

Conceptualizing the moderating role of owners' entrepreneurial orientation in the relationship between e-commerce adoption and SMEs performance

Yossie Rossanty, Ramadhan Harahap, Rani Ramadhani Nasution

Abstract

This conceptual study investigates the proposed moderating role of owners' entrepreneurial orientation in the relationship between e-commerce adoption and the performance of small and medium-sized enterprises (SMEs). A quantitative research design featuring a cross-sectional approach is planned. Data will be proposed to be collected from SME owners across various sectors using stratified random sampling to ensure diverse industry representation. The study will examine three primary constructs: e-commerce adoption, SME performance, and entrepreneurial orientation (evaluated based on innovativeness, risk-taking, and proactiveness). An offline survey is proposed for data collection, and Partial Least Squares Structural Equation Modeling (PLS-SEM) will be employed to analyze the relationships between variables, with bootstrapping techniques planned to validate the model. The anticipated results suggest a positive correlation between e-commerce adoption and SME performance, with owners' entrepreneurial orientation expected to significantly moderate this relationship. These findings aim to contribute to theoretical advancements in entrepreneurship and e-commerce, providing practical insights for SME owners and policymakers on fostering e-commerce adoption and entrepreneurial strategies to improve business performance.

Keywords: E-commerce adoption, SMEs performance, Entrepreneurial orientation, Conceptual framework

Yossie Rossanty

Department of Management, Universitas Pembangunan Panca Budi, Medan, North Sumatera, Indonesia

e-mail: yosunpab@gmail.com

Ramadhan Harahap, Rani Ramadhani Nasution,

Department of Management, Universitas Pembangunan Panca Budi, Medan, North Sumatera, Indonesia

e-mail: ramadhan.rahman41@yahoo.com, ranirnasution01@gmail.com

Department of Management, Universitas Pembangunan Panca Budi, Medan, North Sumatera, Indonesia

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Introduction

E-commerce adoption significantly influences firm performance, especially for small- and medium-sized enterprises (SMEs). Research has demonstrated that integrating e-commerce into business operations can enhance internal processes and lead to improved performance (Abebe, 2014). The decision to adopt e-commerce is closely linked to a firm's strategy, whether it focuses on cost reduction, business process reengineering, product differentiation, market expansion, or strategic alliances (Awa et al., 2015). Additionally, factors such as entrepreneurial orientation, knowledge management, and dynamic capabilities are key determinants of e-commerce adoption among SMEs, underscoring their importance in shaping businesses' digital transformation (Nasution et al., 2021).

For business owners seeking to utilize e-commerce to boost their firm's performance, understanding the factors influencing e-commerce adoption is crucial. Elements like entrepreneurial orientation, which involves a proactive and innovative business approach, can significantly affect the successful integration of e-commerce into SMEs (Nasution et al., 2021). Moreover, studies have revealed a positive correlation between e-commerce capability and firm performance metrics like inventory turnover, highlighting the concrete value that e-commerce can deliver in terms of operational efficiency and effectiveness (Zhu & Kraemer, 2002). Therefore, owners must consider not only the technological aspects of e-commerce adoption but also the strategic and organizational dimensions that can facilitate successful implementation and performance outcomes.

The owners' entrepreneurial orientation (EO) is a fundamental concept in entrepreneurship research, focusing on the strategic behaviors of firms and owner-managers. It encompasses traits such as innovativeness, risk-taking, and proactiveness, which are key drivers of firm performance (Rauch et al., 2009). This orientation reflects how willing owners are to take risks and innovate to enhance their businesses (Covin & Lumpkin, 2011). Studies have consistently shown that EO is positively associated with business performance, indicating that firms with a higher entrepreneurial orientation tend to outperform their counterparts (Buli, 2017). The relationship between entrepreneurial orientation and organizational success is intricate and multifaceted. It involves not only the willingness of owner-managers to take risks and pursue innovative strategies but also the firm's ability to adapt to changing market conditions and customer needs. Entrepreneurial orientation is closely tied to the entrepreneurial strategy-making processes within a firm, influencing its overall approach to decision-making and resource allocation (Rauch et al., 2009). This strategic posture, characterized by a proactive and innovative mindset, is crucial for small and medium-sized enterprises (SMEs) seeking to achieve sustainable growth and competitive advantage in dynamic market environments.

Previous studies have explored the relationship between e-commerce adoption and SME performance, with some examining the moderating impact of entrepreneurial competencies Hussain et al. (2022) and entrepreneurial orientation (Abebe, 2014). However, there is a gap in understanding the specific moderating role of owners' entrepreneurial orientation on the relationship between e-commerce adoption and SME performance. While some research has considered the influence of entrepreneurial competence and e-commerce adoption on SME performance (Harini et al., 2023), further investigation is needed to understand how owners' entrepreneurial orientation specifically affects this relationship. This gap exists due to the limited exploration of the direct influence of owners' entrepreneurial orientation as a moderator in the context of e-commerce adoption and SME performance. Additionally, studies have identified barriers to e-commerce adoption by SMEs in emerging economies (Nazir & Roomi, 2021), highlighting a complex landscape that may contribute to the existing gap in

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understanding the moderating role of owners' entrepreneurial orientation in this relationship. Thus, the aim of this conceptual study is to explore how the owners' entrepreneurial orientation moderates the relationship between e-commerce adoption and SMEs' performance.

Literature Review

E-commerce Adoption

E-commerce adoption involves the integration and use of electronic platforms for business transactions. Organizational readiness is crucial for the success of e-commerce adoption, reflecting businesses' preparedness in terms of technological and financial resources (Isa & Alenezi, 2022). Small and medium-sized enterprises (SMEs) are increasingly utilizing business-to-business (B2B) e-commerce to improve their competitive advantage, underscoring the importance of technological adoption for competitiveness (Hu et al., 2019). The extent to which businesses incorporate e-commerce into their daily operations indicates the level of e-commerce adoption, with broader use signaling a higher level of adoption (Rahayu & Day, 2016). Understanding the impact of e-commerce adoption on business performance, especially in sectors like tourism, is essential for harnessing the benefits of this global technological innovation (Mohamed et al., 2009). Additionally, organizational culture, particularly characteristics such as risk acceptance and tolerance of uncertainty, plays a key role in facilitating successful e-commerce adoption, highlighting the need to align cultural orientations with technological advancements (Senarathna et al., 2014) (Rossanty et al., 2018)

Entrepreneurial Orientation

Entrepreneurial orientation refers to a firm's strategic posture towards entrepreneurship, encompassing its willingness to innovate, take risks, be proactive, and be competitive in dynamic markets. This concept has been defined in various ways, including as entrepreneurial intensity, style, and propensity (Eijdenberg, 2016). Scholars have used different terms such as posture, proclivity, and corporate entrepreneurship to describe this orientation (Covin & Wales, 2012). Despite the lack of a universally accepted definition, entrepreneurial orientation is consistently linked to improved business performance (Cho & Lee, 2018). Moreover, it has been found that sustainable entrepreneurial orientation, which integrates entrepreneurial orientation and corporate social responsibility, significantly impacts the international performance of family firms, with the environment playing a positive moderating role (Perlines & Cisneros, 2018). This highlights the evolving nature of entrepreneurial orientation, especially in the context of sustainable entrepreneurship, where firms aim to create triple bottom line solutions that address social and environmental issues while remaining financially viable (Belz & Binder, 2015).

SME Performance

Small and medium-sized enterprises (SMEs) play a crucial role in the economy, and understanding and measuring their performance is essential for their success. The performance of SMEs can be defined as the ability of these businesses to achieve their strategic objectives efficiently and effectively. Various factors influence SME performance, including strategic performance measurement systems, entry mode choices, competitive advantage, supply chain management practices, and innovation. Research has shown that developing appropriate performance measurement systems tailored to SMEs can help identify weaknesses and improve overall performance (Cocca & Alberti, 2010). Additionally, factors such as transaction cost theory can explain SME entry mode choices and their subsequent impact on performance (Brouthers & Nakos, 2004). Overall, the determinants, measurement, and management of SME

performance are interconnected, requiring a comprehensive approach to enhance the competitiveness and sustainability of these businesses (Kotane, 2022).

Hypotheses Development and Conceptual Framework

The relationship between e-commerce adoption and SMEs' performance is a critical area of study that has garnered attention in academic research. Several factors influence the adoption of e-commerce by SMEs, including perceived benefits, perceived compatibility, and costs (Rahayu & Day, 2015). These factors shape SMEs' decisions to embrace e-commerce technologies. Additionally, the technology-organization-environment (TOE) framework has been identified as a useful lens to understand the adoption of e-commerce applications within SMEs (Ghobakhloo et al., 2011). This framework considers the interplay between technological factors, organizational characteristics, and environmental influences in determining the extent of e-commerce adoption by SMEs.

Moreover, the adoption of e-commerce has been shown to have a positive impact on SME performance, particularly in terms of annual sales growth rate (Abebe, 2014). E-commerce adoption is considered a crucial factor that contributes to enhancing SME performance and competitiveness in the market. Interestingly, research has also delved into the role of chief executive officers' (CEOs') characteristics, such as prenatal testosterone exposure and absorptive capacity, in influencing e-commerce adoption by SMEs (Gu, 2022). These findings highlight the multifaceted nature of factors that can affect SMEs' decisions regarding e-commerce adoption.

Despite the potential benefits of e-commerce adoption, challenges persist, especially in developing countries like Indonesia. Reasons for SMEs' reluctance to adopt e-commerce technologies include the lack of success stories, limited knowledge in e-commerce, and insufficient information about the potential impact of e-commerce implementation on business performance (Rahayu & Day, 2016). Addressing these barriers is crucial to encouraging wider e-commerce adoption among SMEs and unlocking the associated performance benefits. Therefore, the relationship between e-commerce adoption and SMEs' performance is essential to promote e-commerce adoption among SMEs and enhance their overall performance in an increasingly digital business landscape. We thus propose the following hypothesis:

H1: E-commerce adoption correlates with SMEs performance

The moderator role of owners' entrepreneurial orientation is crucial in the relationship between e-commerce adoption and SMEs performance. Entrepreneurial orientation, characterized by innovativeness, proactiveness, and risk-taking, influences how SMEs approach and utilize e-commerce technologies (Abebe, 2014). Owners of SMEs, being directly involved in decision-making processes, particularly in technology adoption decisions, are pivotal in driving the strategic integration of e-commerce within their businesses (Abebe, 2014). Studies have shown that entrepreneurial competencies moderate the impact of e-commerce usage on SME performance, highlighting the significance of the owner's entrepreneurial mindset in leveraging e-commerce for improved outcomes (Hussain et al., 2022). Additionally, the dimensions of entrepreneurial orientation, knowledge management processes, and dynamic capabilities collectively influence the adoption of e-commerce among SMEs, emphasizing the role of entrepreneurial orientation in shaping e-commerce strategies (Nasution et al., 2021) (Sari et al., 2023)

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The adoption of e-commerce is imperative for SMEs to thrive in the modern economic landscape, characterized by the information era (Rahayu & Day, 2015). However, the successful integration of e-commerce into SME operations is not solely dependent on technological factors but also on the entrepreneurial orientation of the owners (Li et al., 2022). Entrepreneurial orientation acts as a moderator, influencing how SMEs navigate the challenges and opportunities presented by e-commerce adoption, ultimately impacting their performance (Li et al., 2022). By embracing an entrepreneurial mindset that values innovation, proactiveness, and risk-taking, SME owners can effectively harness the potential of e-commerce to enhance their competitiveness and overall performance in the digital marketplace. Thus, we hypothesize as follows:

H2: Owners entrepreneurial orientation moderates the relationship between e-commerce adoption and SMEs performance

Research Methodology

This study employs a quantitative research design to investigate the effect of e-commerce adoption on the performance of Small and Medium Enterprises (SMEs), with a focus on the moderating role of entrepreneurial orientation. Utilizing a cross-sectional approach, data will be collected at a single point in time to analyze the relationships between the variables. The target population consists of owners and managers of SMEs engaged in e-commerce activities, and a sample size of 200 respondents will be selected from various sectors to ensure diverse industry representation. Stratified random sampling will be used to account for different business categories and sizes. The study focuses on three constructs: e-commerce adoption, SME performance, and entrepreneurial orientation. E-commerce adoption will be measured using items related to online presence, transaction capabilities, and digital marketing strategies. SME performance will be assessed through indicators such as sales growth and customer satisfaction. Entrepreneurial orientation will be evaluated based on dimensions such as innovativeness, risk-taking, and proactiveness. Measurement items will be developed based on existing literature to ensure reliability and validity, using a Likert scale (1-5) for respondents to indicate their agreement with each statement.

Data will be collected through an online survey distributed via platforms such as Google Forms and social media channels, targeting SME owners. The survey will include sections for demographic information, e-commerce adoption practices, performance metrics, and entrepreneurial orientation traits. To enhance response rates, follow-up reminders will be sent to participants after the initial distribution.

The data analysis will be conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM), a method suitable for exploring complex relationships between variables and effective in handling smaller sample sizes. The analysis will proceed with a measurement model assessment to evaluate the reliability and validity of the constructs using Cronbach's alpha and composite reliability. Following this, a structural model assessment will test the hypothesized relationships between e-commerce adoption, SME performance, and the moderating effect of entrepreneurial orientation. Bootstrapping will be conducted to assess the significance of the path coefficients and validate the model. The results will provide evidences into the impact of e-commerce adoption on SME performance and the role of entrepreneurial orientation as a moderator, contributing to the existing body of knowledge in this field.

Conclusion

This study aims to thoroughly examine how e-commerce adoption impacts the performance of Small and Medium Enterprises (SMEs), with a special focus on the moderating role of entrepreneurial orientation. It is expected that the research will identify a positive link between e-commerce adoption and SME performance. This indicates that higher levels of e-commerce adoption by SMEs will result in improved business performance, evident in measures such as sales growth and customer satisfaction.

Additionally, the study anticipates showing that the entrepreneurial orientation of SME owners—which includes traits like innovativeness, risk-taking, and proactiveness—modifies the relationship between e-commerce adoption and SME performance. In particular, a strong entrepreneurial orientation is likely to amplify the positive effects of e-commerce adoption on business performance. SME owners with a high level of entrepreneurial orientation are expected to utilize e-commerce more effectively, thus achieving superior business outcomes.

These findings will add to the existing literature by providing empirical evidence on the importance of e-commerce adoption and entrepreneurial orientation in boosting SME performance. The study will highlight the need for combining technology adoption with proactive entrepreneurial strategies to drive business success in competitive markets.

Practically, the results will offer valuable insights for SME owners and managers, emphasizing the crucial role of e-commerce adoption and the necessity of fostering an entrepreneurial mindset to enhance business performance. Moreover, the findings can guide policymakers in creating training and support programs that promote technology adoption and entrepreneurial development among SME owners.

This study is expected to make significant theoretical and practical contributions, laying a solid groundwork for future research on the interaction between technology adoption, entrepreneurial orientation, and business performance in the SME sector.

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