

DETERMINANTS OF FIRM PERFORMANCE
AMONG MALAYSIAN SMES IN CROSS-BORDER
E-COMMERCE

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BY

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the requirement for the degree of

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DECLARATION

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- (1) This undergraduate FYP is the end result of my own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) Sole contribution has been made by me in completing the FYP.
- (4) The word count of this research report is 10811 words.

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LIST OF ABBREVIATIONS

α	Alpha
B/ β	Beta
CBEC	Cross-Border E-Commerce
CA	Cronbach's Alpha
CR	Composite Reliability
DFTZ	Digital Free Trade Zone
df	Degree of Freedom
DV	Dependent Variable
e	Error term
F	F ratio
f ²	Effect Size
H1	Hypothesis 1
H2	Hypothesis 2
H3	Hypothesis 3
H4	Hypothesis 4
H5	Hypothesis 5
H6	Hypothesis 6
H7	Hypothesis 7
H8a	Hypothesis 8a
H8b	Hypothesis 8b
H9a	Hypothesis 9a
H9b	Hypothesis 9b

H10a	Hypothesis 10a
H10b	Hypothesis 10b
IT	Information Technology
IV	Independent Variable
MIDA	Malaysian Investment Development Authority
METDC	Malaysia External Trade Development Corporation
N	Sample Population
NESR	National E-Commerce Strategic Roadmap
RBV	Resource Based View
R ²	Coefficient of Determination
SMEs	Small and Medium Enterprises
SME Corp Malaysia	Small and Medium Enterprises Corporation Malaysia
SmartPLS	Smart Partial Least Squares
t	t-value
PLS-SEM	Partial Least Squares Structural Equation Modelling
Q ²	Predictive Relevance
TOE	Technology-Organization-Environment
UNCTD	United Nations Conference on Trade and Development
VIF	Variance Inflation Factor

PREFACE

Cross-border e-commerce has become an increasingly important channel for small and medium-sized enterprises (SMEs) to participate in international markets. In recent years, Malaysian SMEs have actively adopted digital platforms to expand beyond domestic boundaries; however, many continue to face challenges in achieving sustainable performance outcomes. Analysing the determinants of firm performance in cross-border e-commerce is therefore crucial for understanding how SMEs can compete effectively in the global digital economy. Due to the limited empirical research focusing on firm-level capabilities in the Malaysian cross-border e-commerce context, this study investigates how information technology capabilities, international marketing capabilities, and export operations capabilities influence the strategic and financial performance of Malaysian SMEs engaged in cross-border e-commerce.

ABSTRACT

With the rapid growth of cross-border e-commerce (CBEC) and the increasing participation of Malaysian small and medium-sized enterprises (SMEs) in digital international trade, understanding the factors that drive firm performance has become increasingly important. This study aims to examine the effects of firm-level capabilities on strategic and financial performance among Malaysian SMEs engaged in CBEC. Guided by the Resource-Based View and Dynamic Capabilities Theory, this study adopts the capability–performance framework proposed by Cassia and Magno (2022) to analyse the roles of information technology capabilities, international marketing capabilities, and export operations capabilities. In addition, the relationship between strategic performance and financial performance, as well as the moderating role of e-commerce platform type, are examined.

To achieve the research objectives, a quantitative research approach was employed using a cross-sectional survey design. Data were collected through an online questionnaire distributed to Malaysian SMEs involved in cross-border e-commerce, and the data were analysed using Structural Equation Modelling (SEM) with SmartPLS software. The findings indicate that all three firm capabilities have significant positive effects on both strategic and financial performance. Strategic performance was also found to positively influence financial performance. However, the moderating effects of e-commerce platform type were not supported. The findings contribute to the literature by extending the CBEC capability–performance framework to the Malaysian SME context and provide practical insights for SMEs seeking to enhance their cross-border competitiveness.

Keywords: cross-border e-commerce, Malaysian SMEs, firm capabilities, strategic performance, financial performance

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

This chapter provides a thorough overview of this research topic, including five agenda which will be discussed below.

1.1 Research Background

The rise of digital globalization has transformed international trade, with cross-border e-commerce (CBEC) becoming one of the fastest-growing modes of global business. According to United Nations Conference on Trade and Development (UNCTAD) (2020), global e-commerce sales reached USD 25.6 trillion, with cross-border transactions accounting for a growing share. The COVID-19 pandemic further accelerated the digitalization of trade, pushing firms and consumers worldwide toward digital platforms as mainstream conduits for purchasing, selling, and engaging in cross-border exchanges (UNCTAD, 2020). This shift has reduced the reliance on traditional, capital-intensive export modes and reshaped the competitive dynamics of global markets. For small and medium-sized enterprises (SMEs), CBEC reduces traditional barriers to entry, allowing them to expand internationally without extensive physical infrastructure or intermediaries. CBEC provides “high control and low costs” as an effective entry mode that enhances SMEs' positions in the global value chain (Pan, Liu, Li, Teo & Fu, 2025).

Malaysia, as part of the ASEAN digital economy, has actively embraced CBEC as a growth strategy for SMEs. The government has rolled out initiatives such as the National E-Commerce Strategic Roadmap (NESR), the Digital Free Trade Zone (DFTZ), and the Go E-Commerce platform were launched to integrate SMEs into the global marketplace and strengthen Malaysia's position as a regional e-fulfilment hub (MIDA, 2023). These initiatives aim to strengthen logistics networks, digital adoption, and cross-border payment ecosystems. Despite these initiatives, Malaysian SMEs continue to face significant challenges in leveraging CBEC effectively. Studies reveals that e-commerce adoption is hindered by organizational unreadiness, financial constraints, logistical challenges, and inadequate managerial support underscoring inefficiencies in logistics and marketing execution (Ong, Teh, Kasbun, Mahroeian, & Hossain, 2020). These limitations highlight that while infrastructural support is necessary, it is insufficient without complementary firm-level capability development.

Globally and emerging markets indicate that SME adoption of CBEC is shaped by multiple, interacting factors (Vasudevan & Yu Keng, 2024). Importantly, SMEs often engage in partial or platform-mediated CBEC activities, which make them vulnerable to platform rules and fees (Shopova, 2023; Long & Amaldoss, 2024). Logistics, and specifically last-mile delivery, remains a decisive operational frontier for CBEC competitiveness. Customers increasingly demand timeliness, reliability, and transparency in delivery, which are magnified in cross-border contexts (Vu & Nguyen, 2025). Structural inefficiencies such as urban congestion, delivery fragmentation, and customs delays increase operational costs while eroding consumer trust (Heikkinen, 2024). These problems disproportionately affect SMEs, which lack the bargaining power and scale economies to negotiate favorable logistics arrangements. Consequently, export-readiness and supply chain integration emerge as critical determinants of sustained SME competitiveness in CBEC. While third party platforms provide vital access to international consumers, they also impose governance structures that can constrain firm autonomy. For instance, high commission fees and prioritization of platform-owned private labels reduce seller margins and visibility (Li & Wang, 2024; Zenny, 2023). Thus, platform participation provides both opportunities and risks for SMEs, depending

on their capacity to build complementary internal capabilities.

Although Malaysia has laid strong infrastructural foundations to facilitate CBEC growth, a significant gap remains between government-level initiatives and SME-level capability development. Elsharnouby, Elbanna, Farha, & Mauji (2024), in a comprehensive review of SME internationalization literature, highlighted that IT, marketing, and operational capabilities are jointly critical in driving export performance. However, many SMEs struggle to integrate these dimensions effectively within digital trade contexts. SMEs in emerging markets often lack sufficient internal capabilities in digital marketing and operations, limiting their ability to capitalize on CBEC opportunities (Haddoud, Onjewu, Nowiński & Jones, 2021). This gap indicates that while Malaysia has the potential to become a CBEC hub, further empirical exploration is needed to understand how SMEs can effectively combine Information Technology (IT), marketing, and export operations capabilities under the influence of platform dependence. Addressing this gap is both timely and essential for strengthening the competitiveness of Malaysian SMEs in global markets.

1.2 Research Problem

Over the past decade, CBEC has become increasingly important as a channel for international trade. Still, research and reality show that Malaysian SMEs continue to struggle to convert digital export opportunities into measurable performance results. Although market access has been made easier by external enablers like government assistance and third-party marketplaces, many SMEs lack the internal resources needed to effectively manage and maintain cross-border operations, for example, robust IT infrastructure, marketing skills, operational or logistical capability and managerial expertise that required to effectively build, manage, and sustain cross-border activities and operations.

In Malaysia, previous studies have identified several external barriers such as insufficient digital infrastructure in rural areas, regulatory and customs hurdles, and high costs associated with cross-border logistics. The finding shows that lack of owner or manager knowledge in IT and skills constraint are important external barriers to realising the benefits of e-commerce for SMEs (Kartiwi, Hussin & Suhaimi, 2018). Cassia and Magno's (2022) study offer a strong conceptual model based on the Resource-Based View (RBV), emphasizing the ways in which firm performance is influenced by IT, international marketing, and export operations skills. However, their study was conducted in the Italian food and beverage industry, and its applicability in the Malaysian SME context remains unexplored. Meanwhile, prior research shows that technological readiness, organizational readiness, perceived usefulness, and ease of use are significant predictors of e-commerce adoption, but that adoption does not guarantee performance unless these internal dimensions are strong (Arshad, Azmey & Ibrahim, 2025).

Moreover, another underexplored issue is the moderating effect of reliance on third-party platforms. While digital marketplaces have lowered entry barriers for SMEs, they also impose structural constraints (Long & Amaldoss, 2024; Zenny, 2023). As a result, platform dependence may weaken the positive impact of SMEs' internal resources on performance outcomes, raising questions about how firms can balance external reliance with internal capacity building. In sum, while Malaysian SMEs are supported by favorable external environments, there is a gap between that support and actual performance outcomes in CBEC. There is limited empirical research that examines how internal firm-specific capabilities jointly drive both strategic and financial performance in CBEC, especially in Malaysia. Additionally, the role of platform-dependence as a moderator of these relationships remains under-investigated.

Therefore, this study intends to adapt and test Cassia & Magno's (2022) validated framework in the Malaysian SME context, to empirically examine how IT, international marketing, and export operations capabilities influence both strategic and financial performance in CBEC, and how the type of platform use moderates

these relationships. The practical implications include guiding SMEs on which capabilities to invest in, helping policymakers devise more targeted support programmes, and enabling platform providers to revise governance policies to better align with SME success.

1.3 Research Objectives

To address the research problem and to provide a clearer understanding of how firm-level capabilities contribute to CBEC performance among Malaysian SMEs, this study sets out several specific objectives. The specific research objectives are:

1. To determine the relationship between information technology capabilities and cross-border e-commerce performance (strategic and financial) among Malaysian SMEs.
2. To determine the relationship between international marketing capabilities and cross-border e-commerce performance among Malaysian SMEs.
3. To determine the relationship between export operations capabilities and cross-border e-commerce performance among Malaysian SMEs
4. To determine the moderating effect of e-commerce platform type on the relationship between internal capabilities and firm performance in CBEC.

1.4 Research Questions

Aligned with the research objectives, this study is guided by several interrelated research questions. The research questions are formulated as follows:

1. How do IT capabilities affect the strategic and financial performance of Malaysian SMEs in cross-border e-commerce?
2. How do international marketing capabilities influence the strategic and financial performance of Malaysian SMEs in cross-border e-commerce?
3. How do export operations capabilities impact the strategic and financial performance of Malaysian SMEs in cross-border e-commerce?
4. Does the type of e-commerce platform used moderate the relationship between internal capabilities and CBEC performance?

1.5 Research Significance

This study is significant because it addresses a critical empirical gap concerning how firm-level capabilities translate into performance outcomes for Malaysian SMEs engaged in CBEC.

Malaysian SMEs by identifying which specific internal resources most strongly influence both financial and strategic outcomes in CBEC. By examining IT capabilities, international marketing capabilities, and export-operations capabilities together, the research provides actionable evidence for SMEs on which specific internal resources most strongly influence strategic and financial performance in CBEC, thereby enabling firms to prioritise capability investments and reduce over-

reliance on external enablers (Du & Huang, 2025). In addition, the study contributes to policy design by identifying capability shortfalls that require targeted support such as digital skills training, logistics facilitation, and SME-oriented data-access regimes, thereby informing more effective SME development programmes and national e-commerce strategies (Ahi, Sinkovics, & Sinkovics, 2022). Finally, the study emphasises operational realities as decisive determinants of customer satisfaction and repeat purchases in CBEC, providing empirically grounded recommendations for logistics and fulfilment improvements that are essential for sustainable cross-border performance (Aljohani, 2024).

Theoretically, the study tests and extends the Resource-Based View (RBV) in an emerging-market digital trade context by empirically evaluating how bundles of firm resources interact to generate competitive advantage in CBEC, so this responds to calls for context-specific validation of RBV-based capability models (Cassia & Magno, 2022). Furthermore, by explicitly examining the moderating role of e-commerce platform dependence, the research sheds light on firm platform dynamics illustrating how platform governance, data access, and fee structures can either amplify or constrain the value of internal capabilities, which has important implications for firms' boundary and channel strategies (Rajala & Hautala-Kankaanpää, 2023). Third, the study addresses methodological and contextual gaps by employing a validated framework and adapting it to the Malaysian SME landscape, thereby enhancing the generalizability and applicability of RBV-based models beyond developed-economy contexts. Finally, the research contributes to international business and e-commerce literature by linking firm-level resource configurations with broader institutional and market environments, offering a multi-dimensional perspective on SME competitiveness in digital globalization.

In sum, this study carries dual significance, it advances theory by contextualizing RBV in CBEC and enriches practice by equipping SMEs, policymakers, and platform providers with actionable insights to strengthen cross-border competitiveness. By bridging academic inquiry with practical challenges, the research aims to support Malaysia's aspiration of becoming a regional e-commerce

hub while ensuring that SMEs can meaningfully participate and thrive in global value chains.

1.6 Conclusion

This chapter has introduced the research by outlining its background, problem, objectives, questions, and significance. While Malaysia promotes CBEC through supportive initiatives, SMEs still face capability-related challenges that limit performance. To address this, the study adopts Cassia and Magno's framework to examine how internal capabilities and platform dependence shape SME performances, laying the foundation for the following chapters.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

A thorough literature review of the variables is given in this chapter. The study's conceptual framework and hypotheses development are presented after the underlying theoretical model is provided as a reference.

2.1 Underlying Theories

2.1.1 Resource-Based View (RBV)

The Resource-Based View (RBV) provides the primary theoretical foundation for this study. RBV argues that firm performance differences arise from the possession of valuable, rare, inimitable, and non-substitutable resources and capabilities (Barney, 1991). Within the CBEC, IT capabilities, international marketing capabilities, and export operations capabilities can be conceptualized as strategic resources that enhance competitive advantage. Firms that can mobilize and leverage these resources are more likely to achieve superior strategic and financial performance in international e-commerce markets.

2.1.2 Dynamic Capabilities Theory

Building upon RBV, Dynamic Capabilities Theory emphasizes a firm's ability to integrate, reconfigure, and adapt resources and capabilities in response to rapidly changing environments (Teece, Pisano, & Shuen, 1997). In the context of CBEC, SMEs must continuously adapt their IT, marketing, and export capabilities to remain competitive amid shifting consumer preferences, technological advancements, and international regulations. This theory therefore provides a lens to explain how firms sustain long-term performance in dynamic digital trade environments.

2.2 Review of Variables

2.2.1 Firm Performance in Cross-Border E-Commerce

Firm performance in CBEC can be assessed through both strategic performance and financial performance. Strategic performance reflects the extent to which SMEs achieve export-related goals such as gaining access to new markets, improving brand awareness, and building customer relationship development, and strategic positioning in foreign market (Gregory et al., 2019; Morgan et al., 2012). Financial performance, on the other hand, is measured through objective outcomes such as export sales growth, profitability from cross-border channel, and the share of e-commerce revenue within overall export sales (Cassia & Magno, 2022). Distinguishing these two outcome types is important because capability investments may first yield strategic benefits, for example, increased visibility or entry into new markets and only subsequently produce measurable financial returns (Efrat et al., 2018; Zou, Taylor, & Osland, 1998).

The adoption of CBEC or simply being present on a platform is not tantamount to superior performance rather than performance depends on how firms combine capabilities and routines to convert visibility into satisfied, repeat buyers. In the Malaysian context, SMEs face challenges in sustaining both aspects of performance due to resource limitations, logistical inefficiencies, and dependence on third-party platforms (Ong et al., 2020). This study conceptualizes firm performance in CBEC as a multidimensional construct capturing both strategic and financial outcomes.

2.2.2 Information Technology Capabilities

Information Technology capabilities refer to a firm's ability to integrate, deploy, and exploit digital infrastructure, systems, and knowledge to manage cross-border transactions and customer engagement (Bianchi, Glavas, & Mathews, 2017). Strong IT capabilities enable SMEs to adopt secure online payment systems, implement data-driven decision-making, multi-currency invoicing, automated customs documentation exchanges, and customer data analytics for personalization all of which improve conversion rates, reduce returns, and lower cross-border transaction friction (Trainor et al., 2011). SMEs show digitalization or digital capabilities significantly improve export outcomes when combined with other capabilities (Barney, Wright & Ketchen, 2001). In CBEC, IT capabilities are crucial as they determine SMEs' ability to scale operations and maintain customer trust (Du & Huang, 2025). IT capabilities are strategic resources when they are embedded in routines and are difficult for competitors to replicate, thereby creating sustained advantages (Barney, 1991). IT reduces transaction costs and psychic distance for small exporters by making order processing, payments, and fulfillment more reliable and transparent (Mathews, Bianchi, Perks, Healy, & Wickramasekera, 2016).

In CBEC, IT capabilities enable scale the automation of order processing, trust that secure payment and tracking, and customer insights that analytics for cross-border segmentation. For Malaysian SMEs, weak IT integration often shows as manual order reconciliation, poor tracking, and payment frictions that reduce conversion and increase returns. Therefore, IT capabilities are hypothesized to positively affect both strategic outcomes and financial outcomes in CBEC (Cassia & Magno, 2022; Trainor et al., 2011).

2.2.3 International Marketing Capabilities

International marketing capabilities are the skills and resources that allow firms to understand, adapt to, and satisfy foreign customer needs (Morgan, Feng & Whitley, 2018). These capabilities include market intelligence and adaptation, brand capability and campaign management such as ability to map consumer preferences and adapt product listings, content localization, running cross-border paid ads, and localized customer service. Marketing capability research in international contexts highlights that firms with superior marketing routines are better at sensing and seizing foreign market opportunities and translating those into export growth (Murray, Gao, & Kotabe, 2011; Morgan, et al., 2018). International marketing capabilities are critical for building trust, reducing perceived risk, and influencing customer purchase intentions (Vasudevan & Yu Keng, 2024). The firms with stronger international marketing capabilities obtain higher conversion rates, lower return rates, and higher customer lifetime value from foreign markets.

For SMEs in platforms, visibility is necessary but not sufficient: localized listings, optimized content, and engagement with reviewers materially affect purchase decisions (Dallocchio, Lambri, Sironi & Teti, 2024). This is

particularly relevant in crowded ASEAN marketplaces where trust signals like the reviews, seller ratings and localized content determine conversion rates. For Malaysian SMEs, leveraging social media marketing and digital content strategies helps overcome brand invisibility in competitive online marketplaces. Thus, international marketing capability is expected to positively affect both strategic and financial performance.

2.2.4 Export Operations Capabilities

Export operations capabilities denote the firm's operational know-how and routines to execute physical and regulatory aspects of cross-border trade reliably. Dimensions include logistics orchestration, customs and compliance capability, returns, reverse logistics, and service reliability and traceability such as real-time tracking, duties or tax handling, documentation, carrier selection, warehousing, and last-mile solutions (Dvorak, Prigoda & Cekerevac, 2024; Qi, Qin & Lin, 2024). These capabilities include ensuring documentation accuracy, meeting regulatory requirements, and providing reliable last-mile delivery (Vu & Nguyen, 2025). High-quality export operations contribute to customer satisfaction by ensuring timely and secure delivery, which in turn drives repeat purchases in CBEC.

However, studies show that SMEs often lack advanced operational capabilities, leading to delays, higher costs, and lower performance (Heikkinen, 2024). In practice, operational excellence in logistics and compliance allows SMEs to compete effectively with larger firms by ensuring efficient, traceable, and customer-friendly fulfillment (Fernández-Mesa & Alegre, 2015). Many Malaysian SMEs face higher per-unit logistic costs, limited bargaining power with carriers, and inexperienced handling of customs documentation problems that translate into late deliveries, higher

return rates, and reputational damage on platforms. Operational investments can therefore yield outsized improvements in customer trust and repeat purchases in CBEC. Consequently, export operations capabilities are posited to exert a positive effect on both strategic positioning and financial outcomes (Giuffrida et al., 2017; Wang et al., 2020). Therefore, export operations capabilities are an essential determinant of CBEC performance.

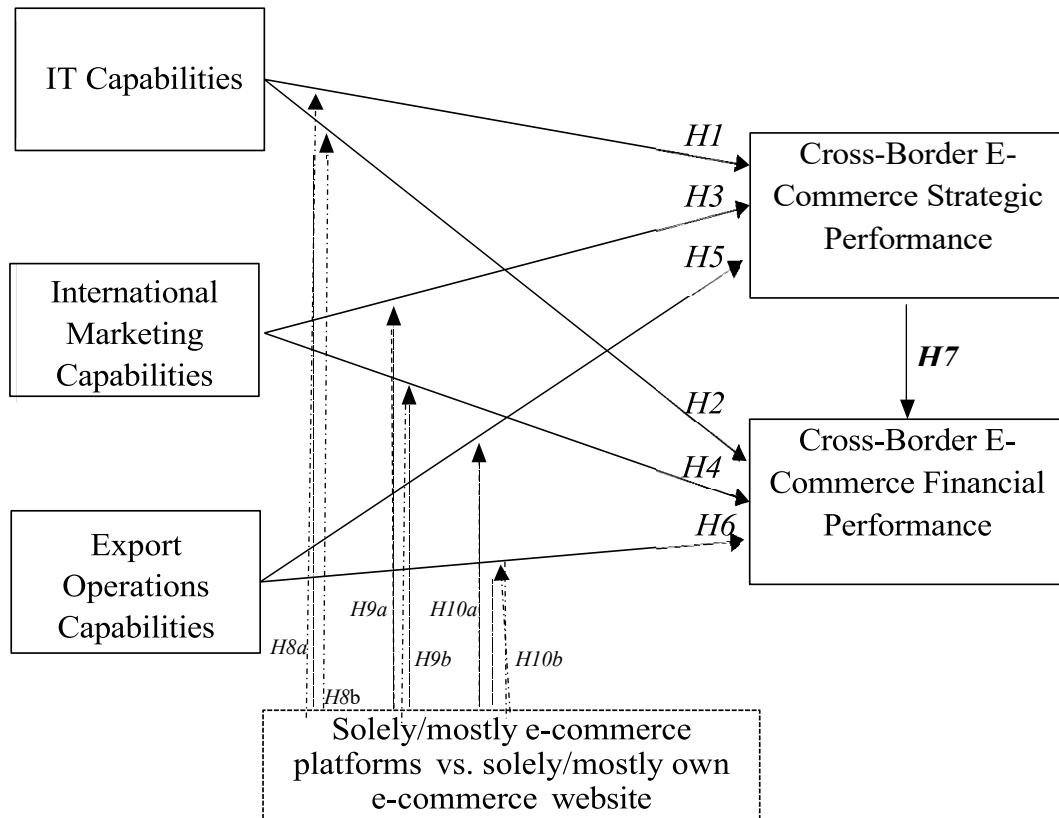
2.2.5 E-Commerce Platform Type

E-commerce platform type distinguishes between marketplace platforms such as Shopee, Lazada, Amazon, Alibaba that mediate buyer and seller transactions and control platform rules, search ranking and tools, especially provide Malaysian SMEs with essential infrastructure, digital tools, and access to international consumer bases (Shopova, 2023; Zenny, 2023). Or selling through firm-owned channels such as own e-store or website or hybrid modes. Platform type moderates how firm capabilities translate into outcomes because platforms impose technical, commercial and informational constraints or affordances. These platforms act as facilitators of global market entry, yet their role is not without limitations. At the same time, platforms can function as amplifiers for certain marketing or operational routines, for example, platform promotions or platform-provided fulfillment that complement firm capabilities (Wang et al., 2016; Wang et al., 2020). Cassia and Magno noted that while export capabilities can positively influence performance, excessive reliance on third-party platforms may weaken this effect by reducing firm autonomy. Recent studies further support this concern, showing that platform-imposed commission fees reduce seller margins (Li & Wang, 2024), while strategic biases such as prioritization of private labels diminish the visibility and profitability of third-party SMEs (Long & Amaldoss, 2024; Shopova, 2023).

Moreover, restrictions on consumer data access imposed by platforms limit SMEs' ability to leverage customer insights for strategic marketing (Zennyo, 2023). Malaysian SMEs often leverage marketplaces for market access but may pay high commissions, lack full access to customer data, and face algorithmic volatility in product visibility. These conditions may weaken the returns on investments in IT or marketing that would otherwise accrue if firms-controlled customer relationships directly. Thus, platform type is expected to moderate the capability performance relationships that excessive reliance on third-party platforms may reduce the positive effects of internal capabilities on CBEC performance, whereas firms that strategically balance platform use with owned channels may capture greater value from their capability investments (Wang et al., 2020).

2.3 Proposed Conceptual Framework

Figure 2.1: Conceptual Framework



Source: Developed for research.

2.4 Hypothesis Development

2.4.1 The Relationships between Information Technology Capabilities and Firm Performances

IT capabilities are considered foundational enablers of digital trade because they allow firms to integrate systems, process international transactions, and harness data analytics to improve customer engagement. Strong IT infrastructure reduces transaction costs, supports real-time responsiveness, and enables firms to expand into multiple foreign markets more effectively (Du & Huang, 2025; Bianchi & Mathews, 2016). Prior studies further highlight that digital tools enhance SMEs' ability to personalize offerings, manage online relationships, and build consumer trust, which in turn foster international expansion and profitability (Trainor, Andzulis, Rapp, & Agnihotri, 2014; Braojos, Benitez, & Llorens, 2019). In the CBEC context, SMEs with well-developed IT systems are therefore expected to achieve stronger strategic and financial performance.

2.4.1.1 The Relationships between Information Technology Capabilities and Strategic Performance

H1. IT capabilities positively influence the strategic performance of Malaysian SMEs in cross-border e-commerce.

2.4.1.2 The Relationships between Information Technology Capabilities and Financial Performance

H2. IT capabilities positively influence the financial performance of Malaysian SMEs in cross-border e-commerce.

2.4.2 The Relationships between International Marketing Capabilities and Firm Performances

International marketing capabilities cover skills and routines for sensing foreign customer needs, adapting messaging and positioning across markets, managing online brand presence, and handling cross-border customer service. Such capabilities facilitate opportunity recognition, adaptive market entry tactics and relationship management that all of which translate into strategic effectiveness and, ultimately, superior financial returns (Morgan et al., 2018; Murray et al., 2011). In the e-commerce context, marketing capabilities help firms craft culturally appropriate product pages, use platform promotions effectively, and manage reputational signals are important for cross-border buyers. E-commerce marketing capabilities link these routines to improved conversion, customer acquisition, and outcomes (Zhao & Zhang, 2023). Therefore, stronger international marketing capabilities should yield higher strategic and financial CBEC performance.

2.4.2.1 The Relationships between International Marketing Capabilities and Strategic Performance

H3. International marketing capabilities positively influence the strategic performance of Malaysian SMEs in cross-border e-commerce.

2.4.2.2 The Relationships between International Marketing Capabilities and Financial Performance

H4. International marketing capabilities positively influence the financial performance of Malaysian SMEs in cross-border e-commerce.

2.4.3 The Relationships between Export Operations Capabilities and Firm Performances

Export operations capabilities encompass logistics management, customs compliance, and after-sales service, all of which are essential for ensuring reliable delivery and customer satisfaction in cross-border contexts. Studies show that firms with advanced operational routines can minimize delivery failures, reduce shipping costs, and enhance transparency, thereby gaining a competitive advantage in international markets (Giuffrida, Mangiaracina, Perego, & Tumino, 2017; Viu-Roig & Álvarez-Palau, 2020). In e-commerce, last-mile delivery quality and seamless fulfilment processes are particularly critical for maintaining consumer trust and encouraging repeat purchases (Vu & Nguyen, 2025). While Cassia and Magno (2022) found that the effect of export operations may vary across industries, the general expectation is that operational competence strengthens both strategic positioning and financial performance in CBEC.

2.4.3.1 The Relationships between Export Operations Capabilities and Strategic Performance

H5. Export operations capabilities positively influence the strategic performance of Malaysian SMEs in cross-border e-commerce.

2.4.3.2 The Relationships between Export Operations Capabilities and Financial Performance

H6. Export operations capabilities positively influence the financial performance of Malaysian SMEs in cross-border e-commerce.

2.4.4 The Relationships between Strategic Performance and Financial Performance

Strategic performance reflects the degree to which firms achieve long-term internationalization objectives such as market expansion, brand visibility, and customer loyalty. Prior international business research indicates that achieving strategic goals often precedes financial success, as firms that build reputation and presence in foreign markets are more likely to experience sales growth and profitability over time (Morgan et al., 2018; Zou, Taylor, & Osland, 1998). In CBEC, successful strategic positioning such as capturing key segments in international markets or building consumer trust through reliable service should therefore translate into stronger financial performance.

H7. Strategic performance positively influences the financial performance of Malaysian SMEs in cross-border e-commerce.

2.4.5 The Relationships of Moderating Role of E-Commerce Platform Type

Although internal capabilities are crucial for SMEs, their effectiveness can be moderated by the type of e-commerce platform used. Third-party marketplaces such as Lazada, Shopee, and Alibaba lower entry barriers by providing logistics, payment, and marketing tools, but they also restrict access to consumer data, impose commission fees, and limit branding autonomy (Li & Wang, 2024; Shopova, 2023). This platform governance can diminish the benefits of firm-level IT, marketing, and operational capabilities by substituting or constraining their strategic value (Rajala & Hautala-Kankaanpää, 2023). Conversely, SMEs operating through direct-to-consumer channels may retain greater control over customer data and

brand-building, allowing them to extract more value from internal resources. As such, platform type is expected to moderate the relationships between internal capabilities and CBEC performance.

2.4.5.1 The Relationships between E-Commerce Platform Type and IT Capabilities

H8a. E-commerce platform type negatively moderates the relationship between IT capabilities and strategic performance of Malaysian SMEs in cross-border e-commerce.

H8b. E-commerce platform type negatively moderates the relationship between IT capabilities and financial performance of Malaysian SMEs in cross-border e-commerce.

2.4.5.2 The Relationships between E-Commerce Platform Type and International Marketing Capabilities

H9a. E-commerce platform type negatively moderates the relationship between international marketing capabilities and strategic performance of Malaysian SMEs in cross-border e-commerce.

H9b. E-commerce platform type negatively moderates the relationship between international marketing capabilities and financial performance of Malaysian SMEs in cross-border e-commerce.

2.4.5.2 The Relationships between E-Commerce Platform Type and Export Operations Capabilities

H10a. E-commerce platform type negatively moderates the relationship between export operations capabilities and strategic performance of Malaysian SMEs in cross-border e-commerce.

H10b. E-commerce platform type negatively moderates the relationship between export operations capabilities and financial performance of Malaysian SMEs in cross-border e-commerce.

2.5 Conclusion

This chapter has reviewed the key theoretical foundations and variables that underpin the study. Each construct was examined in relation to prior empirical findings. Based on these discussions, a conceptual framework was developed, and hypotheses were formulated to guide the empirical investigation. The insights from this literature review provide a strong foundation for the research methodology outlined in the following chapter.

CHAPTER 3: METHODOLOGY

3.0 Introduction

Chapter 3 covers the research methodology, including eight categories which will be described in detail below.

3.1 Research Design

Research design is the plan that guides how a study is conducted, linking research objectives with suitable methods (Saunders, Lewis, & Thornhill, 2019). This study adopts a quantitative design, as it focuses on testing hypotheses and examining statistical relationships between firm capabilities and SME performance in cross-border e-commerce. Quantitative methods allow objective measurement and generalisation of findings (Creswell & Creswell, 2018). The research is also descriptive, as it seeks to provide a clear picture of SMEs' current practices, challenges, and performance in CBEC.

3.1.1 Quantitative Research

Quantitative research is an approach that emphasizes the collection and analysis of numerical data to test hypotheses and explore relationships between variables (Creswell & Creswell, 2018; Field, 2013). It allows for objective measurement and statistical inference, making it an appropriate method for studies that seek to establish relationships between constructs.

Moreover, in previous SME studies and marketing research, Partial Least Squares Structural Equation Modelling (PLS-SEM) has been shown to be robust even with relatively small sample sizes, provided the model is well specified and measurement properties are satisfactory (Hair, Sarstedt, Ringle, & Mena, 2012; Chin & Newsted, 1999; Reinartz, Haenlein, & Henseler, 2009).

3.1.2 Descriptive Research

Descriptive research involves accurately portraying the characteristics or behaviours of a group or phenomenon without manipulating any variables (Sekaran & Bougie, 2019). It is particularly useful when the study's goal is to examine and document current practices, for example, the level of capability development among Malaysian SMEs engaged in CBEC, the challenges they face, and their performance outcomes. Descriptive research helps in establishing baseline measures and trends, offering detailed insights into how internal capabilities are distributed and how they are associated with strategic and financial performance. It offers a valid approach to understanding the status quo of SMEs in CBEC, especially in situations where experimental or longitudinal designs are impracticable (Debout, 2012).

3.2 Sample Design

3.2.1 Target Population

The target population for this study comprises SMEs in Malaysia that are actively engaged in CBEC. SME classification follows SME Corp Malaysia's criteria based on annual sales turnover and employment bands; however, the analytical unit is the firm, and the survey respondents are owner-managers, directors, senior managers or even employees who are responsible for or knowledgeable about the firm's international e-commerce activities. Using managerial respondents as informants is standard practice in SME studies because they possess the most accurate and comprehensive information about organizational capabilities, strategy and performance (Sekaran & Bougie, 2019). Selecting this population is appropriate for the study's objectives for three reasons. First, CBEC is a firm-level phenomenon: capability bundles like IT, international marketing, export operations and CBEC outcomes are properties of the firm rather than individuals, which makes the firm the natural unit of analysis (Cassia & Magno, 2022). Second, focusing on SMEs provides policy relevance: SMEs constitute most firms in Malaysia's economy and their ability to internationalize via digital channels is central to national e-commerce agendas (Koe & Sakir, 2020). Third, concentrating on CBEC-active SMEs ensures that respondents have relevant experience to evaluate the constructs in the questionnaire; previous empirical work on cross-border e-commerce similarly restricts samples to firms with CBEC exposure to avoid measurement error from uninformed (Fodouop Kouam, 2025).

3.2.2 Sampling Frame and Sampling Location

A reliable sampling frame that enumerates every CBEC-active SME in Malaysia does not currently exist in a single public repository; therefore, the sampling frame for this study is constructed from multiple complementary sources to maximise coverage and diversity. The frame will be compiled from the following lists and sources:

- (a) Directories and membership lists maintained by SME Corp Malaysia and MATRADE
- (b) Industry and trade association membership rosters (e.g., chambers of commerce, trade associations for relevant sectors such as food & beverage, apparel, homewares)
- (c) Public seller listings and storefronts on major e-commerce marketplaces (Shopee, Lazada, Alibaba/AliExpress)

Using multiple sources to assemble the frame reduces selection bias associated with any single list and has been recommended for research on digital SMEs where centralized registries are incomplete (Mohamad et al., 2022; Fodouop Kouam, 2025).

Sampling location is Malaysia nationwide, with purposeful emphasis on regions that have higher concentrations of digital entrepreneurship and logistics infrastructure, for example, Kuala Lumpur, Selangor, Penang, and Johor. These areas host major e-fulfilment facilities, logistics providers and a denser cluster of export-oriented SMEs, making them important loci for CBEC research. Nevertheless, the sampling frame intentionally includes SMEs from other states and smaller cities to capture sectoral and geographic variation. This geographic spread is consistent with prior Malaysian SME

research which shows digital adoption is concentrated in urban and peri-urban locales but is increasingly diffusing to other regions (Koe, 2020).

3.2.3 Sampling Element

The sampling element refers to the basic unit from which data will be collected in this study (Sekaran & Bougie, 2019). Since the unit of analysis is the firm, the sampling element is an individual SME operating in Malaysia that is actively engaged in CBEC. These firms must demonstrate evidence of conducting international sales through digital platforms or online export channels. Within each firm, the questionnaire will be completed by a key informant, typically the owner-manager, director, senior manager, or even the experienced employees that responsible for e-commerce or export activities. Key informants are chosen because they are most familiar with the firm's internal capabilities, and performance outcomes, thereby ensuring that responses reflect an accurate and holistic view of the enterprise (Kumar, Stern, & Anderson, 1993). Prior SME internationalisation and e-commerce studies have similarly relied on key informant surveys to measure firm-level constructs such as strategic capabilities, marketing practices, and performance (Gregory, Ngo, & Karavdic, 2019).

3.2.4 Sampling Technique

This study employs a non-probability purposive sampling technique. Purposive sampling is appropriate when the research targets a specialised population with specific characteristics that are not evenly distributed across the general population (Etikan, Musa, & Alkassim, 2016). In this case, only

SMEs that are actively involved in CBEC are relevant, as firms without international e-commerce operations cannot provide meaningful responses to the constructs under investigation.

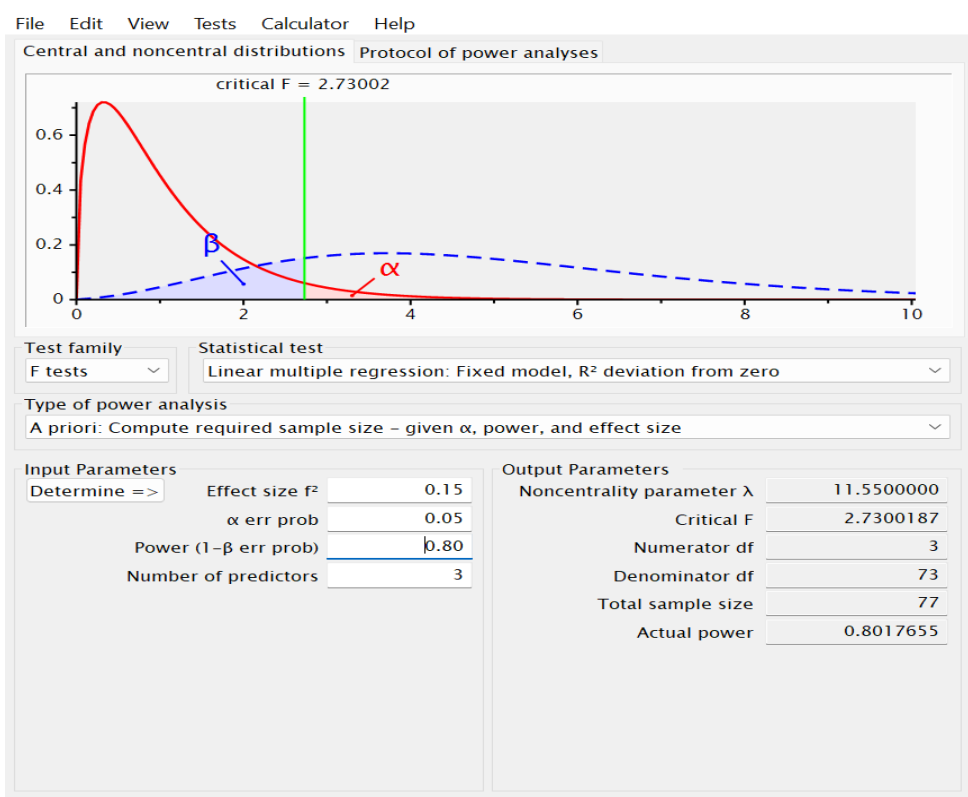
Purposive sampling is widely accepted in international business and SME studies where comprehensive probability sampling frames are unavailable (Saunders, Lewis, & Thornhill, 2019). By intentionally selecting SMEs that demonstrate CBEC activity, this study ensures that data collection is both relevant and aligned with the research objectives. Although non-probability sampling limits the generalisability of findings to the entire SME population, the use of PLS-SEM compensates for this limitation by being robust with smaller, purposively selected samples (Hair et al., 2019). Moreover, purposive sampling ensures that the study gathers valid and meaningful data from firms with practical CBEC experience, thereby enhancing the study's internal validity.

3.2.5 Sample Size

The required sample size for the study was determined using an a priori statistical power analysis conducted in GPower 3.1.9.7 (Faul, Erdfelder, Buchner, & Lang, 2009). The conventional $\alpha=0.05$ and power = 0.80 are adopted to balance Type I and Type II error risks and are consistent with methodological recommendations for hypothesis-testing research (Cohen, 1988; Faul et al., 2009). The analysis was set for a linear multiple regression (fixed model, R^2 deviation from zero) with the following input parameters shows an anticipated effect size of $f^2=0.15$ (conventionally considered a medium effect; Cohen, 1988), a significance level of $\alpha = 0.05$, desired statistical power of $1-\beta=0.80$, and three predictor variables. Under these parameters GPower produced a required total sample size of 77 to detect a medium effect with 80% probability.

Practical considerations lead to a higher target than the strict minimum. Therefore, the study will target a collection goal of 150 responses, which (after removing incomplete records) is expected to yield at least the 77 usable responses required by the power analysis. This approach balances statistical rigor with field realities and is consistent with the literature on sample planning for PLS-SEM and small-sample studies (Hair et al., 2019; Chin & Newsted, 1999).

Figure 3.1: Sampling Size Required by Using G*Power



Adapted from: G*Power software version 3.1.9.7

3.3 Data Collection Method

3.3.1 Primary Data

Primary data for this study is collected through a structured online questionnaire distributed via Google Forms to Malaysian SMEs engaged in CBEC. The questionnaire targets owners, managers, or decision-makers with direct knowledge of CBEC operations, as they are best positioned to provide reliable firm-level insights (Sekaran & Bougie, 2019). Online distribution is appropriate because respondents are digitally active, while also allowing the researcher to efficiently reach geographically dispersed SMEs at low cost (Ong et al., 2020). The survey instrument captures data on IT capabilities, international marketing capabilities, export operations, e-commerce platform type, and firm performance, using items adapted from Cassia & Magno's validated scales in prior research. The study can produce firm-specific, contextually relevant evidence that directly addresses the research objectives by gathering primary data in this way.

3.4 Research Instrument

3.4.1 Questionnaire Design

A questionnaire, a widely used instrument in survey-based research, was adopted in this study to collect primary data from Malaysian SMEs engaged in CBEC (Collis & Hussey, 2013). The questionnaire was designed to ensure

alignment with the research objectives and to capture data on the constructs specified in the study's framework. It consists of two main parts. The first part includes general firm information, such as industry sector, firm size, years in operation, and experience in CBEC. These demographic and contextual questions provide control variables and enable descriptive profiling of the sample, which is essential for understanding heterogeneity across SMEs (Sekaran & Bougie, 2019). The second part contains items measuring the independent, dependent, and moderating variables of the study. Constructs were operationalised using established measurement scales adapted from prior studies to ensure content validity. All construct items were measured on a seven-point Likert scale ranging from poor to excellent and not achieved at all to completely achieved of the performances. The seven-point scale was chosen because it provides greater response granularity, improves scale sensitivity, and has been shown to enhance the reliability and validity of constructs in PLS-SEM applications compared to shorter scales (Abdul Malik et al., 2021; Kusmaryono, Wijayanti, & Maharani, 2022).

3.4.2 Pilot Test

A pilot test was conducted to refine the questionnaire and ensure clarity, reliability, and content validity before full distribution (Bell, Harley & Bryman, 2015). The choice of 30 participants for the pilot study is consistent with recommendations in methodological literature. Bujang, Omar, Foo, and Hon (2024) suggest that a sample of around 30 respondents is sufficient for establishing the internal consistency of a questionnaire using reliability measures. Therefore, a pilot test will be conducted with 30 SME respondents engaged in cross-border e-commerce to assess the clarity, reliability, and overall suitability of the questionnaire. This process will help ensure that

constructs are interpreted consistently and that the instrument functions effectively in practice and improving response rates during the main data collection.

3.5 Construct Measurement

3.5.1 Origin Constructs

All constructs in this study are adapted from the validated questionnaire developed by Cassia and Magno. Their measurement scales have been widely applied in cross-border e-commerce research and provide strong content validity. Adopting this instrument ensures reliability, comparability with prior studies, and alignment with the study’s conceptual framework.

Table 3.1 Construct Measurement

Construct	Original Questionnaire	Sources
IT Capabilities	Q1: Use e-commerce and internet-based technologies.	Cassia, F., & Magno, F. (2022). Cross-border e-commerce as a foreign market entry mode among SMEs: the relationship between export capabilities and
	Q2: Manage digital marketing tools.	
	Q1: Understand foreign customers’ needs.	
	Q2: Manage relationships with foreign customers.	

International Marketing Capabilities	Q3: Apply international marketing strategies effectively.	performance. <i>Review of International Business and Strategy</i> , 32(2), 267-283.
Export Operations Capabilities	Q1: Manage conformity with foreign markets' legal and fiscal requirements.	

Source: Developed for the research

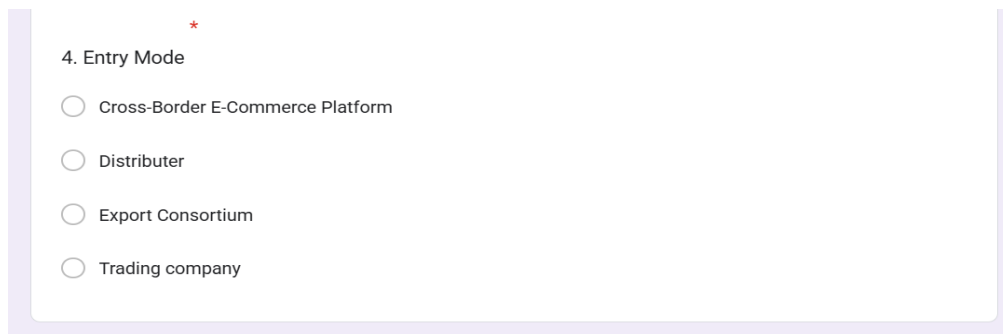
3.5.2 Scale Measurement

Measurement scale is a main component of research because it determines how data is categorized, arranged, and quantified for analysis (Mishra, Pandey, Singh, Gupta, & Sahu, 2018). This study applies four types of scales which are nominal, ordinal, ratio, and interval.

3.5.2.1 Nominal Scale

Data measured on a nominal scale are classified into distinct categories without any intrinsic order or numerical value (Salkind, 2010). In this study, several demographic questions in Section A fall under the nominal scale, including respondents' position in the company, industry sector, and entry mode. Similarly, the question in Section D regarding the type of e-commerce channel used also applies the nominal scale.

Figure 3.2: Example of Nominal Scale in Questionnaire



4. Entry Mode *

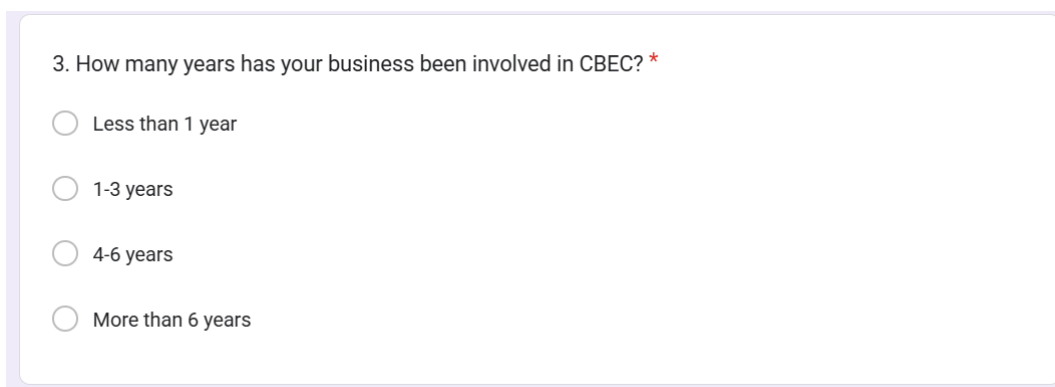
- Cross-Border E-Commerce Platform
- Distributer
- Export Consortium
- Trading company

Source: Developed for the research

3.5.2.2 Ordinal Scale

The ordinal scale arranges data into categories that have a meaningful order but not equal intervals between them (Jamieson, 2004). In this study, several demographic variables in Section A were measured using an ordinal scale, such as years of CBEC experience, number of employees, and number of markets served. These variables allow the ranking of firms by size, experience, or market reach, but the difference between categories cannot be assumed to be uniform.

Figure 3.3: Example of Ordinal Scale in Questionnaire



3. How many years has your business been involved in CBEC? *

- Less than 1 year
- 1-3 years
- 4-6 years
- More than 6 years

Source: Developed for the research

3.5.2.4 Likert Scale

The Likert scale is one of the most widely used interval scales in social science and business research, as it enables respondents to express the degree of agreement or disagreement with a given statement (Joshi et al., 2015). In this study, all key constructs were measured using a seven-point Likert scale, ranging from 1 to 7. The seven-point format was chosen because it provides higher sensitivity, greater variance, and improved reliability compared to shorter scales such as the five-point Likert scale (Finstad, 2010). This allows for more nuanced responses when evaluating SME capabilities and performance in CBEC, where subtle differences in perception and strategic orientation can significantly impact outcomes.

Table 3.2: Example of Likert Scale in Questionnaire

No.	Statements	Poor =1 to Excellent =7						
International Marketing Capabilities								
How would you rate your company's capabilities in the international marketing areas?								
1.	Understand foreign customers' needs	1	2	3	4	5	6	7
2.	Manage relationships with foreign customers.	1	2	3	4	5	6	7
3.	Apply international marketing strategies effectively.	1	2	3	4	5	6	7

Source: Developed for the research.

Table 3.3: Summary of Measurement Scales Based on Questionnaire Items

Section	Title	Items	Measurement Scales
A	Demographic Profile	Position	Nominal
		Sector	Nominal
		Year in CBEC	Ordinal
		Entry Mode	Nominal
B	Construct Measurement (Independent Variables)	IT Capabilities	Linkert Scale
		International Marketing Capabilities	
		Export Operation Capabilities	
C	Construct Measurement (Dependent Variables)	Strategic Performance	Linkert Scale
		Financial Performance	Ratio
D	Moderator	The Type of E-Commerce Channel Used	Nominal

Source: Developed for the research.

3.6 Data Processing

Before moving on to data analysis, the information gathered from the questionnaire must be reviewed, revised, and finalized because there may be some mistakes that need to be fixed

3.6.1 Data Checking

According to Barchard et al. (2020), data checking is the process of guaranteeing the correctness, accuracy, and completeness of data. The questionnaire for this study was distributed via Google Forms, and each item had the required answer feature enabled to avoid missing values and ensure data completeness. To determine whether the targeted respondents' questionnaire replies were comprehensive, a data-checking method was also used.

3.6.2 Data Editing

This is an important stage after the data gathering procedure, according to Habibzadeh (2017), since it entails checking the data to make sure it is accurate and consistent. Following the pilot test, this procedure can be completed. Researchers can contribute to a more effective editing phase later on by facilitating a more seamless data collection procedure through data editing.

3.6.3 Data Cleaning

According to Kantarci (2018), data cleaning is a procedure that calls for researchers to manually update, modify, or remove data that is erroneous, duplicated, badly formatted, or poorly described. The purpose of this stage is to guarantee the overall data's accuracy and completeness. This can

improve the overall quality of the data by reducing any adverse impacts that may arise during the data processing process.

3.7 Data Analysis

Data analysis in this study will conduct by using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM is chosen because it is suitable for predictive research, can handle complex models with multiple constructs, and performs well even with relatively small sample sizes (Hair, Hult, Ringle, & Sarstedt, 2019). The analysis follows the recommended two-step approach, which involves evaluating the measurement model (outer model) and the structural model (inner model). This ensures that both the reliability and validity of the constructs, as well as the hypothesized relationships among variables, are properly assessed.

3.7.1 Descriptive Analysis

Descriptive analysis refers to the process of summarizing, organizing, and presenting data in a meaningful way so that patterns can be identified and understood (Sekaran & Bougie, 2019). It provides the foundation for more advanced statistical techniques by highlighting the central tendencies, variability, and distribution of variables within a dataset. This approach is consistent, where descriptive statistics are used as a preliminary step before hypothesis testing to ensure the dataset's suitability for further analysis (Hair, Hult, Ringle, & Sarstedt, 2019; Saunders, Lewis, & Thornhill, 2019).

3.7.2 Inferential Analysis

Andereck (2011) states that inferential analysis allows researchers to generalize findings from a sample to a broader population by testing hypotheses and evaluating relationships among variables. Unlike descriptive statistics, which only summarize observed data, inferential techniques provide insights into whether proposed relationships in the research framework hold true empirically (Berenson, Krehbiel, Levine, & Szabat, 2012; Bhattacharjee, 2012).

3.7.3 Structural Equation Modelling

When examining links between several variables, particularly intricate theoretical relationships, structural equation modeling (SEM) is a useful tool (Hair & Alamer, 2022). This method is typically applied when concepts or variables can be measured using a variety of indicators but cannot be directly viewed. Additionally, SEM takes measurement errors in observable variables into account, which results in a more accurate evaluation of the theoretical structures the researchers are studying (Hair et al., 2021).

3.7.3.1 Bootstrapping

A resampling method called bootstrapping is used to evaluate models and variables in order to attain accuracy and consistency. This test utilizes bootstrapping, which contains confidence intervals, regression coefficients, and path coefficients. Without depending on typical assumptions, this

method enables researchers to evaluate the accuracy of statistical estimates (Streukens et al., 2016).

3.7.4 Measurement Model Assessment

Measurement model can be known as a framework that illustrates all the links between independent and independent variables (Kock, 2014). Indicators will be provided among the variables. It defines the relationship between latent constructs (unobservable variables) and the observed indicators (measurable items) using data analysis techniques for statistical purposes.

3.7.4.1 Reliability test

Reliability refers to the internal consistency of a measurement scale, it indicates the degree to which items intended to measure the same construct produce similar scores (Cho, 2016). Cronbach's Alpha (CA) and Composite Reliability (CR), which is the most widely applied measure of internal consistency in survey research. CA examines the extent to which items within a construct are correlated, thereby reflecting the homogeneity of the scale (Taber, 2018). CR, which overcomes some of the limitations of CA by accounting for different item loadings, is also calculated, with a threshold of 0.70 recommended as satisfactory (Fornell & Larcker, 1981). Establishing measurement reliability at this stage is essential before proceeding to validity testing and structural model evaluation in SmartPLS.

Table 3.4 Rule of Thumb for Results

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Jain, S., & Angural, V. (2017). Use of Cronbach's alpha in dental research. *Medico Research Chronicles*, 4(3), 285-291.

3.7.4.2 Validity Test

According to Wainer & Braun (2013), stated that when the significant t value and p-value are less than the 0.05 alpha level, the measuring item attains a linked latent concept and convergent validity. In structural equation modeling (SEM), discriminant validity is assessed using the heterotrait monotrait ratio of correlations (HTMT); a value of less than 0.90 denotes the establishment of discriminant validity between reflective constructs (Henseler et al., 2014). Convergent validity can only be proven when the Average variation Extracted (AVE) is at least 0.5, which indicates that the latent construct accounts for at least 50% of the variance in its indicators, according to Fornell and Larcker (1981). A popular statistic that assesses the ratio of construct variance to measurement error is the AVE (Santos & Cirillo, 2021).

3.7.5 Structural Model Assessment

Once the measurement model has been validated, the next step in PLS-SEM is to assess the structural model, which evaluates the hypothesized relationships among latent constructs. The structural model provides insights into the predictive power of the framework and the significance of proposed paths. According to Chin (1998), structural model assessment involves examining both the strength and statistical significance of the relationships between constructs, while also considering the explanatory power of the model.

When variables have a significant relationship with one another, this is known as collinearity (Wilcox, 2022). The Variance Inflation Factor (VIF) is used in regression analysis to measure multicollinearity. A VIF value between 5 and 0.25 is acceptable; if not, multicollinearity may be present and items may be removed. Hair et al. (2022) state that a VIF score of less than three is often preferable. Additionally, the route coefficients' significance will be assessed and should ideally fall between +1 and -1. Values near 0 indicate less predictive ability for the dependent constructs, while values around 1 indicate stronger predictive potential. A one-tailed test at the 5% significant level will also be used to assess the structural model and test hypotheses. A t statistic of ± 1.96 and a p-value of 0.05 or below are considered statistically significant (Hair et al., 2022).

3.8 Conclusion

This chapter has outlined the research methodology employed in this study, including the research design, sampling strategy, data collection methods, research instrument, construct measurement, and data analysis techniques. By adopting a quantitative and descriptive approach supported by PLS-SEM analysis, the methodology ensures both the reliability and validity of findings while aligning with the study's objectives.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter presents the research findings, starting with the examination of respondents' demographic profile. The research data is analyzed in this section utilizing Smart PLS version 4.

4.1 Descriptive Analysis

4.1.1 Respondent Demographic Profile

Table 4.1 Summarized Respondents' Demographic Profile

Demographic Profile	Details	Frequency	Percentage (%)
Position	Owner	57	38
	Export Manager	63	42
	Executive	30	20
Sector	Agriculture	18	12
	Manufacture	82	54.7
	Wholesale/Retail	50	33.3

Year in CBEC	Less than 1 year	23	15.4
	1-3 years	52	34.7
	3-6 years	45	30
	More than 6 years	30	20
Entry Mode	CBEC Platform	68	45.3
	Distributor	40	26.7
	Export Consortium	18	12
	Trading Company	24	16
Number of Employees	Less than 20	60	40
	20-50	52	34.7
	50-100	22	14.7
	More than 100	16	10.7
Served Market (Number of Countries)	1	33	22
	2-10	81	54
	11-20	25	16.7
	More than 20	11	7.3
Experience (Number of years)	Less than 10	52	34.7
	11-20	60	40
	21-30	30	20
	More than 30	8	5.3

Source: Developed for research

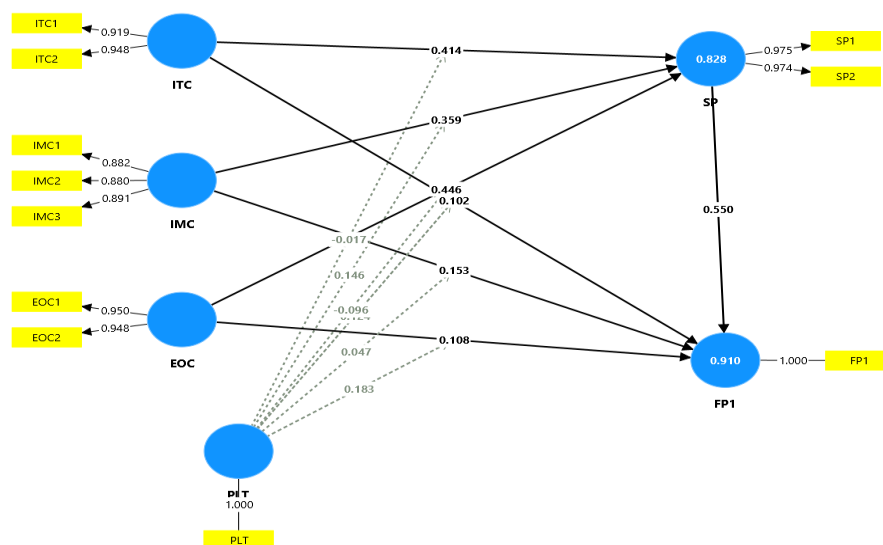
Table 4.1 shows a total of 150 respondents participated in the survey. Most respondents were export managers (42%), followed by Owners (38%) and executives (20%). In terms of sector distribution, the majority of SMEs operated in the manufacturing sector (54.7%), while 33.3% were engaged in wholesale and retail, and 12% in agriculture. Regarding experience in CBEC, 34.7% of firms had been involved for 1–3 years, 30% for 3–6 years, 20% for more than 6 years, and 15.4% for less than one year. For entry mode,

45.3% relied primarily on CBEC platforms, followed by distributors (26.7%), trading companies (16%), and export consortia (12%). Most SMEs were micro or small enterprises, with 40% employing fewer than 20 workers and 34.7% employing between 20 and 50 workers. The majority also served between 2 and 10 foreign markets (54%), while 22% served only one market, and smaller proportions served 11–20 markets (16.7%) or more than 20 (7.3%). In terms of international business experience, 40% of the firms had between 11 and 20 years of experience, while 34.7% had less than 10 years, 20% had 21–30 years, and only 5.3% had more than 30 years of experience. This demographic distribution indicates that the sample captures a diverse range of SMEs with varying sizes, market engagement levels, and experience in CBEC.

4.2 Inferential Analysis

4.2.1 Measurement Model Analysis

Figure 4.1: Structural model with standardized path coefficients and R² values



Source: Results from Smart PLS software.

The model depicted in Figure 1 consisted of standardized path coefficients. Capability constructs had strong significant effects, though not very powerful, on strategic performance ($\beta = 0.414$ to 0.446) and weak direct effects on financial performance ($\beta = 0.102$ to 0.153). The overall effect of strategic performance on financial performance was very strong ($\beta = 0.550$). Besides, the model could account for 82.8% of the variance in strategic performance and 91.0% in financial performance, thus revealing its substantial explanatory power.

Table 4.2: Convergent Validity Assessment

Construct	Item	Loading	Cronbach's α	rho_A	CR	AVE
IT Capabilities (ITC)	ITC1	0.919	0.855	0.883	0.932	0.872
	ITC2	0.948				
International Marketing Capabilities (IMC)	IMC1	0.882	0.861	0.861	0.915	0.783
	IMC2	0.880				
	IMC3	0.891				
Export Operations Capabilities (EOC)	EOC1	0.950	0.890	0.890	0.948	0.901
	EOC2	0.948				
Strategic Performance (SP)	SP1	0.975	0.947	0.947	0.974	0.950
	SP2	0.974				
Financial Performance (FP)	FP1	1.000	-	-	-	-

Source: Results from Smart PLS software.

The measurement model revealed great reliability and validity for all of the constructs. The outer loadings for all the indicators were above the recommended minimum of 0.708, their values ranging from 0.880 to 1.000, meaning that the indicators had a high degree of reliability in representing their corresponding constructs. Internal consistency reliability established for all multi-item constructs even higher than expected levels. Cronbach's alpha values were in the range of 0.855 to 0.947, composite reliability (rho_c) 0.915 to 0.974, and rho_A 0.861 to 0.947, with all these values over the 0.70 barrier (Hair et al., 2023). Average variance extracted (AVE) values were

from 0.783 to 0.950 and thus surpassed the 0.50 validity criterion which also proved that convergent validity did exist. Thus, it can be concluded from these results that the measurement model was validated by substantial common variance shared among the indicators of each construct and was, therefore, appropriate for the next step of the structural analysis.

Table 4.3: Discriminant Validity: Fornell-Larker Criterion

Construct	EOC	FP	IMC	ITC	PLT	SP
EOC	0.949					
FP	0.738	1.000				
IMC	0.372	0.718	0.885			
ITC	0.392	0.717	0.345	0.934		
PLT	0.043	0.059	0.161	0.135	1.000	
SP	0.751	0.953	0.726	0.735	0.059	0.975

Source: Result from Smart PLS software.

Discriminant validity has been proven. The Fornell-Larker criterion and Heterotrait-Monotrait Ratio(HTMT) are used in this study to measure discriminant validity. As a result, Table 4.3 shows that the square-root of AVE for each construct is greater than the association with all other constructions.

Table 4.4: Discriminant Validity: Heterotrait-Monotrait Ratio(HTMT)

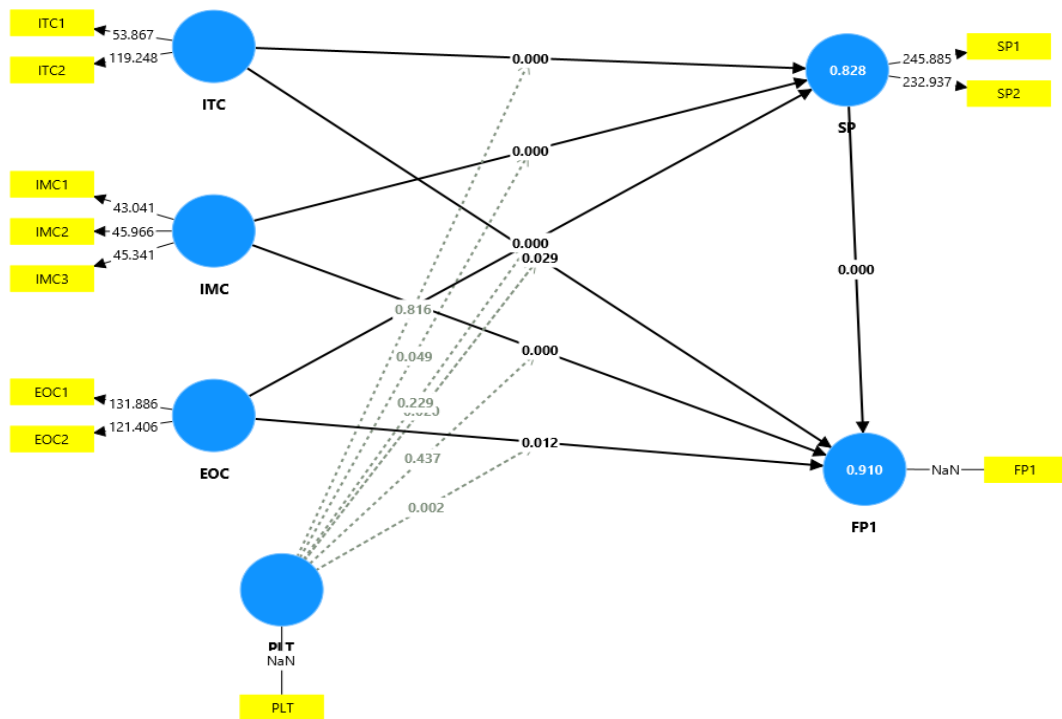
Construct	EOC	FP	IMC	ITC	PLT	SP
EOC	-					
FP	0.738	-				
IMC	0.372	0.718	-			
ITC	0.392	0.717	0.345	-		
PLT	0.043	0.059	0.161	0.135	-	
SP	0.751	0.953	0.726	0.735	0.059	-

Source: Results from Smart PLS software.

Furthermore, all of the constructs in Table 4.7 had HTMT ratios below the 0.90 benchmark, demonstrating the establishment of discriminant validity among reflective thoughts (Henseler et al., 2014). Consequently, the result shows that all constructs have verified discriminant and convergent validity.

4.2.2 Structural Model Assessment

Figure 4.2: Structural model with t-values from bootstrapping procedure.



Source: Results from Smart PLS software.

Figure 4.2 presents the structural model with t-values that confirm the statistical significance. The paths of all direct capability-performance have t-values higher than 1.96, thus supporting hypotheses H1 to H7. On the other hand, most interaction terms had t-values below the significance threshold ($t < 1.96$), which shows that the moderation effects are non-significant. The outer loading t-values, which were very high (from 43.041 to 245.885), confirmed not only the robustness of the measurement model but also the reliability of the indicator for all constructs.

Table 4.5: Path Coefficient and Hypothesis Testing Results

Hypothesis	Path	β	SD	t-value	p-value	95% CI	Decision
H1	ITC → SP	0.414	0.052	7.988	0.000	[0.312, 0.516]	Supported
H2	ITC → FP	0.102	0.047	2.184	0.029	[0.010, 0.194]	Supported
H3	IMC → SP	0.359	0.044	8.227	0.000	[0.273, 0.445]	Supported
H4	IMC → FP	0.153	0.037	4.132	0.000	[0.081, 0.225]	Supported
H5	EOC → SP	0.446	0.049	9.141	0.000	[0.350, 0.542]	Supported
H6	EOC → FP	0.108	0.043	2.503	0.012	[0.024, 0.192]	Supported
H7	SP → FP	0.550	0.054	10.242	0.000	[0.444, 0.656]	Supported
Control Effects							
	PLT → SP	-0.148*	0.071	2.101	0.036	[-0.287, -0.009]	Significant
	PLT → FP	-0.059	0.058	1.012	0.312	[-0.173, 0.055]	Not Significant

Source: Results from Smart PLS software.

Table 4.5 shows the positive relationships between internal capabilities and performance outcomes were evidenced by the support for all seven hypotheses (H1-H7). With the highest positive effect on SP ($\beta = 0.446$, $p < 0.001$), EOC were followed closely by ITC ($\beta = 0.414$, $p < 0.001$) and IMC ($\beta = 0.359$, $p < 0.001$). This indicates that all these three capability dimensions are significantly boosting the strategic outcomes and thus, the findings can be regarded as confirmation of the aforementioned comes. For FP, direct effects were comparatively weaker but still significant: the strongest impact was attributed to IMC ($\beta = 0.153$, $p < 0.001$) followed by EOC ($\beta = 0.108$, $p < 0.05$) and IT Capabilities ($\beta = 0.102$, $p < 0.05$).

The influence of SP on FP was the strongest ($\beta = 0.550$, $p < 0.001$), thus confirming its vital role as a mediator. The negative direct effect of platform type on SP was ($\beta = -0.148$, $p < 0.05$), which means that the use of third-party platforms by firms led to lower strategic outcomes. Nevertheless, there was no significant direct effect of platform type on FP ($\beta = -0.059$, $p = 0.312$),

which indicates that the limitations of the strategy may not always result in a decline in financial performance immediately.

Table 4.6: Moderation Effects Testing Results

Hypothesis	Interaction Path	β	SD	t-value	p-value	Decision
H8a	PLT \times ITC \rightarrow SP	-0.017	0.074	0.233	0.816	Not Supported
H8b	PLT \times ITC \rightarrow FP	0.124*	0.053	2.335	0.020	Not Supported†
H9a	PLT \times IMC \rightarrow SP	0.146*	0.074	1.968	0.049	Not Supported†
H9b	PLT \times IMC \rightarrow FP	0.047	0.061	0.778	0.437	Not Supported
H10a	PLT \times EOC \rightarrow SP	-0.096	0.080	1.203	0.229	Not Supported
H10b	PLT \times EOC \rightarrow FP	0.183**	0.059	3.100	0.002	Not Supported†

Source: Results from Smart PLS software.

Table 4.6 shows the moderation hypotheses (H8a-H10b) were mostly unsupported and at the same time revealed some unexpected results regarding the influence of the platform type on the relationships between capability and performance. Of the three interaction terms, only one was positive and the rest negative, but the moderation was nonetheless the opposite of what had been predicted. Attribution of these positive coefficients implies that the third-party platforms had lifted some capability-performance linkages more than they had been weakened as was hypothesized. There were also three interaction terms which did not reveal any statistically significant results. The disappearance of the negative moderation suggested by the hypothesis indicates that third-party platforms might offer supplementary resources that increase the firm capabilities' value rather than limiting it. Acknowledgment of this point overturns some theoretical assumptions about platform dependency restricting strategic freedom and implies that SMEs can use platform infrastructure in synergy with internal capabilities to produce better performance outcomes.

CHAPTER 5: DISCUSSION, CONCLUSIONS AND IMPLICATIONS

5.1 INTRODUCTION

Table 5.1: Result of Hypothesis Test

Hypothesis		Significance Value	Result
H1	IT capabilities positively influence the strategic performance of Malaysian SMEs in CBEC.	0.000	Supported
H2	IT capabilities positively influence the financial performance of Malaysian SMEs in CBEC.	0.029	Supported
H3	International marketing capabilities positively influence the strategic performance of Malaysian SMEs in CBEC.	0.000	Supported
H4	International marketing capabilities positively influence the financial performance of Malaysian SMEs in CBEC.	0.000	Supported
H5	Export operations capabilities positively influence the strategic performance of Malaysian SMEs in CBEC.	0.000	Supported
H6	Export operations capabilities positively influence the financial performance of Malaysian SMEs in CBEC.	0.012	Supported

H7	Strategic performance positively influences the financial performance of Malaysian SMEs in CBEC.	0.000	Supported
H8a	E-commerce platform type negatively moderates the relationship between IT capabilities and strategic performance of Malaysian SMEs in CBEC.	0.816	Not Supported
H8b	E-commerce platform type negatively moderates the relationship between IT capabilities and financial performance of Malaysian SMEs in CBEC.	0.020	Not Supported
H9a	E-commerce platform type negatively moderates the relationship between international marketing capabilities and strategic performance of Malaysian SMEs in CBEC.	0.049	Not Supported
H9b	E-commerce platform type negatively moderates the relationship between international marketing capabilities and financial performance of Malaysian SMEs in CBEC.	0.437	Not Supported
H10a	E-commerce platform type negatively moderates the relationship between export operations capabilities and strategic performance of Malaysian SMEs in CBEC.	0.229	Not Supported
H10b	E-commerce platform type negatively moderates the relationship between export operations capabilities and financial performance of Malaysian SMEs in CBEC.	0.002	Not Supported

5.2 Discuss of Major Findings

The results of this study confirm that all three internal capabilities play important roles in enhancing the CBEC performance of Malaysian SMEs. Consistent with Cassia & Magno (2022), the findings indicate that strategic and financial outcomes depend strongly on firm-level capability development.

First, all three capabilities show significant positive relationships with strategic Performance (H1, H3, H5). This means SMEs that invest in digital tools, market adaptation, and export logistics are more likely to improve their international visibility, strengthen customer trust, and expand into more foreign markets. Among the three, export operations capabilities have the strongest effect, suggesting that reliable fulfilment and compliance routines are particularly decisive for success in CBEC.

Second, all three capabilities also show positive effects on financial performance, though the effects are weaker compared to strategic outcomes (H2, H4, H6). This finding reflects the pattern noted by Cassia & Magno, capability investments first strengthen strategic positioning such as customer engagement, market reach, and operational consistency which then gradually translate into higher export revenue and profitability. International marketing capabilities show the strongest financial impact, indicating that the ability to attract and convert international buyers directly boosts revenue.

Third, strategic performance shows a strong and positive effect on financial performance (H7). This confirms that SMEs must first achieve non-financial milestones such as brand recognition, customer satisfaction, and market coverage before financial benefits materialise. This supports the RBV view that competitive advantages translate into financial gains over time.

Fourth, the moderating role of e-commerce platform type (H8a–H10b) was not supported for any capability–performance relationship. This means that whether SMEs rely mainly on third-party marketplaces or their own e-commerce websites, the strength of IT, marketing, and operational capabilities still contributes similarly to both strategic and financial outcomes. The results suggest that internal capability development is more influential than differences in platform type. This is consistent with Cassia and Magno who also found limited moderating effects in their CBEC capability model.

Overall, the findings show that internal capability building is the central driver of CBEC success, while the choice of platform type does not significantly alter capability performance relationships. SMEs that build strong IT, marketing, and operational foundations are better positioned to achieve strategic advantages, and these strategic gains later translate into improved financial results.

5.3 Research Implications

This study makes several contributions to the literature on CBEC and SME internationalisation. First, the findings reinforce the RBV by demonstrating that IT capabilities, international marketing capabilities and export operations capabilities function as valuable and inimitable resources that directly enhance both strategic and financial performance. Second, the results extend dynamic capabilities theory by showing that SMEs that integrate and reconfigure digital and operational resources are better positioned to respond to changing foreign market environments. Third, the findings contribute to export marketing and international business research by confirming that marketing and logistics capabilities remain essential success factors even within digitalised CBEC markets. Overall, the study strengthens the understanding that CBEC performance requires a combination of technological, marketing and operational competencies.

For practitioners, the findings highlight several key managerial lessons. SMEs should invest in IT systems such as data analytics, digital payment tools and inventory automation to enhance efficiency and support international growth. Business owners should also prioritise developing strong marketing capabilities, including content localisation, online advertising and customer relationship management, as these capabilities directly contribute to export sales. Furthermore, building export operations capabilities is critical; SME managers should establish stable logistics partnerships, train staff on customs procedures, and implement reliable tracking systems to ensure smooth fulfilment. The results suggest that

Malaysian SMEs cannot rely on digital presence alone; competitive CBEC performance requires a balanced development of digital, marketing and operational strengths.

5.4 Study Limitations

Although the study provides useful insights, several limitations should be acknowledged. First, the sample size is relatively small, limiting the generalisability of the results to the wider SME population in Malaysia. A larger sample across different states and industries would strengthen future findings. Second, the study relies on self-reported survey data, which may introduce response bias, especially in performance-related questions. Third, the research focuses only on Malaysian SMEs involved in CBEC, thus the results cannot be directly applied to larger firms or domestic-only businesses. Fourth, the cross-sectional design captures SME performance at a single point in time; performance outcomes may change as firms mature or adapt to new digital tools. Lastly, the study includes only three capabilities as predictors of performance. Other factors such as government support, platform dependency, global supply chain disruptions or entrepreneur competencies may also influence CBEC success but were not examined.

5.5 Future Study Recommendations

Based on the limitations, several directions for future studies are proposed. First, future research should include a larger and more diverse sample to improve reliability and representation of Malaysian SMEs. A comparative study between SMEs and large firms would also offer new insights. Second, longitudinal research is recommended to examine how IT, marketing and operational capabilities

influence performance over time, especially as SMEs progress through different stages of export development. Third, future studies may include additional variables such as entrepreneurial orientation, digital literacy, eco-system support or platform dependency to explore a more comprehensive model of CBEC performance. Fourth, qualitative approaches such as interviews or case studies could provide deeper understanding of how SMEs build and apply these capabilities in real operations. Lastly, studies could compare Malaysian SMEs with those from other emerging economies to identify similarities or differences in digital export capability development.

5.7 Conclusion

This study concludes that internal firm capabilities are the key determinants of cross-border e-commerce performance among Malaysian SMEs. The findings show that information technology capabilities, international marketing capabilities, and export operations capabilities significantly enhance both strategic and financial performance, with stronger effects observed on strategic outcomes that later translate into financial gains. Strategic performance itself plays a crucial mediating role by bridging capability development and financial success, highlighting the importance of achieving non-financial objectives such as market reach, customer trust, and operational reliability. In contrast, the moderating role of e-commerce platform type was not supported, indicating that the effectiveness of firm capabilities remains consistent regardless of platform choice. Overall, the study reinforces the importance of building strong international marketing, IT, and exports operational foundations to achieve sustainable success in cross-border e-commerce.

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APPENDIXES

Appendix 1: Survey Questionnaire



UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF ACCOUNTANCY AND MANAGEMENT

BACHELOR OF INTERNATIONAL BUSINESS (HONS)

Title of Research:

Determinants of Firm Performance among Malaysian SMEs in Cross Border E-Commerce

Dear Esteemed Respondents,

I am student of Bachelor of International Business from Universiti Tunku Abdul Rahman (UTAR). I would like to invite you to participate in this study by responding to the questionnaire provided below. The purpose of this study is to explore how Malaysian small and medium-sized enterprises (SMEs) can successfully use cross-border e-commerce (CBEC) as a foreign market entry mode. Specifically, this study examines how a firm's internal export capabilities such as IT capabilities, international marketing capabilities, and export operations capabilities influence both strategic and financial performance in CBEC. In addition, the role of e-commerce platforms is also considered.

There are four (4) sections in this questionnaire.

Section A: Demographics Profile

Section B: Export Capabilities (Independent Variables)

Section C: Cross-Border E-commerce Performance (Dependent Variable)

Section D: The Use of E-Commerce Platform (Moderator)

There are no anticipated risks associated with responding to the questionnaire. Besides, no personal details will be collected, and the confidentiality of all respondents will be assured. I humbly request your voluntary participation in this

study. The survey will only take 5-10 minutes to complete. The data collected is meant for academic purposes, and all information will be aggregated.

If you have any questions about this study at any time, please feel free to contact me.

Yours sincerely,

Lee Yee Heng (samleeyeheng2808@utar.my)

Personal Data Protection Statement

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") came into force on 15 November 2013, therefore Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal data.

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:

- Name
- Identity card
- Place of Birth
- Address
- Examination Result
- Education History
- Employment History
- Medical History
- Blood type
- Race
- Religion
- Photo

2. The purposes for which your personal data may be used are inclusive but not limited to:

- For assessment of any application to UTAR
- For processing any benefits and services
- For communication purposes
- For advertorial and news
- For general administration and record purpose

- For enhancing the value of education
- For educational and related purposes consequential to UTAR
- For replying any responds to complaints and enquiries
- For the purpose of our corporate governance
- For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan

3. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

4. Any personal information shall be retained by UTAR in order to serve the above purposes and as required by relevant laws and shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

5. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

6. By submitting or providing your personal data to UTAR, you had consented and agreed for your personal data to be used in accordance to the terms and conditions in the Notice and our relevant policy.

7. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to contact you or to reward or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

8. You may access and update your personal data by writing to us at samleeyeeheng2808@1utar.my (Lee Yee Heng, Student)

Acknowledge of Notice

- I have been notified by you and that I hereby understood, consented, and agreed per UTAR above notice.
- I disagree; my personal data will not be processed.

Section A: Demographics of Profile

1. What is your position in the company?

- Owner
- Export Manager
- Executive
- Other:

2. Sector

- Agriculture
- Manufacture
- Wholesale/Retail
- Other:

3. How many years has your business been involved in CBEC?

- < 1 year
- 1-3 years
- 3-6 years
- > 6 years

4. Entry Mode

- Cross-Border E-Commerce Platform
- Distributor
- Export Consortium
- Trading Company
- Other:

5. Approximates number of employees in your SME?

- < 20
- 20-50
- 50-100
- > 100

6. Served market (number of countries)

- 1
- 2-10
- 11-20
- > 20

7. Experience with foreign markets (number of years)

- < 10
- 11-20
- 21-30
- >30

Section B: Export Capabilities (Independent Variables)

7-Point Likert Scale

1=Poor

7=Excellent

IT Capabilities

How would you rate your company's capabilities in the IT areas?

ITC1. Use e-commerce and internet-based technologies.

ITC2. Manage digital marketing tools.

International Marketing Capabilities

IMC1. Understand foreign customers' needs.

IMC2. Manage relationships with foreign customers.

IMC3. Apply international marketing strategies effectively.

Export Operations Capabilities

EOC1. Manage conformity with foreign markets' legal and fiscal requirements.

EOC2. Manage international logistics (transport mode selection, documentation, insurance, etc.).

Section C: Cross-Border E-Commerce Performance

7-Point Likert- Scale

1= Not achieved at all

2= Completely achieved

Strategic Performance

To what extent have the following objectives of cross-border e-commerce been achieved?

SP1. Sales objectives of cross-border e-commerce.

SP2 Other strategies objectives of cross-border e-commerce (e.g. access to new foreign markets).

Financial Performance

FP1 Cross-border e-commerce sales as a percentage of total export sales.

Section D: The Type of E-Commerce Channel Used (Moderator)

Which channel does your firm mainly use for cross-border e-commerce sales?

1=Its own e-commerce website (Internal website)

2=Third party e-commerce platforms (External channel, like Amazon, Alibaba, Lazada)

The End

Appendix 2: Ethical Clearance Form



UNIVERSITI TUNKU ABDUL RAHMAN DU012(A)
Wholly owned by UTAR Education Foundation Co. No. 578227-M

Re: U/SERC/78-600/2025

16 October 2025

Dr Fitriya Binti Abdul Rahim
Head, Department of International Business
Faculty of Accountancy and Management
Universiti Tunku Abdul Rahman
Jalan Sungai Long
Bandar Sungai Long
43000 Kajang, Selangor

Dear Dr Fitriya,

Ethical Approval For Research Project/Protocol

We refer to your application for ethical approval for your students' research project from Bachelor of International Business (Honours) programme enrolled in course UKMZ3016. We are pleased to inform you that the application has been approved under Expedited Review.

The details of the research projects are as follows:

No.	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	Exploring the Relationship Between AI Competency and Employment Hope Among Final-Year Undergraduates	Wong Shu Hui	Dr Low Mei Peng	16 October 2025 – 15 October 2026
2.	Examining the Knowledge Gap of Undergraduates' Awareness of the Consumer Protection Act 1999 in Relation to Influencer Marketing	Lim Jia Yu	Dr Tan Pei Meng	
3.	Examining the Drivers of AI technologies for Academic Productivity Among Higher Education Students	Esther Lee Ke Xin	Dr Low Mei Peng	
4.	E-waste Recycling Behavior	Teh Wai Quan		
5.	The Dark Side of Digital Learning: Investigating Technostress, Academic Disengagement, and Self-Perception of Academic Performance Among University Students	Welline Chong Wei Ling	Dr Farah Waheeda Binti Jalaludin	
6.	Determinants of Firm Performance Among Malaysian SMEs in Cross-Border E-Commerce	Lee Yee Heng		
7.	The Influence of E-Commerce Live Streaming Features on Consumer Trust and Purchase Intention in Malaysia	Lai Jing Yu	Dr Komathi a/p Munusamy	
8.	The Role of Operational Efficiency in Enhancing Online Buyer Satisfaction	Liew Xin Ying		
9.	Examining the Drivers of Employee Job Performance in the Malaysian Service Industry	Chong Yen Yi	Dr Cheah Lee Fong	
10.	Understanding E-waste Recycle Practice in Malaysia through the lens of Behavioral Reasoning Theory	Tan Wei Yan	Dr Low Mei Peng	
11.	Brewing Preference: A Study on Consumer Purchase Intention Towards ZUS Coffee	Kong Carol	Dr Law Kian Aun	

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No.	Research Title	Student's Name	Supervisor's Name	Approval Validity
12.	Workforce Motivator Amongst Millennials and Centennials	Lim Wei Ming	Dr Komathi a/p Munusamy	16 October 2025 – 15 October 2026
13.	Exploring Job Seekers' Experiences and Intention to Use AI Technologies in Recruitment in Malaysia	Nyew Shuen Yee	Dr Mahendra Kumar a/l Chelliah	
14.	The Role of Emotional Marketing on Instagram in Shaping Generation Z's Purchase Intention toward Pop Culture Collectibles	Chu Hor Yin	Dr Malathi Nair a/p G Narayana Nair	
15.	The Impact of Cross-Cultural Human Resource Management Practices on Employee Performance in Multinational Corporation (MNCs)	Pang Yun Ling	Dr Cheah Lee Fong	
16.	Factors that Influence Consumers' Purchase Intention Based on Brand Trust for Battery Electric Vehicle (BEV) in Malaysia	Chaw Khun Thin	Dr Sia Bee Chuan	
17.	The Impact of Marketing on Customer Behaviour: Fashion and Daily Clothing	Reyes Loh Chang Le	Dr Law Kian Aun	
18.	Factors Influencing Purchase Intention on Plant-Based Food in Malaysia	Tan Guan Ming	Pn Faridah Hanum Binti Amran	
19.	Factors Influencing Consumers' Intention to Participate in Racquet Sports	Pang Poh Yee	Dr Cheah Lee Fong	
20.	Factors of Hybrid Workplace that Affect Employees' Work Performance	Tan Ling Zi	Ms Hooi Pik Hua @ Rae Hooi	
21.	The Influence of TikTok on Consumer Purchase Decisions for Beauty and Personal Care (BPC) Products Among Generation Z in Malaysia	Lim Zhi Qing	Dr Sia Bee Chuan	
22.	False Feedback, Real Consequences: The Effect of Fake Reviews on E-commerce Trust and Credibility	Lee Kar Man	Ms Low Suet Cheng	
23.	The Impact of Delivery Service, Time, Security and Privacy, and Price on Consumer Satisfaction Towards Online Food Delivery Services in Malaysia	Loy Hew Lam		
24.	To Assess the Digital Literacy of Great Eastern Life Assurance Policyholders to use E-Connect	Jank Eng Jian Yee	Pn Ezatul Emilia Binti Muhammad Arif	
25.	Factors Influencing the Consumer Purchasing Intention on Instagram	Tan Shi Wei	Dr Foo Meow Yee	
26.	The Impact of Social Media Influencers on Gen Z's Purchase Decisions	Ling Keng Hong	Dr Law Kian Aun	
27.	Exploring the Influence of Loyalty Program on Customer Loyalty Among University Students in the Food and Beverage Industry	Liew Lok Xuan	Mr Low Choon Wei	
28.	A Comparative Study on the Impact of Social Media Marketing on Anti-Corruption Awareness Between Millennials and Generation Z in Malaysia	Heng Kian Hooi	Dr Abdullah Sallehuddin bin Abdullah Salim	
29.	The Influence of Cultural Sensitivity on Purchase Intention in Malaysia	Leong Sin Yee	Dr Yeong Wai Mun	
30.	Factors Influencing Academic Dishonesty Through AI Tools Among Business Undergraduates Students	Pang Wan Qing	Dr Lim Wan Leng	
31.	Exploring the Drivers of Willingness to Pay for Sustainable Fashion Brand Among Young Adults	Ng Kai Er	Dr Malathi Nair a/p G Narayana Nair	
32.	The Impact of Social Media Influencers on Brand Trust and Consumer Purchase Intentions of Skincare Product Among Generation Z	Chu Kah Fei	Dr Cheah Lee Fong	
33.	Social Media as a Tool for Creating Environmental Awareness to the Public	Yap Hong Jin	Dr Abdullah Sallehuddin bin Abdullah Salim	
34.	Examining the Influence of Government Incentives and Perceived Value on Green Purchase Intentions for Electric Vehicles Among Consumers in Klang Valley	Heng Yan Xiang		
35.	Building Brand Equity in the Global Food and Beverage (F&B) Industry: A Study of the Influence of Selected Marketing and Branding Activities on University Students' Perception	Chua Seow Wern	Ms Goh Poh Jin	

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No.	Research Title	Student's Name	Supervisor's Name	Approval Validity
36.	The Impact of Alibaba's Global E-Commerce Training (GET) Program Towards UTAR Students	Low Zhi Qing	Pn Ezatul Emilia Binti Muhammad Arif	16 October 2025 – 15 October 2026
37.	The Impact of Micro-Influencer Attributes On Consumer Choices in Social Media	Chan Qiao En	Ms Tai Lit Cheng	
38.	Gen Z's Cross-Border Shopping Habits in Malaysia: Why They Buy Global Brands Online	Lim Ze Jun	Dr Law Kian Aun	
39.	Examining Green Governance on How Corporate Governance Influences Environmental Responsibility in International Business	Khor Yong Li	Dr Abdullah Sallehuddin bin Abdullah Salim	
40.	Perception of Young Adults Towards Coffee as a Lifestyle Product Influencing Purchase Intention	Lee Wei Jien	Ms Goh Poh Jin	
41.	The Role of Instagram Reels in Shaping Young Adults Buying Behavior	Ow Jia Ming Clement		
42.	Live Streaming and Female Empowerment in Malaysia: Impact on Brand Building and Consumer Purchase Intention	Liew Le Yo	Pn Ezatul Emilia Binti Muhammad Arif	
43.	Lazy or Revolutionary? The Impact of Perceived Effort on the Overall Perception of Quality of Using AI in Digital Marketing	Yap Shao Qian	Dr Komathi a/p Munusamy	
44.	The Influence of Digitalization on Supply Chain Efficiency in Malaysian SMEs	Neng Wei Bin		
45.	Factors Affecting SMEs' Performance in Malaysia	Brandon Cheong Zhun Hin	Dr Law Kian Aun	
46.	The Influence of Socio-Psychological and Social Environment Stimuli on Impulse Buying Behaviour Among Generation Z Consumers in the Fast Fashion Market: A Stimulus-Organism-Response Approach	Georgina Adrianna Stalin Jerah	Ms Puvaneswari a/p Veloo	
47.	Factors Affecting Malaysian Consumers' Purchase Intention Green Products	Loh Chun Hong	Dr Foo Meow Yee	
48.	Blind Box: The Factor Influencing Generation Z	Chooi Qiao Yi		
49.	Influential Factors of Buying Behavior of Generation Z Towards the Blind Boxes Industry in Malaysia	Aw Ho Yi		
50.	Exploring the Relationship Between Brand Attachment and Impulse Purchase among K-pop Fans	Cheong Yik Lum	Dr Yeong Wai Mun	
51.	Factors Influencing Digital Marketing Effectiveness: An Analysis of Campaign Performance	Ling Zhi Bin	Pn Ezatul Emilia Binti Muhammad Arif	
52.	Determinants of Electric Vehicle Purchase Intentions Among Malaysian Consumers	Teoh Khai Hong	Pn Faridah Hanum Binti Amran	
53.	The Impact of Influencer Marketing on Gen Z Purchase Decision	Tan Joey	Ms Hooi Pik Hua @ Rae Hooi	
54.	Determinants of AI Components that Influences Employees Productivity	Lam Kah Fei	Dr Mahendra Kumar a/l Chelliah	
55.	Coping with Rising Costs: A Correlational Study of Mental Accounting, Financial Management Practices, and BNPL Spending on Essential and Non-Essential Goods by Malaysian Urban Households	Florence Chan Yu Jiao	Mr Lee Yoon Heng	
56.	How Integrated Marketing Communication (IMC) Strategies Influence UTAR Students' Trust And Loyalty Toward Local Brand	Foo Chwan Junn	Dr Law Kian Aun	
57.	Sustainable Supply Chain Practices in Last-Mile Delivery	Lee Guy Hoe	Dr Komathi a/p Munusamy	
58.	How FoMO-AI and Technology Acceptance Factors Affect the Intention to Learn Artificial Intelligence	Choo Min Xin	Dr Corinne Lee Mei Jyin	
59.	Does Emotional Branding Affect Consumer Purchase Intention	Hang Wei Jun	En Khairul Anuar Bin Rusli	
60.	How Influencer Marketing Influences Online Buying Intention of Gen Z-ers in Selangor	Lee Zixuan		

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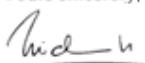
The conduct of this research is subject to the following:

- (1) The participants' informed consent be obtained prior to the commencement of the research;
- (2) Confidentiality of participants' personal data must be maintained; and
- (3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.
- (4) Written consent be obtained from the institution(s)/company(ies) in which the physical or/and online survey will be carried out, prior to the commencement of the research.

Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,



Professor Dr Zuraidah Abd Manaf
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Accountancy and Management
Director, Institute of Postgraduate Studies and Research



Appendix 3: Other Results from SmartPLS Software

Coefficient of Determination (R^2) and Effect Size (f^2)

Endogenous Variable	R^2	Adjusted R^2	Effect Size Classification
Strategic Performance (SP)	0.828	0.820	Substantial
Financial Performance (FP)	0.910	0.905	Substantial

Note. R^2 interpretation: 0.25 = weak, 0.50 = moderate, 0.75 = substantial (Hair et al., 2021).

Effect Size (f^2) for Individual Predictors

Path	f^2	Effect Size
ITC → SP	0.375	Large
IMC → SP	0.395	Large
EOC → SP	0.554	Large
ITC → FP	0.032	Small
IMC → FP	0.097	Medium
EOC → FP	0.040	Small
SP → FP	0.577	Large
PLT × ITC → SP	0.000	None
PLT × IMC → SP	0.023	Small
PLT × EOC → SP	0.010	None
PLT × ITC → FP	0.035	Small
PLT × IMC → FP	0.005	None
PLT × EOC → FP	0.070	Small

Note. f^2 interpretation: 0.02 = small, 0.15 = medium, 0.35 = large (Cohen, 1988).

Predictive Relevance (Q^2) Using Blindfolding Procedure

Construct	SSO	SSE	Q^2
Strategic Performance (SP)	300.000	69.409	0.769
Financial Performance (FP)	150.000	16.696	0.889

Note. SSO = Sum of Squared Observations; SSE = Sum of Squared prediction Errors; Q^2 = Stone-Geisser's Q^2 (predictive relevance). $Q^2 > 0$ indicates predictive relevance. Both endogenous constructs demonstrate substantial predictive relevance.

Appendix 4: Turitin Similarity Report



Page 2 of 78 - Integrity Overview

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