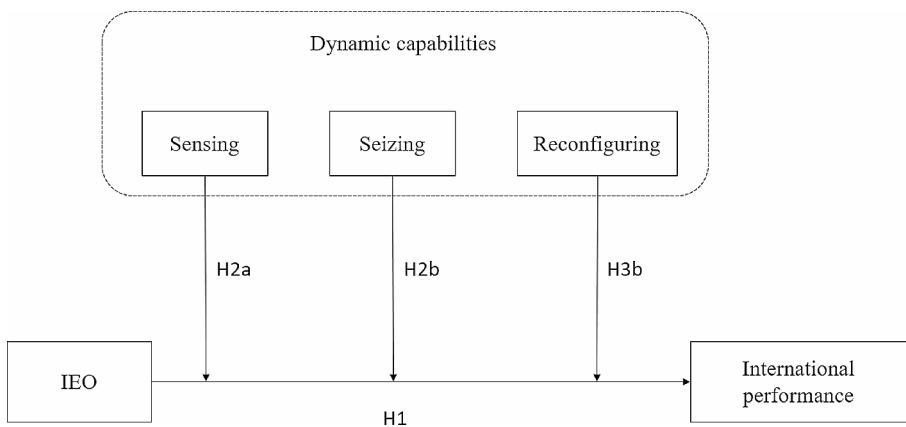


Fig. 1 Theoretical model

3 Method

3.1 Sample

To empirically validate the proposed conceptual research model, we utilized a database of 5,000 internationalized SMEs representing the Portuguese universe. From this, we randomly selected 300 SMEs and reached out to them via phone. Out of these, 120 agreed to participate in the study, which constitutes a 40.0% participation rate. Before responding to the questionnaire, participants were thoroughly briefed on the comprehensive details of the study procedure. During this pre-interview phase, they were provided with a detailed overview of the research aims, methods, and any pertinent information relevant to their involvement. Subsequently, participants willingly and consciously gave their informed consent, signifying their agreement to participate in the study under a clear understanding of its scope and objectives. No significant deviations have been identified between the distribution of economic activity in the analyzed sample and that observed in the entirety of Portuguese companies. The data collected demonstrates the sample's representativeness, offering a snapshot that accurately reflects the economic diversity of the Portuguese business environment, which implies the absence of non-response bias. We also analyzed the presence of non-response bias by comparing data obtained at the beginning (first 33%) and at the end (last 33%) of the data collection process, based on composite scores of our measures. We performed independent samples t-tests on these variables indicating that non-response bias is not a significant concern in this research.

To mitigate common method bias, we assured the anonymity and confidentiality of the participants and clarified through the comprehensive details of the study procedure that all responses were valid, with no right or wrong answers. Moreover, following best practices, we employed an item-randomization technique to shuffle the sequence and variety of questions, enhancing the neutrality and efficacy of our data gathering approach. (Gregori et al. 2023; De Jong et al. 2010; Su et al. 2022). To avoid common method bias, we initially ensured the anonymity and confidentiality of the study and informed respondents, via a cover letter, that there were no right or wrong answers. In addition, as recommended, we used an item-randomizer to balance and randomize the order and types of questions, ensuring the impartiality and effectiveness of the data collection process (Gregori et al. 2023; De Jong et al. 2010; Su et al. 2022). To assess common method bias, we applied Harman's one-factor test, where a single factor, extracted through an exploratory factor analysis, accounted for 28.5% of the total variance, indicating that common method bias is not problematic in this study.

According to Table 1, 66.7% of the SMEs in the sample are services, 77.5% had been established over ten years, while 55% were internationalized more than a decade ago.

3.2 Model evaluation

Structural Equation Modeling (SEM) is the chosen data analysis strategy to meet the objectives of this research, as it enables the examination of multiple dependency

Table 1 Demographic sample

		<i>N</i> = 120	%
Industry	Industrial	40	33.33%
	Service industries	80	66.67%
Firm size	Less than 50	47	77.50%
	From 50 to 249	27	22.50%
Firm age	Between 1 and 10 years	26	22.50%
	More than 10 years	93	77.50%
Establishment age (Mean±SD (Min-Max))		27.9±20.3 (2–100)	
Time of internationalization (years)	Less than 1 year	3	2.50%
	Between 1 and 10 years	51	42.50%
	More than 10 years	66	55%
Internationalization Start Time (Mean±SD (Min-Max))		15.1±11.2 (1–46)	

relationships simultaneously. Employing SEM is appropriate for testing the complex hypotheses and structural relations proposed in our research model, ensuring a thorough and detailed analysis of the collected data. We chose PLS-SEM due to its suitability for exploratory research and its ability to handle complex models and smaller sample sizes effectively, which aligns with the nature of our study. Due to the sample being small and slightly skewed (Hair et al., 2020; Sarstedt et al., 2019), we employed the PLS-SEM to analyze the data. PLS-SEM shows the ability to estimate the relationships of all constructs at the same time (Becker et al. 2023; Hair et al., 2020). Moreover, the PLS-SEM is ideal for better identifying moderating effects and the use of composite measures was also a key reason for employing PLS-SEM in our analysis, aligning with its capability to effectively handle such constructs (Becker et al. 2023). Additionally, we used the SEMinR 2.3.2 package in RStudio 4.2.2 to perform all calculations (Hair et al., 2020).

3.3 Composite reliability, convergent validity, and discriminant validity

In Table 2 and Table 3, we can see that the composite reliability (CR) for each construct is greater than the threshold value of 0.7. (Hair et al., 2020) and the factor loadings of all measurement items are greater than the threshold value of 0.5 (Hair et al., 2020) Therefore, reliability of our constructs is not a concern of the present study. Moreover, the Average Variance Extracted (AVE) of all constructs is greater than the threshold value of 0.5, presenting convergent validity (Hair et al., 2020). The discriminant validity was assessed using the Heterotrait-Monotrait ratio (HTMT) criterion, which should be less than 0.85, and Fornell and Larcker criterion (Fornell and Larcker 1981), which the square root of the AVE of two constructs should be higher than the correlation between these two factors. The values of HTMT ratio, including the upper limit of the confidence intervals, are all below the more conservative cutoff value of 0.9, indicating that the measurement instrument is capable of distinguishing between the constructs, showing the discriminant validity.

Table 2 Descriptive statistics: Cronbach's alpha construct reliability, AVE, square root of AVE, and correlation matrix

	1	2	3	4	5
International entrepreneurial orientation	1.000				
Sensing	0.209				
Seizing	0.513	0.309			
Reconfiguring	0.560	0.595	0.544		
International performance	0.341	0.410	0.372	0.580	1.000
Cronbach's alpha	0.925	0.823	0.870	0.855	0.931
CR	0.916	0.876	0.899	0.862	0.945
AVE	0.521	0.645	0.694	0.630	0.714
SAVE	0.721	0.803	0.833	0.794	0.845

Note. *S AVE is the square root of AVE, indicating discriminant validity when greater than the individual correlations*

3.4 Measures

All measurement items are sourced from well-researched research scales (e.g., Dimitratos et al., 2004; Jantunen et al. 2005; Wilden et al. 2013) and constructed using 7-point Likert-type scales. Table 2 shows the details of the constructs and their measurement items and the mean and standard deviation of each measurement item. All variables were sourced from well-recognized studies to ensure scale validity.

3.4.1 International performance

International performance was sourced from Jantunen et al. (2005). The measurement items of this construct are structured on a 7-point Likert scale ranging from 1 “strongly dissatisfied” to 7 “strongly satisfied,” led by the question, “Considering the following aspects, how satisfied have you been with your international activities during the last three years?”.

3.4.2 International entrepreneurial orientation

The measurement items for international entrepreneurial orientation are sourced from Dimitratos et al. (2004), containing 16 items. These construct items are structured using a 7-point Likert scale.

3.4.3 Dynamic capabilities

Dynamic capabilities are separated into three sub-constructs—sensing, seizing, and reconfiguring capabilities based on Wilden et al. (2013). The measurement items for sensing, seizing, and reconfiguring capabilities are constructed using a 7-point Likert scale anchoring from 1 “rarely” to 7 “very often”. Items for sensing and seizing are guided by the question “in my company...”. Reconfiguring items are led by the question, “In the last three years, how often have you performed the following activities.”.

4 Results

We used the guidelines by Benitez et al. (2020) to evaluate our model. In the first phase, the global *adjustment* analysis of the estimated model is carried out, in which the discrepancy between the variance-covariance matrix of the observed indicators and the estimated model is analyzed. The discrepancy measures usually used in PLS-SEM models are the Standardized Root Mean Residual (SRMR) and the d_{ULS} and d_G distances. Based on the rule of thumb, these values should be lower than the distribution’s 95% (HI95) and 99% (HI99) quantiles. Table 4 presents three discrepancy measures (SRMR - standardised root mean squared residual, d_{ULS} , and d_G) and 95% (HI95) and 99% (HI99) quantiles of their corresponding distribution. The results reveal that the model’s quality fits in this study and meets all the criteria. Thus, the model was not rejected at the 5% significance level, providing empirical support for the proposed approach.

Table 3 Summary of constructs used

Construct	Measurement items	Mean	SD	Factor loading
International entrepreneurial orientation Dimitratos et al. (2004)	1*: In foreign countries, low-risk projects are chosen.	4.82	1.35	0.649
	2*: The nature of the external environment influences a cautious and incremental approach in order to realize the company's objectives.	4.34	1.36	0.560
	3: One way to beat the competition is to respond to the actions launched by this.	4.89	1.52	0.571
	4*: One way to beat the competition is not to be the first to launch new products.	3.96	1.73	0.543
	5: In the past three years, new products or services have been launched abroad.	3.83	1.64	0.835
	6*: In the past three years, in this foreign country, changes to product or service lines were limited	4.59	1.56	0.926
	7*: Normally, my company does not adopt a posture of defeating the competition in foreign markets.	4.81	1.73	0.933
	8: Normally, my company tends to exploit the weaknesses of competitors in foreign markets.	4.57	1.54	0.936
	9: My company takes hostile measures to achieve its export objective.	4.41	1.41	0.726
	10*: The actions of my company in foreign markets cannot be considered aggressive.	4.74	1.68	0.516
	11: The key export decisions are made by staff inside the export department.	4.86	1.52	0.907
	12: Employees engaged in exports behave autonomously in the export operations.	5.02	1.29	0.567
	13: Employees engaged in exports act independently to implement their export ideas.	4.84	1.67	0.620
	14: Employees engaged in exports self-manage the search for export opportunities.	4.79	1.59	0.556
	15: Employees engaged in exports self-manage the search for export opportunities.	4.59	1.70	0.600
	16*: The management does not approve of independent activities by employees in developing new export opportunities.	5.23	1.36	0.935
Dynamic capabilities Wilden et al. (2013) Sensing	In company:			
	1: Employees participate in professional association actions.	5.55	0.92	0.600
	2: In identifying target market segments, customer needs, and customer innovations, established processes are used.	5.29	1.08	0.935
	3: We observe the best practices in our sector.	5.18	1.21	0.929
	4: Economic information is gathered about operations and the operating environment.	4.95	1.63	0.695

Table 3 (continued)

Construct	Measurement items	Mean	SD	Factor loading
Seizing	In company: 1: Investment in finding solutions for customers. 2: Best industry practices were used. 3: Paying attention to employee recommendations. 4: Whenever customer feedback indicates change, this is done.	4.29 3.92 5.01 5.30	2.06 1.91 1.37 0.94	0.681 0.828 0.859 0.942
Reconfiguring	In the last 3 years, how often have you performed the following activities? 1: Execution of new management methods. 2: Implementation of new or changed strategy and marketing method. 3: Fundamental reformulation of business processes. 4: New or changed methods to achieve objectives	5.26 5.65 5.18 4.62	0.98 1.04 1.50 1.72	0.962 0.973 0.680 0.431
International performance	Considering the following aspects, how satisfied have you been with your international activities during the last three years? 1: Sales Volume. 2: Market Share. 3: Profitability. 4: Market access, 5: Development of image. 6: Development of know-how. 7: Asawhole	6.85 6.59 6.76 6.81 6.91 7.27 6.81	1.53 1.11 1.03 1.07 1.04 1.07 0.98	0.667 0.875 0.876 0.894 0.972 0.848 0.746

Notes. * reverse item

Table 4 Results of the overall fit of the estimated model

Discrepancy	Value	HI95	HI99
SRMR	0.075	0.079	0.087
d_{ULS}	0.589	0.645	0.879
d_G	0.545	0.568	0.712

Table 5 Structural model evaluation

		Beta	SD	p	f^2
H1	International entrepreneurial orientation \diamond International performance	0.350	0.070	0.000***	0.159
	Sensing \diamond International performance	0.320	0.070	0.000***	0.131
	Seizing \diamond International performance	0.260	0.060	0.000***	0.089
	Reconfiguring \diamond International performance	0.200	0.060	0.001**	0.052
H2a	IEO*Sensing \diamond International performance	0.110	0.070	0.135	0.010
H2b	IEO*Seizing \diamond International performance	0.210	0.070	0.005**	0.045
H2c	IEO*Reconfiguring \diamond International performance	0.140	0.070	0.037*	0.021

Note. $p < .001$ *** $p < .01$; * $p < .05$

The estimated structural model exhibits (Table 5) acceptable levels of predictive power ($R^2 = 53.9\%$). The results in Table 4 support *H1*. *IEO positively impacts international performance* ($\beta = 0.35$; $p < .001$). The findings suggest that IEO has a favorable influence on international performance. This result is corroborated by previous studies (McDougall and Oviatt 2000; Jones and Coviello 2005; Weerawardena et al. 2007). Given that international activity involves recognizing and scrutinizing new opportunities in new environments (Anwar et al. 2022), this forces the firm to have an innovative and proactive attitude. It also requires the firm to accept increased responsibility for the risk of performing in new competitive situations where the likelihood of failure is higher (Zhou et al. 2010). IEO positively impacts international performance, contributing to competitive advantage (McDougall and Oviatt 2000; Knight and Liesch 2016).

Regarding *H2*, there is no moderation effect with statistical significance of the impact of *sensing* capabilities on the relationship between IEO and international performance ($\beta = 0.11$; $p = .135 > .05$), thus rejecting *H2a*. However, *seizing* capabilities ($\beta = 0.21$; $p = .005 < .01$) and *reconfiguring* capabilities ($\beta = 0.14$; $p = .037 < .05$) have a positive moderation effect with statistical significance on the relationship between IEO and international performance. Therefore, the higher the level of *seizing* (*H2b*) and *reconfiguring* (*H2c*) capabilities, the higher the impact of IEO on international performance. As suggested by Teece (2007), companies will be as competitive as they can seize opportunities and reconfigure the (in)tangible assets of the firm.

Figure 2 presents a model with the validated hypotheses.

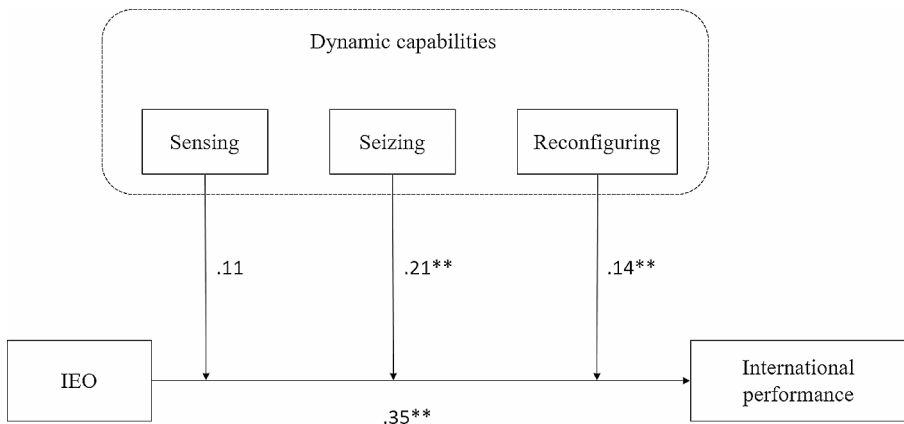


Fig. 2 The model with the validated hypotheses

5 Discussion

SMEs play a significant role in international trade, and their vulnerability to market fluctuations is a cause of serious concern (EIM 2015; Escandón-Barbosa et al. 2016; Clauss et al. 2021; Karami et al. 2023). The results highlight the importance of both IEO and types of dynamic capabilities in enhancing international performance that are salient for SMEs. Given that SMEs often operate with resource constraints, understanding which capabilities are most effective in leveraging IEO for better international performance can inform strategic decision-making. We therefore advocate the importance of studying the internationalization capacity of firms, as suggested by other researchers (Escandón-Barbosa et al. 2016; Acosta et al. 2018; D’Angelo and Presutti 2019; Karami et al. 2023). This finding is consistent with previous research that has emphasized the role of IEO in enhancing a firm’s international activities (Karami et al. 2023; McDougall and Oviatt 2000; Jones and Coviello 2005; Weerawardena et al. 2007). However, our result indicates a robust relationship between IEO and international performance (Hypothesis 1, H1), reinforcing that firms with a higher level of IEO are better positioned to succeed in international markets during the post-COVID-19 period. This extends expectations set by the RBV (Barney 1991; Covin and Miller 2014; Karami and Tang 2019) that IEO can be considered a valuable and rare resource, and a resource orchestrator, in ways that enable firms to gain competitive advantages in international markets. Additionally, the study revealed new insights into the moderating effects of dynamic capabilities on the relationship between IEO and international performance. We found no statistically significant moderating effect for sensing capabilities, but seizing and reconfiguring capabilities positively moderate the IEO–performance relationship (Hypothesis 2, H2). These findings are important because they reveal that not all dynamic capabilities are equally effective in enhancing the impact of IEO on international performance, particularly in the post-COVID-19 period. According to Teece (2007), seizing and reconfiguring capabilities enable firms to adapt and innovate in response to changing market conditions, thereby providing them with a competitive advantage. This finding enhances

our understanding of the role of dynamic capabilities in international business strategy because they suggest that sensing capabilities commensurate with an initial state of readiness to detect and be alert to change does not sufficiently manifest an ability to change. Seizing and reconfiguring provide the action-oriented dynamic capabilities needed to get the most out of IEO in spearheading improvements to international performance when emerging from an acute crisis. Our study presents pioneering insights by empirically demonstrating the varied impact of dynamic capabilities on enhancing the international performance of SMEs through IEO. Unlike prior studies that broadly assert the importance of dynamic capabilities, our findings offer a more nuanced view, especially distinguishing between the roles of sensing, seizing, and reconfiguring capabilities. Such distinction underscores an important advancement in understanding the management of resources in volatile international markets.

5.1 Theoretical implications

Our first contribution lies in extending RBV theory. This study argues that IEO—characterized by innovativeness, proactiveness, and risk-taking in an international context—also meets the criteria of being valuable, rare, and difficult to imitate (Covin and Miller 2014; Karami and Tang 2019). By empirically demonstrating a positive relationship between IEO and international performance among SMEs, this study substantiates the role of IEO as a strategic resource that can help firms adapt to international activities (Zahra 2005; Knight and Kim 2009). What is unusual about IEO is that as a strategic resource, it also acts as a mechanism for resource orchestration as an adaptive capability. This adaptability, or ‘international preparedness,’ is crucial for a firm’s performance in international contexts (Knight 2000; Hagen et al. 2012). Additionally, integrating dynamic capabilities into our model contributes to the literature regarding RBV; while the static nature of RBV is well-known and regularly critiqued, by incorporating dynamic capabilities as strategic resources for SMEs operating in the international context (Fredrich et al. 2022; Hernández-Linares et al. 2021; Khan et al. 2020; Teece 2007), our findings on the moderating effects of seizing and reconfiguring capabilities on the relationship between IEO and international performance further deepen our understanding of how dynamic capabilities interact with other strategic resources in the RBV framework. Additionally, this contribution extends beyond the application of RBV in the international context. By integrating dynamic capabilities as a moderating factor between IEO and international performance, we emphasize a more dynamic RBV application. Our study enriches the theoretical discourse by providing a detailed mechanism through which IEO, underpinned by dynamic capabilities, significantly enhances SMEs’ adaptability and performance under an international context.

Our second contribution lies in revealing the nuanced role that different types of dynamic capabilities play in influencing the relationship between IEO and international performance (Pitelis and Wang 2019). While the literature on dynamic capabilities often treats these capabilities as universally beneficial (Teece 2007; Khan et al. 2020; Nguyen et al. 2023), our study shows that not all dynamic capabilities are equally useful for SMEs operating internationally. Notably, our results indicate that sensing capabilities did not statistically significantly moderate the relationship

between IEO and international performance. This challenges the prevailing notion that all dynamic capabilities are essential for international business success and suggests that the utility of dynamic capabilities may be context-dependent (Jones and Coviello 2005; Tsang 2013; Mostafiz et al. 2022). The study contributes to the literature by contextualizing the role of dynamic capabilities within the specific challenges and opportunities presented by international business. For instance, the positive moderating effects of seizing and reconfiguring capabilities suggest that these particular dynamic capabilities are crucial for SMEs to adapt their strategies and resources to diverse and evolving international market conditions (Tallman and Fladmoe-Lindquist, 2002; Sapienza et al. 2005). This aligns with previous research but adds a layer of specificity by focusing on the SME context, where resource constraints make the efficient allocation of capabilities even more critical (Matysiak et al. 2018). Moreover, this study prompts a re-evaluation of the RBV framework when applied to internationalized SMEs. While sensing capabilities are generally considered valuable, their lack of a significant moderating effect in our study suggests they are insufficient to elaborate competitive advantages for SMEs in international settings. Seizing and reconfiguring capabilities meet the criteria of being valuable and are rare in their ability to significantly impact international performance. Specifically, we conclude that sensing capabilities provide the basis for an initial state of readiness to detect and be alert to change, but are insufficient to manifest change. We recommend scholars conceptualize sensing capabilities accordingly from now on. Seizing and reconfiguring should be conceptualized as action-oriented dynamic capabilities needed to extract the most value of IEO (as a strategic resource and resource orchestrator) in spearheading improvements to international performance when emerging from an acute crisis. Furthermore, our study sheds light on the context-specific utility of dynamic capabilities in the post-COVID-19 period. Notably, the post-COVID-19 period presents unique challenges and opportunities for SMEs, making the strategic focus on seizing and reconfiguring capabilities vital. Our insights into these capabilities' specific roles offer targeted directions for SMEs aiming to navigate the complexities of the current global market environment effectively.

Our third contribution is introducing a new assessment framework that emphasizes the role of specific dynamic capabilities as moderators in the relationship between IEO and international performance. While previous research has often treated dynamic capabilities as independent variables affecting performance (Khan et al. 2020), our study positions them as moderating factors that can either amplify or attenuate the impact of IEO on international performance. This view allows for a more comprehensive understanding of how and why some firms with high levels of IEO outperform others in international markets. More importantly, our study goes beyond the general discussion of dynamic capabilities to delve into the specific impacts of sensing, seizing, and reconfiguring capabilities. By doing so, we provide a more granular understanding of how each type of these capabilities interacts differently with IEO to affect international performance. For instance, while seizing and reconfiguring capabilities significantly enhanced the positive relationship between IEO and international performance, sensing capabilities did not show a statistically significant moderating effect. This differential impact underscores the need for firms to be strategic in developing and deploying their dynamic capabilities, especially in

international business where resource constraints and market volatility are often more pronounced. This new assessment framework not only advances our understanding of the dynamic capabilities construct but also enriches the broader theoretical landscape by offering a more complex and nuanced interpretation of how dynamic capabilities function in real-world settings. It challenges the view of dynamic capabilities as universally beneficial strategic resources and encourages scholars and practitioners alike to consider the specific contexts in which these capabilities are deployed.

5.2 Practical implications

The aftermath of the COVID-19 pandemic has created new challenges and opportunities for SMEs, making the insights from this study even more timely. Given that not all dynamic capabilities are equally effective in international contexts (Nguyen et al. 2023), it becomes important for managers to focus their efforts on developing ‘seizing’ and ‘reconfiguring’ capabilities. Also, our study found that firms with a higher level of IEO are better positioned in the international market. It is important to create an innovation culture and risk-taking within the organization. Since SMEs with a higher level of IEO are better positioned for international success, organizational incentives encouraging teams to innovate and take risks can benefit international performance.

Institutional and policy initiatives aimed at favoring the internationalization of enterprises should be directed at promoting international entrepreneurship and international market orientation. Removing obstacles to entering foreign markets, reducing the bureaucratic and legal burden applied to exports, and promoting financing and organizing actions that encourage international business are some examples of institutional initiatives to be taken. Facilitating international transactions and expansion is an opportunity for companies to circumvent some of the limitations and problems they face in their domestic markets that make it impossible for them to grow or obtain the resources to develop their international activities. Planning the internationalization process is essential for companies. The first phase of the process is identifying the resources and competencies that provide the core competitive advantages to compete in the international market. The selection of markets, the orientation towards those markets, and where companies should expand their activities are important steps in the process.

5.3 Limitations and future research

This study shows that the investigation of the IEO of companies must comprise multiple and simultaneously interconnected topics that reveal their authors’ discipline, dynamism, and perspectives over time. Thus, in answering our research question—which dynamic capabilities influence the relationship between IEO and firms’ international performance—we can argue through the results obtained that seizing and reconfiguring capabilities positively impact the effect of IEO on international performance. On the other hand, our research points to the need for multidisciplinary approaches to study the phenomenon of IEO of firms and helps to disclose avenues for future research.

The interaction we explore in this study is important to better understanding the IEO field. As a result, some important boundaries and implications for international business research become clearer. For example, the theory of knowledge spillovers (Chen et al. 2020; Ferreira et al. 2023) or the resource-based view (Gassmann and Keupp 2007; Wilden et al. 2013) and the knowledge-based view (Enkel and Heil 2014; Dooley et al. 2016) can help explain essential research questions about this complex phenomenon of international business of firms and their international performance.

No research is perfect and without limitations, and ours is no exception. Since the data are cross-sectional, it was unlikely to analyze the firm's international performance at different points in time. Thus, we recommend that future studies examine the evolution of international performance through time or at different stages of internationalization. Another research possibility is the need to identify if variables such as the current crisis period, caused by the pandemic and currently by the war in Ukraine, have an impact and what kind of impact on international performance. Our study incorporated a sample of SMEs, so we were unable to ascertain what the behavior of other types of companies, such as multinationals or born-global, would be.

The institutional aspect is, in our opinion, also an opportunity for future research; that is, how does the institutional context influence the IEO and the institutional performance of firms? Longitudinal studies are also a strong recommendation for future studies, as they may help to understand the behavior of these firms over time. Finally, we also suggest that efforts continue to be made to promote discussions and debates aimed at expanding and developing international business theories to stimulate and explain the behavior of companies that aim at internationalization so that progress can be made in this interesting field.

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