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The mediating roles of cost leadership and cost focus strategies on innovation capabilities and export performance. Results from an emerging country

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ABSTRACT

Although there are several studies analyzing how cost leadership and cost focus competitive strategies influence export performance, this article examines the relationship between innovation capabilities (ICs) and export performance (ExPf), as well as the mediating effects of cost leadership and cost focus competitive strategies among small and medium enterprises (SMEs) in Mozambique. Based on empirical survey data collected from 250 SME managers in Mozambique, we utilized Partial Least Squares Structural Equation Modelling (PLS-SEM) for data analysis. Findings demonstrate that both cost leadership and cost focus competitive strategies partially mediate the ICs-ExPf relationship. Furthermore, these competitive strategies enhance the direct effect of ICs on export performance. These results suggest that SMEs from emerging countries, such as Mozambique, can effectively develop ICs and leverage cost leadership and cost focus advantages to successfully compete in international markets. The implications of this study are significant for owners and managers of SMEs from emerging countries, as it provides valuable insights into the impact of cost leadership and cost focus advantages of firms' innovation capabilities. By understanding these relationships, SMEs can make more informed decisions and adopt more effective management approaches when seeking to compete in internationally, particularly among SMEs in emerging countries.

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Introduction

The Resource-Based View (RBV) and the dynamic capabilities of the firm are two important strategic management theories that emphasize the important role of internal resources and capabilities in generating sustainable competitive advantages (Barney, 1991; Teece et al., 1997). The RBV facilitates the identification of the core competencies, which are unique and valuable resources or capabilities that confer firms a competitive edge over their rivals (Barney, 1991). Complementarily, the dynamic capability theory emphasizes the importance of a firm's capacity to adapt to changes in the external environment (Teece et al., 1997), enabling adjustments in strategic paths to meet new demands and compete internationally. While research in developed countries is extensive, it remains scarce in developing countries (Ahmad & Lee, 2016; Falahat et al., 2020; Mahamadou, 2021). In African countries, such as Mozambique, where SMEs face challenges like low productivity, limited technological dynamism, and resource constraints (Ministério da Indústria e Comércio, 2016; Musso & Francioni, 2014), research is in high demand as innovation is

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pivotal for international competitiveness and adaptation to international competitive environments. Therefore, it is crucial to investigate and understand how these competitive strategies function in diverse and challenging environments, shedding light on the factors influencing export performance and business success in emerging countries.

Innovation is widely recognized as a crucial driver of business growth, particularly based on the dynamic capabilities of firms (Teece et al., 1997). Prior research has established that innovation capabilities (ICs) significantly influence a firm's export performance (ExPf) (e.g. Guan & Ma, 2003; Ribau et al., 2017). However, the literature on ICs comprises diverse and multifaceted constructs, which are all categorized under the umbrella term 'innovation capabilities' (e.g. Cárdenas et al., 2022; Guan & Ma, 2003; Lawson & Samson, 2001; Oura et al., 2016; Perdomo-Ortiz et al., 2006; Vicente et al., 2015).

For instance, based on seven types of ICs—manufacturing, learning, marketing, organizational, R&D, resource allocation, and strategic—Guan and Ma (2003) investigated Chinese manufacturing firms and identified that all ICs, except for manufacturing ICs, positively influence export performance. On the other hand, Oura et al. (2016) studied small and medium-sized firms (SMEs) in Brazil and discovered that all seven ICs directly affect export performance.

Furthermore, studies conducted in Portugal used different constructs. Vicente et al. (2015) focused on new product development capability, technology capability, innovation capability, and strategic capability. In contrast, Ribau et al. (2017) concentrated on SMEs in the plastics manufacturing industry in Portugal and utilized the seven ICs dimensions based on Guan and Ma (2003). Both studies found that all the mentioned innovation dimensions exhibited a positive impact on export performance. In conclusion, the role of ICs in driving business growth and export performance is evident across various studies. However, the specific dimensions and metrics of ICs and their influence on exports may vary depending on the firm's country context, size, and characteristics.

ICs play a crucial role in enhancing competitiveness, as evidenced by various studies (Guan & Ma, 2003; Knight & Kim, 2009; Sen & Egelhoff, 2000; Wang & Ahmed, 2004). They are closely linked to a firm's internal resources and capabilities (Barney, 1991; Teece et al., 1997), and they also underpin the competitive strategies of export-led firms (Morgan et al., 2004).

Extensive research has been conducted on firms' competitive strategies, with the majority of models primarily focusing on elucidating the competitive behavior of firms in North America, Europe, and Japan (Aulakh et al., 2000; Hallgren et al., 2011; Lee et al., 2021). For Aulakh et al. (2000), exporting firms from emerging countries like Chile, Brazil, and Mexico adopt competitive strategies to target international markets, which significantly contribute to explaining their internationalization. Moreover, emerging countries may offer interesting conditions and affordable resources, which give local firms a competitive edge to leverage these resources and thrive in international markets (Morgan et al., 2004; Ogbechie, 2018; Von Janda et al., 2021).

While there are studies on the ICs-ExPf relationship (e.g. Guan & Ma, 2003; Oura et al., 2016; Ribau et al., 2017; Vicente et al., 2015), little has been said about the mediating effect of competitive strategies on this relationship in the context of exporting firms in emerging economies (e.g. Lages et al., 2009). It can be argued that unique business competencies, particularly relational and marketing competencies, along with competitive strategies like differentiation and cost leadership, provide exporting firms with a competitive advantage and enhance their export performance (Keskin et al., 2021). Similarly, the competitive strategy of cost leadership has a positive impact on the export performance of SMEs (Rua et al., 2018). Moreover, the combination of both Porter's low-cost and focus strategies has negative effects on firm performance (Lee et al., 2021).

Given the limited research on ICs in emerging countries (e.g. Ali et al., 2020; Guan & Ma, 2003; Von Janda et al., 2021; Zimmermann, Ferreira, et al., 2020) and competitive strategies (Aulakh et al., 2000; Coudounaris, 2018; Lee et al., 2021; Rua et al., 2018) on the performance of exporting firms in emerging countries, this paper aims to study the mediating effect of competitive strategies—specifically cost leadership and cost focus—on the relationship between ICs and export performance of SMEs in Mozambique. With this, this article sheds new light on the competitiveness of SMEs in emerging countries using the dynamics capability perspective—through ICs—and the RVB of the firms—through cost leadership and cost focus strategies. By examining mediating effects, the research sheds light on the direct and indirect impacts of cost leadership and cost focus strategies on exporting Mozambican SMEs, aiming to expand the academic perspective in the study of emerging countries.

The research is organized as follows: after this introduction, section Literature review presents the literature review and supports the research hypotheses development regarding the relationship between ICs, export performance and cost leadership and cost focus competitive strategies. Section Methods presents the methodology used. Section Results presents the results. Finally, Section Conclusions, implications, limitations, and future perspectives present the research findings, including the implications, limitations of the work, and recommendations for future research.

Literature review

Innovation capabilities

The resource-based view (RBV) and dynamic capabilities theories form the fundamental pillars for elucidating the significance of competitive strategies and ICs. According to the RBV, a company's competitive advantage stems from the adequate and efficient utilization of its resources (Barney, 1991). Conversely, Teece et al. (1997) DCs theory delves into how firms adapt to dynamic environments by renewing and regenerating their capacities. This theory highlights how companies cultivate and internalize new competences and abilities, leading to variations in industry performance (Teece et al., 1997). These theories are complementary, as resources and capabilities play a pivotal role in not only developing novel products but also ensuring their successful implementation in the market (Teece, 1986).

Table 1 illustrates the multifaceted understanding of innovation capabilities. Authors depict different constructs and concepts when discussing ICs, using diverse metrics. Some view innovation capabilities as the firm's ability to utilize available resources to achieve desired outcomes (Zimmermann, Moreira, et al., 2020). However, the literature presents a plethora of unrelated concepts and understandings. Lawson and Samson (2001) define ICs as the continuous transformation of knowledge and ideas into new products, processes, and systems. This involves two complementary concepts: mainstream innovation, devoted to short-term efficiency, and newstream innovation, related to an adaptive and strategic perspective towards emerging realities and challenges. There are also several studies on the importance of innovation speed and innovation quality (Le & Lei, 2018), and exploitative and exploratory innovation (Le & Le, 2023; Ribau et al., 2019), all of them following different metrics.

Guan and Ma (2003) consider ICs as firm assets associated with core capabilities (marketing, manufacturing, and R&D) and supplementary capabilities (learning, organizational, resource allocation, and strategic) derived from internal and acquired experiences. Akman and Yilmaz (2008) relate ICs with the organizational culture, promotional activities, and skills needed to respond to the external environment. Innovation capability is a critical competitiveness factor in contemporary organizations (Le, 2023b).

In summary, by exploring these foundational theories and various perspectives on innovation capabilities, we can gain a comprehensive understanding of how firms achieve and maintain a competitive edge in a dynamic business landscape.

The measurement of ICs presents a diverse landscape, with varying dimensions and metrics, ranging from a minimum of three to a maximum of nine items (Djoumessi et al., 2019). For example, Lawson and Samson (2001) propose seven dimensions but do not provide operational definitions. Similarly, Guan and Ma (2003) utilize seven dimensions for assessing IC, as mentioned earlier. Despite sharing similar terminologies, these dimensions differ significantly in their content and interpretation. This paper will adopt the dimensions of Guan and Ma (2003) from Table 2, considering their widespread use in different countries (Ribau et al., 2017; Zimmermann, Ferreira, et al., 2020) and their relevance in fiercely competitive industrial environments.

Table 1. Concepts of innovation capabilities.

Meaning	Authors
Mainstream and newstream innovation	Lawson & Samson, 2001
Incremental and radical innovation capabilities	Menguc et al., 2014
Innovation capacity	Oura et al., 2016
Institutionalize, implement, and stimulate innovation	Djoumessi, Chen & Cahoon, 2019
Innovation capability	Guan & Ma, 2003; Mir et al., 2016; Ngo & O'Cass, 2012; Ribau et al., 2017; Le, 2023a

Source: Adapted from Zimmermann, Ferreira, et al. (2020).

Table 2. Main dimensions and descriptions.

Dimensions	Descriptions
R&D capability	Assists the firm in adopting innovative technologies and approaches while creating new technological assets
Manufacturing capability	Refers to the capability of converting R&D outcomes into market-oriented products that align with project requirements and can be manufactured in batches or large quantities.
Marketing capability	The competence in effectively marketing and selling products by comprehending present and future consumer needs, employing customer access strategies, and understanding competitors in the market.
Learning capability	Refers to the capacity to recognize, integrate, and capitalize on new knowledge crucial for the firm's competitive achievements.
Resources exploitation capability	Represents the firm's proficiency in mobilizing and expanding its technological, human, and financial resources.
Organizational capability	It refers to the capacity to establish a solid organizational structure, align all activities towards common objectives, and accelerate innovative processes by creating a conducive infrastructure for development projects.
Strategic capability	It is the capability to embrace diverse strategies to adjust to environmental changes and excel in an intensely competitive landscape.

Source: Adapted from Guan and Ma (2003) and Zimmermann, Moreira, et al. (2020).

Export performance

The extant body of scholarly work pertaining to the internationalization efforts of Small and Medium-sized Enterprises (SMEs) is extensive (Haddoud et al., 2021; Paul & Sánchez-Morcilio, 2019; Ribau et al., 2015, 2018). This corpus of literature encompasses multifaceted processes wherein enterprises incrementally augment their global engagement. It is important to note that the distinct attributes of the operational context can wield significant influence over the patterns and pace of the internationalization endeavors (Haddoud et al., 2021; Paul & Sánchez-Morcilio, 2019; Ribau et al., 2015, 2018).

If Johanson and Vahlne's (1977, 2009) original theoretical framework posits that nascent exporters can systematically penetrate foreign markets by judiciously harnessing their reservoirs of knowledge and supplementary resources (Rua et al., 2018), more recent research addresses the potential inhibitors and drivers of SMEs (Safari et al., 2022).

It is prudent to acknowledge that the measurement of export performance lacks a universally standardized methodology, thereby engendering a plethora of proposed approaches on assessing the efficacy of export-related activities (Cavusgil & Zou, 1994; Rua et al., 2018; Zhang & Jedin, 2022; Zou & Stan, 1998). For instance, the evaluation of export performance can be conducted via both internal and external benchmarks, which encompass financial metrics—such as export sales, profitability, and growth—alongside non-financial gauges—including export success, satisfaction, and goal attainment (Cavusgil & Zou, 1994; Ribau et al., 2017; Zou & Stan, 1998). In practical application, Aulakh et al. (2000) have employed a four-item metric encompassing sales growth, market share, competitive positioning, and profits derived from export sales, to empirically measure export performance.

Following Cavusgil and Zou (1994), the quantification of export performance can be conducted via a tripartite framework, encapsulating the following three elements (Kuivalainen et al., 2007):

1. Sales Performance, which encompasses several critical dimensions comprising: (a) the firm's sales growth compared to the industry sector average; (b) satisfaction with export volume; (c) satisfaction with export market share; and (d) satisfaction with the rate of entry into new markets.
2. Profitability: This parameter delves into the financial aspect of export operations, encompassing the satisfaction with both export-derived profits and the comprehensive profitability stemming from the firm's export endeavors.
3. Sales Efficiency Performance: This evaluative aspect concerns the ratio of export sales volume to the accompanying export sales revenue. It serves to measure the effectiveness and efficiency of sales generation concerning the export domain.

Lastly, Rua et al. (2018) undertake an assessment of the export performance within the context of Portuguese SMEs with a distinct focus on strategic determinants including metrics, such as export performance, sales growth, profitability, activities and operations conducted abroad, and the firm's overall

performance. This comprehensive analytical framework allows for an in-depth exploration of the multi-faceted dimensions impacting export performance.

Cost leadership and cost focus competitive strategies

Porter's (1985) seminal work on competitive forces, encompassing rivalry among existing competitors, threats posed by new entrants, substitutes for products or services, bargaining power of customers, and bargaining power of suppliers, serves as the foundational framework for comprehending competitive strategies (Porter, 1980). These strategies find their strong impetus in the manner by which firms cultivate their competitive advantage. As a response to these competitive dynamics, Porter (1985) introduced three primary generic strategies: cost leadership, differentiation, and focus, enabling companies to surpass their counterparts within the industry.

Competitive strategies revolve around how firms establish competitive advantages within a specific industry in contrast to their rivals (Bayraktar et al., 2017; Adomako et al., 2019). The ultimate aim of competitive strategy is to secure a profitable and enduring position amid the influences that configure industry rivalry (Porter, 1985). The success of firms hailing from emerging economies in international contexts hinges upon their ability in crafting and executing coherent competitive strategies grounded in their internal resources and capabilities (Nguyen & Adomako, 2021). The selection of a competitive strategy rests upon two fundamental tenets (Porter, 1985): the industry's attractiveness is pivotal for sustained profitability, and a firm's relative competitive stance within a particular industry dictates its potential profitability, given the disparate opportunities for enduring profit across industries, leading to divergent firm performance. Strategies mirror the approaches through which firms cultivate their competitive strengths in each industry *vis-à-vis* their competitors (Akpinar, 2020; Nguyen & Adomako, 2021).

In emerging economies, cost leadership and differentiation strategies exhibit distinct performance outcomes in contrast to firms operating in developed markets (Aulakh et al., 2000). A cost-based business strategy tends to yield superior performance in developed markets, underlining that the impact of cost leadership on export performance is more pronounced for firms targeting developed nations relative to those targeting developing nations (Aulakh et al., 2000). Conversely, the influence of a differentiation strategy on export performance is more robust for firms directing their focus toward developing countries rather than those primarily fixated on developed nations. This differentiation is attributed to the intrinsic characteristics of developed markets, which are characterized by intense competition and dynamism stemming from innovative products and constantly evolving consumer preferences. In contrast, firms hailing from emerging economies and venturing into these markets confront inherent disadvantages *vis-à-vis* local counterparts, as the latter possess enhanced financial and technological resources, well-established brands, and innovative products (Aulakh et al., 2000). Furthermore, empirical research confirms that firms can achieve better performance in international markets through leveraging marketing capabilities and embracing market-oriented competitive strategies (Cavusgil & Zou, 1994).

The significance of a cost leadership competitive strategy in European telecommunications firms is underscored by Gómez et al. (2021), who posit that innovative pioneering firms are more prone to furnish elevated service/product quality and command higher prices when compared to followers. These pioneering firms uphold cost-effective operational frameworks, deriving benefits from a superior cost position relative to their less innovative follower counterparts.

The prominence of cost focus competitive strategies empowers firms to not only operate within the realm of cost competitive strategies but also perpetually propel targeted cost reduction endeavors both in manufacturing and throughout the distribution chain (Stentoft et al., 2021).

Taneo et al. (2017) undertake an analysis of the sway exerted by industry dynamics, ICs, and macroeconomic factors upon the competitive strategy and performance of processed food SMEs in Malang, Indonesia. Their findings culminate in the determination that competitive strategy yields a favorable impact on the performance of processed food SMEs, with the competitive strategy itself undergoing a positive influence from ICs.

Lastly, Keskin et al. (2021) delve into the simultaneous effects of competitive strategies and competencies among exporting firms, with regard to garnering a competitive advantage and augmenting

export performance within Turkish manufacturing firms, under conditions of competitive intensity. The outcomes unveil that the firms' unique capabilities, notably encompassing information, relational, and marketing capabilities, in conjunction with the competitive strategies of differentiation and cost leadership, collectively confer a competitive edge on exporting firms, thereby enhancing their export performance within international markets.

Hypotheses development

ICs are strongly related to export performance (Guan & Ma, 2003; Oura et al., 2016; Ribau et al., 2017), although the work of Guan and Ma (2003) does not establish a positive influence on manufacturing capabilities. In a complementary vein, Vicente et al. (2015) expound that IC, constructed from four dimensions (product development capability, innovation, strategic capability, and technological capability), wields a positive and substantial impact on export performance. Consequently, it is plausible to propose the following research hypothesis:

Hypothesis 1*: Innovation capabilities have a direct positive effect on the export performance of SMEs.*

According to the RBV of the firm, competitiveness finds its roots in the firms' internal resources and capabilities. These resources are intricately interwoven with the human and organizational capabilities that underpin the formulation of competitive strategies. Managers play a pivotal role in reshaping the resource foundation by acquiring, integrating, and recombining diverse resources to engender value-enhancing competitive strategies (Eisenhardt & Martin, 2000; Grant, 1996; Pisano, 1994; Teece et al., 1997). Consequently, it can be posited that the influence of companies' ICs on generic competitive strategies gains traction in direct proportion to the magnitude of these capabilities (Ngo, 2023; Pusung et al., 2023). ICs serve as an essential conduit for companies to augment their competitiveness, particularly in the swiftly evolving and dynamic global market landscape (Ribau et al., 2017; Zimmermann, Ferreira, et al., 2020). Furthermore, achieving success in international markets hinges upon firms' proficiency in assimilating innovation capabilities, allowing them to develop effective competitive strategies that can deftly adapt to the ever-shifting business environments (Agyapong et al., 2016; Ngo, 2023; Parnell & Brady, 2019; Pusung et al., 2023), which are aligned with the RVB and the dynamic capabilities of the firms (Barney, 1991; Teece et al., 1997). Thus, we posit the subsequent hypotheses:

Hypothesis 2*: Innovation capabilities have a direct positive effect on cost leadership strategy.*
Hypothesis 3*: Innovation capabilities have a positive direct effect on cost focus strategy.*

The examination of Porter's generic strategies has traditionally been linked to firm performance. In relation to the cost leadership competitive strategy,) there is a positive influence of this strategy on firm performance (Ngo, 2023; Pusung et al., 2023; Yang et al., 2015). Similarly, in a study conducted in Pakistan involving SMEs, Anwar and Shah (2021) found that cost leadership strategies have a positive impact on both financial and non-financial performance. Furthermore, based on a study of 245 Indian micro-firms, Kharub et al. (2019) conclude that cost leadership strategies contribute to improved firm performance, primarily through enhancing product quality and refining the production process. Conversely, cost focus competitive strategies are found to have a positive effect on export performance (Morgan et al., 2004; Taneo et al., 2017). In the context of emerging economy, low-cost strategy is optimal for exporting (Ayob & Dana, 2017). Given these findings, the following hypotheses are proposed:

Hypothesis 4*: Cost leadership competitive strategy has a positive direct effect on export performance.*
Hypothesis 5*: Cost focus competitive has a positive direct effect on export performance.*

It can be posited that cost leadership and cost focus competitive strategies serve as mediators of the ICs-ExPf relationship, as evidenced by the subsequent points: ICs exert a positive influence upon both cost leadership and cost-based focus competitive strategies, leading to improved export performance of

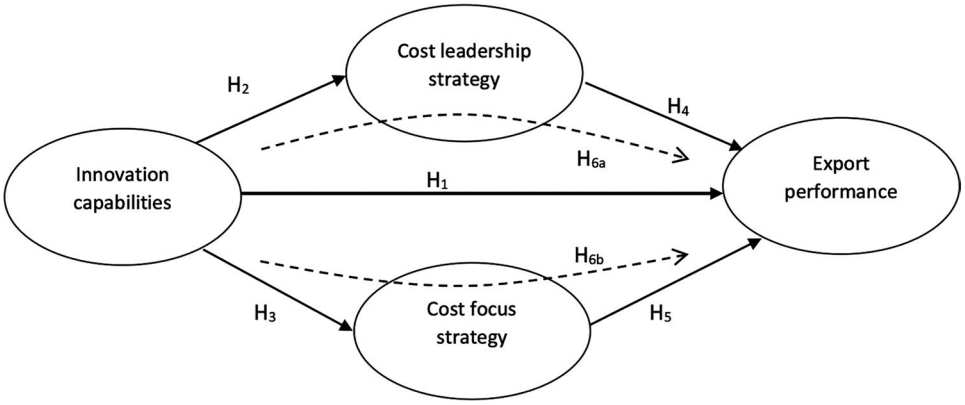

Figure 1. Conceptual model proposal.
Source: Own elaboration.

SMEs (Pusung et al., 2023; Taneo et al., 2017;) or firm performance (Ngo, 2023); the allocation of resources and the cultivation of capabilities play a pivotal role in shaping strategic selections and conferring competitive advantages, consequently impacting firms' export performance (Lee et al., 2021; Morgan et al., 2004); business competencies, coupled with cost leadership or cost focus competitive strategies, contributes positively to export performance (Keskin et al., 2021); and competitive strategies, as delineated by Aulakh et al. (2000), Pusung et al. (2023) and Rua et al. (2018), engender a positive impact upon the export performance of SMEs. Based on these considerations, the following hypotheses are proposed:

Hypothesis 6a*: Cost leadership competitive strategy positively mediates the relationship between innovation capabilities and export performance of SMEs.*

Hypothesis 6b*: Cost focus competitive strategy positively mediates the relationship between innovation capabilities and export performance of SMEs.*

The proposed conceptual model is displayed in Figure 1.

Methods

The data for this study were gathered through a questionnaire comprising scales adapted and validated in preceding research. The assessment of ICs employed a multidimensional scale developed by Guan and Ma (2003), which was tested by Ribau et al. (2017) and Zimmermann, Ferreira, et al. (2020). The scale for measuring export performance was drawn from Aulakh et al. (2000), Jantunen et al. (2005), Kuivalainen et al. (2007), and Zou and Stan (1998). The scales appraising cost leadership and cost focus competitive strategies were adapted from Aulakh et al. (2000) and Morgan et al. (2004). A seven-point Likert scale was employed, with 1 denoting 'strongly disagree' and 7 signifying 'strongly agree'.

The questionnaire underwent a pre-test involving a convenience sample, encompassing 5 managers and 3 university professors, before its distribution. The pre-test's objective was to evaluate the questionnaire's structure, formatting, verbiage, and lucidity, alongside gauging the respondents' understanding of queries and the time demanded for completion. This iterative process facilitated the identification and rectification of any lapses in comprehension and interpretation. Based on insights from the pre-test, certain modifications were introduced to enhance respondent comprehension, coupled with a reduction in the number of items per variable to maintain questionnaire conciseness. Following these refinements, the final version of the questionnaire was deployed online to businesses via Google Drive LimeSurvey, accessible for a duration of five months.

The sample encompassed 400 export-active SMEs, obtained from the dataset of APIEX, which is an agency that promotes investment and exports in Mozambique. 305 responses were received among the 400 distributed surveys. A total of 250 questionnaires with complete responses was obtained since we

Table 3. Sample characteristics.

	N (%)
Employees	
5–49	168 (67.2)
50–100	82 (32.8)
Industry	
Wood processing firms	89 (35.6)
Fishing products	67 (26.8)
Agro-business firms	48 (19.2)
Agricultural products	46 (18.4)
Respondents	
Owners	163 (65.2)
Executives	79 (31.6)
Other	8 (3.2)

Source: Own elaboration.

removed 55 incomplete questionnaires, resulting in a high response rate (62.5%). The attributes of the sample are shown in Table 3.

In the Mozambican context, participating in global markets remains a prerogative enjoyed by a limited number of companies, largely attributed to customs regulations and corruption, which are recognized as principal impediments to international trade, technology adoption, and workforce productivity. The food processing industry has exhibited a certain export orientation, with processed foods constituting 53% of the nation's food exports. SMEs actively engaged in foreign trade encounter fierce competition at both regional and global contexts. Achieving competitiveness necessitates more than proficient internal management: it mandates a supportive global policy framework (Ministério da Indústria e Comércio, 2016).

The data underwent statistical analysis to evaluate the psychometric properties of the employed scales, encompassing reliability, validity, and the one-dimensionality of constructs. Specific statistical tests were executed following the guidelines outlined by Hair et al. (2016). The internal consistency of the scales was evaluated using Cronbach's alpha coefficients.

For the statistical analysis, the partial least squares structural equation modeling (PLS-SEM) approach was employed, utilizing SmartPLS 3.2 software (copyright license was obtained). This choice was driven by its robustness even in the presence of non-normal data, as emphasized by Henseler and Chin (2010). Moreover, PLS-SEM is recognized for its applicability in analyzing relatively small sample sizes, although the sample size in this study exceeded the recommended minimum of 200 responses commonly advised for structural equation analysis (Hair et al., 2011).

The model evaluation encompassed the assessment of reliability, convergent validity, and discriminant validity. Within PLS-SEM, bootstrapping, a resampling technique, was employed to test the significance of relationships, ensuring robustness (Bollen & Stine, 1990; Efron, 1988). PLS-SEM also lends itself well to mediation analysis, as highlighted by Hair et al. (2016).

The testing of mediation effects followed a three-step process. Initially, the presence of a significant direct effect between the independent and dependent variables was examined by excluding the mediating variables. Subsequently, the introduction of the mediating variables into the model enabled the assessment of relationship significance among these variables. Finally, the inclusion of mediating variables should result in a noteworthy reduction in the direct relationship between the independent and dependent variables (Hair et al., 2016). These three steps were executed using PLS-SEM in this study.

All procedures involving human participants in this study adhered to the ethical standards of the University of Zambeze, Mozambique. The approval was obtained in July 2022 and is in line with the principles outlined in the Declaration of Helsinki. Informed consent for participation was obtained verbally during the pre-test. Before conducting the online survey, participants were informed about the objective of the questionnaire. A written informed consent was obtained on the introduction page of the questionnaire. Participants were also informed that their participation was voluntary, their involvement was totally confidential and they could withdraw the survey at any time. Since participation in the study was voluntary and participants could leave at any point, their decision to compete and submit the online questionnaire indicated their willingness to answer the survey.

Results

Table 4 displays the analysis of internal consistency for the four constructs, as measured by Cronbach's alpha and rho_A. The reliability coefficients were found to be 0.93 for the cost focus strategy, 0.86 for the cost leadership strategy, 0.95 for export performance, and 0.96 for ICs. These coefficients exceed the recommended threshold of 0.70, as suggested by Hair et al. (2011), indicating high internal consistency for all constructs.

Tables 5 and 6 display the factor loadings of items obtained through bootstrapping with 5000 iterations. During the analysis, items MKT1, MKT5, OC3, OC6, RDC6, REC3, SC5, and SC6 were excluded from the analysis as they had factor loadings below the minimum threshold value. However, all remaining items exhibited factor loadings equal to or greater than the recommended minimum threshold of 0.7 (Götz et al., 2010).

Table 7 showcases the Composite Reliability (CR), Average Variance Extracted (AVE), and correlations attributed to each latent variable concerning the first-order constructs. The CR values significantly surpass the stipulated minimum threshold of 0.6 (Götz et al., 2010), underscoring the commendable level of internal consistency exhibited by all constructs. Furthermore, the AVE for each construct markedly

Table 4. Internal consistency analysis.

Variables	Cronbach's alpha	rho_A
Cost focus strategy	0.930	0.957
Cost leadership strategy	0.862	0.871
Export performance	0.952	0.958
Innovation capabilities	0.961	0.965

Table 5. Scale and factor loadings of innovation capabilities.

Variables and items of the questionnaire	Factor loading
Learning capability (Cronbach's alpha = 0.880)	
(LCap1) Technology development trends	0.726
(LCap2) absorbing ability	0.722
(LCap3) Outward re-innovation ability	0.869
(LCap4) Learning from prior experiences	0.906
(LCap5) investing on learning	0.879
Manufacturing capability (Cronbach's alpha = 0.915)	
(MCap1) Manufacturing equipment	0.822
(MCap2) Manufacturing technology	0.864
(MCap3) Skills of personnel	0.917
(MCap4) Production regulations and system	0.874
(MCap5) Total quality management	0.842
Marketing capability (Cronbach's alpha = 0.881)	
(MKT1) Understanding markets	0.866
(MKT2) Monitoring markets	0.853
(MKT3) Controlling distribution network	0.896
(MKT4) Improving brand name	0.817
Organizational capability (Cronbach's alpha = 0.870)	
(OCap1) Adjusting organization structure flexibly	0.872
(OCap2) Centralizing resources on innovation	0.859
(OCap3) Adapting to environment	0.819
(OCap4) Interconnection across functional units	0.842
R&D (Cronbach's alpha = 0.929)	
(RDCap2) Project teamwork across functional units	0.912
(RDCap3) Communication R&D personal	0.934
(RDCap4) Communication between R&D across functional units	0.932
(RDCap5) Harmonizing product and process innovation	0.844
Resource exploitation capability (Cronbach's alpha = 0.773)	
(RECap1) Attaching importance to human resources	0.871
(RECap2) Selecting key personnel in each functional department	0.797
(RECap4) Making fully use of external technologies	0.860
(RECap5) Understanding competitors' core technology competence	0.538
Strategic capability (Cronbach's alpha = 0.756)	
(SCap1) Top management core competences	0.784
(SCap2) Intense innovative environment	0.864
(SCap3) Aware of industry's technological development	0.765
(SCap4) Adjusting innovation strategy accordingly	0.557
(SCap5) Understanding external factors	0.575

Source: Scale adapted from Guan and Ma (2003).

Table 6. Scale and factor loadings of export performance, cost leadership strategy and cost focus strategy.

Variables and items of the questionnaire	Factor loading
Export performance (Cronbach's alpha = 0.952)	
(ExP1) Sales growth of our firm	0.886
(ExP2) Market share	0.862
(ExP3) More competitive	0.952
(ExP4) Profitability	0.850
(ExP5) New markets	0.846
(ExP6) International image	0.920
(ExP7) Development of our know-how	0.855
Cost leadership strategy (Cronbach's alpha = 0.862)	
(CL1) Having lower costs than our major competitors	0.747
(CL2) Achieving economies of scale in our international operations	0.817
(CL3) Improving production/operating efficiency	0.886
(CL4) Maintaining experienced and trained personnel	0.804
(CL5) Adopting innovative manufacturing methods and/or technologies	0.757
Cost focus strategy (Cronbach's alpha = 0.930)	
(CFS1) Cost of raw materials	0.869
(CFS2) Production cost per unit	0.940
(CFS3) Cost of goods sold	0.955
(CFS4) Selling price to end-user customers	0.865

Source: Adapted from Aulakh et al. (2000), Jantunen et al. (2005), Kuivalainen et al. (2007), Morgan et al. (2004), and Zou and Stan (1998).

Table 7. Discriminant validity of the model.

	Correlations									
Variables	1	2	3	4	5	6	7	8	9	10
1. Cost leadership strategy	**0.804**	*0.490*	*0.613*	*0.587*	*0.504*	*0.463*	*0.665*	*0.805*	*0.411*	*0.749*
2. Cost focus strategy	0.444	**0.908**	*0.529*	*0.324*	*0.176*	*0.225*	*0.335*	*0.495*	*0.133*	*0.360*
3. Export performance	0.564	0.510	**0.882**	*0.394*	*0.192*	*0.441*	*0.613*	*0.554*	*0.268*	*0.485*
4. Manufacturing capability	0.537	0.313	0.373	**0.864**	*0.463*	*0.874*	*0.897*	*0.889*	*0.383*	*0.778*
5. R&D capability	0.496	0.093	0.178	0.467	**0.906**	*0.454*	*0.398*	*0.604*	*0.744*	*0.628*
6. Marketing capability	0.424	0.230	0.412	0.793	0.447	**0.864**	*0.933*	*0.721*	*0.329*	*0.677*
7. Organizational capability	0.589	0.322	0.566	0.809	0.385	0.823	**0.848**	*0.830*	*0.457*	*0.728*
8. Learning capability	0.708	0.443	0.514	0.802	0.600	0.651	0.722	**0.824**	*0.574*	*0.882*
9. Strategic capability	0.534	0.259	0.523	0.453	0.529	0.373	0.577	0.629	**0.719**	*0.476*
10. Resource exploitation capability	0.631	0.379	0.489	0.684	0.528	0.597	0.656	0.757	0.500	**0.778**
Composite Reliability (CR)	0.901	0.949	0.961	0.936	0.948	0.919	0.911	0.913	0.839	0.856
Average variance extracted (AVE)	0.646	0.824	0.779	0.747	0.821	0.737	0.720	0.679	0.517	0.606

Note: Diagonal elements (bold) are the square root of AVE. Elements below the diagonal are simple bivariate correlations between constructs. Elements above the diagonal are the HTMT scores (italic).

exceeds the anticipated minimum threshold of 0.5 (Götz et al., 2010), thereby substantiating their convergent validity.

To assess discriminant validity, two distinct criteria were employed: the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) criterion. As per the Fornell–Larcker criterion, discriminant validity is established when the square root of the AVE corresponding to each construct surpasses the absolute magnitude of its correlations with other constructs, a presentation of which is available in Table 7 (Hair et al., 2016). Moreover, the HTMT criterion involves contrasting the HTMT score of each construct against a predefined threshold of 0.9 (Henseler et al., 2015). With the exception of a single score of 0.933, the HTMT criterion unequivocally substantiates the existence of discriminant validity across the constructs (Henseler et al., 2015), a depiction of which is provided in Table 7.

The regression coefficients of the structural model (Figure 2) were analyzed to test hypotheses H1, H2, H3, H4, H5, H6a, and H6b (Aguinis & Gottfredson, 2010; Arnold, 1982; Sharma et al., 1981).

Even though Mozambique is an emerging country with comparatively lower technological development in contrast to other emerging and developed nations like Brazil, Chile, and Mexico, the results confirm that ICs exert a significant positive effect ($\beta = 0.245$; $p < 0.000$) on the export performance of Mozambican SMEs ($R^2 = 0.433$), thereby validating hypothesis H1. These findings bolster prior studies (Guan & Ma, 2003; Ngo, 2023; Oura et al., 2016; Pusung et al., 2023; Ribau et al., 2017) conducted in China, Portugal, Brazil, Vietnam, and Indonesia, and underscore that the affirmative influence of ICs on export performance remains consistent across diverse economic contexts, irrespective of their emerging or developed nature. The findings also underscore the vital role of ICs as a wellspring of competitive

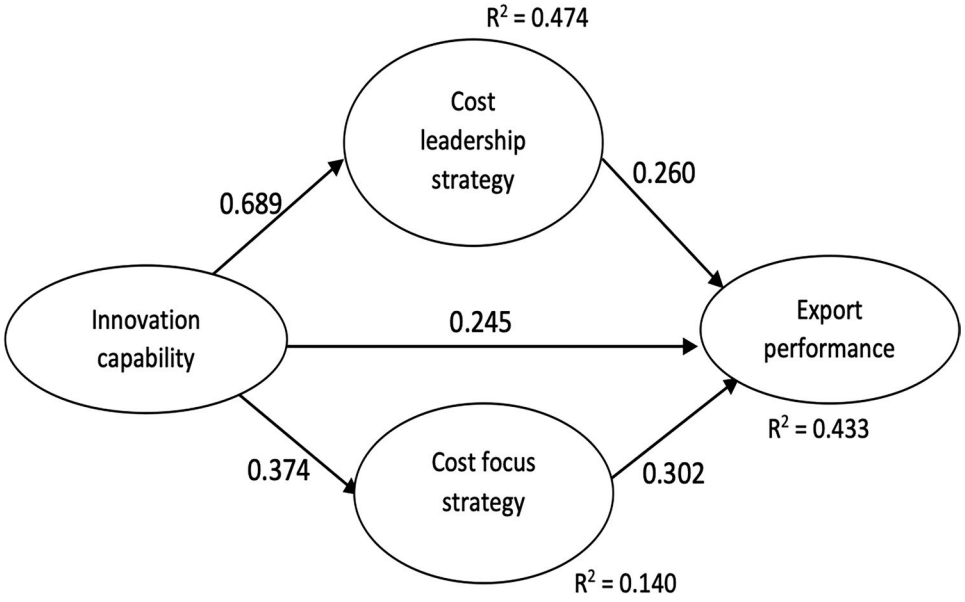

Figure 2. Structural model result.
Source: Own elaboration.

Table 8. Direct, indirect, and total effects.

Path	Regression coefficient (β)	Interval [2,5; 97,5]	*t* Statistics	*p*-Values
Direct effects				
IC→ExPf	0.245	[0.103; 0.364]	3.658	0.000
IC→Cost leadership	0.689	[0.615; 0.756]	19.138	0.000
IC→Cost focus	0.375	[0.242; 0.505]	5.550	0.000
Cost focus→ExPf	0.302	[0.229; 0.387]	7.573	0.000
Cost leadership→ExPf	0.260	[0.145; 0.392]	4.175	0.000
Indirect effects				
IC→ExPf	0.293	[0.211; 0.399]	6.062	0.000
Specific indirect effects				
IC→Cost leadership→ExPf	0.179	[0.099; 0.279]	3.881	0.000
IC→Cost focus→ExPf	0.113	[0.065; 0.179]	3.881	0.000
Total effects				
IC→ExPf	0.538	[0.243; 0.636]	9.901	0.000

advantage (Guan & Ma, 2003; Knight & Kim, 2009; Sen & Egelhoff, 2000; Wang & Ahmed, 2004) and business growth for SMEs (Teece et al., 1997) in industrial firms with international competitive posture as is the case of Mozambique, a less-favored emerging economy. Mozambican SMEs possess ICs that empower them to proficiently harness available resources, cultivate innovative concepts, and cultivate competitive advantages (Guan & Ma, 2003; Menguc et al., 2014), culminating in enhanced export performance.

Table 8 depicts the outcomes of indirect and overall direct effects. It unveils that ICs positively influence cost leadership strategies ($\beta = 0.689$; $p < 0.000$) and cost focus strategies ($\beta = 0.374$; $p < 0.000$), supporting hypotheses H2 and H3, respectively. Moreover, both cost leadership strategies ($\beta = 0.260$; $p < 0.000$) and cost focus strategies ($\beta = 0.302$; $p < 0.000$) have a positive impact on export performance, corroborating hypotheses H4 and H5, respectively. These results, obtained among industrial firms in Mozambique, are tuned with other results in emerging economies possess (Ayob & Dana, 2017; Ngo, 2023; Pusung et al., 2023). The specific indirect effects showcased in Table 8 reveal that competitive cost leadership strategies mediate the ICs-ExPf relationship, validating hypothesis H6a ($\beta = 0.179$; $p < 0.000$). Analogously, competitive cost focus strategies mediate the ICs-ExPf relationship, confirming hypothesis H6b ($\beta = 0.113$; $p < 0.000$). These results are congruent with the existing body of literature highlighting the importance of competitive cost leadership and cost focus strategies in augmenting firms' export performance in emerging countries, such as Mozambique (Aulakh et al., 2000; Keskin et al., 2021; Makadok, 2001; Morgan et al., 2004; Pusung et al., 2023; Rua et al., 2018; Taneo et al., 2017).

The results demonstrate that ICs play significant direct and indirect roles in determining export performance. The findings support previous research studies (e.g. Guan & Ma, 2003; Oura et al., 2016; Ribau et al., 2017) that have also highlighted the positive ICs-ExPf relationship. Additionally, the study reveals that competitive cost leadership and cost focus strategies act as mediators of the ICs-ExPf relationship for Mozambican SMEs. This implies that the adoption of ICs will naturally contribute to the improvement of SMEs' export performance. Furthermore, the study suggests that the use of competitive cost leadership or cost focus strategies enhances the export performance of SMEs, as indicated by the higher total effects (0.538) compared to the sole direct effect (0.245).

To assess the intensity of the mediating effects of the cost leadership strategy, focus on costs, and the combined effect of the two strategies, the approach proposed by Zhao et al. (2010) was employed. This approach allows for an analysis of how much of the indirect effect is absorbed by the direct effect. The variance accounted for (VAF) was utilized to evaluate the mediating effects, following the guidelines provided by Hair et al. (2011) and Zhao et al. (2010).

- If $0 < VAF < 0.20$, there is no mediation.
- If $0.20 < VAF < 0.80$, there is partial mediation.
- If $VAF > 0.80$, there is total mediation.

Drawing from the VAF values obtained, discernible conclusions can be derived concerning the nature of mediation at play. In the case of the cost leadership strategy—$(0.179)/(0.179+0.245)=0.422$—it can be asserted that the cost leadership strategy exerts a partial influence on the ICs-ExPf relationship. Analogously, with respect to the cost-based focus strategy, wherein the VAF value calculated is $(0.113)/(0.113+0.245)=0.315$, indications of partial mediation emerge. Lastly, when considering the combined impact of both the cost leadership and cost focus strategies, the VAF value stands at $(0.293)/(0.293+0.245)=0.545$, once again underscoring partial mediation exercised on the ICs-ExPf relationship.

In conclusion, ICs wield a considerable sway over Mozambican SMEs, their influence susceptible to variation contingent upon the specific competitive strategies employed. SMEs engaging in broad international market segments via competitive cost leadership strategies, alongside more conservative counterparts who focus on a singular market segment through competitive cost focus strategies, both contribute to the innovation capabilities of Mozambican SMEs, albeit with slightly different contributions.

Conclusions, implications, limitations, and future perspectives

This paper extends valuable insights into mediating effects within the context of emerging economies, more specifically among Mozambican SMEs, characterized by limited resources and modest technological acumen. The study confirms that both cost leadership and cost focus strategies assume pivotal roles in enhancing the export performance of Mozambican SMEs, with ICs playing a pivotal role within this context.

The study also contributes to the corpus of knowledge on internationalization and competitive strategies, specifically in emerging countries. It emphasizes the significance of SMEs harnessing their ICs, coupled with competitive cost leadership and economies of scale, to yield prosperity within international markets. The study underscores the importance of infusing innovation capabilities to effectively leverage cost leadership and cost focus strategies. Moreover, SMEs can enhance their competitiveness in international markets by exercising prudent cost management, encompassing aspects like raw material costs and per-unit production expenditures.

This research has both theoretical and practical implications. It offers new insights into SMEs in emerging countries, particularly in Africa, where the potential role of innovative capabilities and the mediating effects of cost leadership and cost focus strategies on export performance have been under researched. It contributes to internationalization, dynamic capabilities, and marketing theories by delving into the interplay of competitive cost leadership and cost focus strategies as mediators between innovative capabilities and export performance. For SME managers, the findings underscore the pivotal role of ICs and the role of cost leadership and cost focus competitive advantages in enhancing export performance, especially within the context of emerging countries.

Future research could explore the interplay between competitive differentiation strategies and export performance. It would also be valuable to investigate the effects of competitive differentiation strategies

on export performance, considering the moderating influence of competitive intensity when SMEs from developing countries compete in international markets. Furthermore, a deeper inquiry into the breadth of product-service portfolios and the developmental status of international markets where SMEs operate, while concurrently implementing cost leadership or cost focus strategies, holds potential for deeper insights. In the specific case of Mozambique, it would be advisable for managers to invest in developing their innovation capabilities to adapt to the dynamic environment. Furthermore, they should also invest in training and development programs for employees and integrate modern technologies to underpin cost-based and focus-based competitive advantages, essential for succeeding in international markets. It is also important for SMEs to leverage available grants to support innovation-oriented leadership programs, fostering a continuous learning perspective to keep up industrial advancements.

However, it is prudent to acknowledge certain limitations inherent to this study. Mozambique serves as but one illustration within the broader panorama of emerging economies, which might restrict generalizability. The adoption of a single informant per company might introduce response bias, given its singular perspective.

Informed consent statement

Not applicable.

Author contributions

Conceptualization, E.N., A.C.M., and C.R.; methodology, E.N., A.C.M., and C.R.; validation, E.N. A.C.M., and C.R.; formal analysis, E.N. A.C.M., and C.R.; investigation, E.N.; data curation, E.N. and A.C.M.; writing—original draft preparation, E.N.; writing—review and editing, E.N., A.C.M., and C.R.; supervision, A.C.M., and C.R. All authors have read and agreed to the published version of the manuscript.

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No potential conflict of interest was reported by the author(s).

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Data availability statement

The data that support the findings of this study are available on request from the corresponding author (A.C.M.). The data are not publicly available as it contains information that is still under research.

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