



**THE IMPACT OF ORGANIZATIONAL CAPABILITIES, GREEN ABSORPTIVE
CAPACITY, AND STRATEGICALLY ENVIRONMENTAL ORIENTATION ON
SUSTAINABLE COMPETITIVE ADVANTAGE THROUGH GREEN
INNOVATION IN SMEs IN JAMBI INDONESIA**

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Abstract

This study investigates the effects of organizational capabilities, green absorptive capacity, and strategic environmental orientation on sustainable competitive advantage through green innovation in SMEs in Jambi, Indonesia. A quantitative approach was utilized, employing a structured survey distributed to 300 SME managers in Jambi and Sungai Penuh. The data collected was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with WarpPLS software to assess the relationships between variables and test the proposed hypotheses. The findings show that organizational capabilities, green absorptive capacity, and strategic environmental orientation significantly influence green innovation in SMEs. Moreover, green innovation was found to mediate the



relationship between these organizational factors and sustainable competitive advantage. These results emphasize the importance of integrating internal capabilities and green practices for improving long-term business performance and competitiveness in SMEs. This study contributes to the literature by providing a comprehensive model that links organizational capabilities, green absorptive capacity, and strategic environmental orientation to green innovation, ultimately enhancing sustainable competitive advantage. The unique combination of these factors in the context of SMEs in Indonesia addresses a gap in existing research on eco-innovation and sustainable performance. The study offers practical implications for SME managers and policymakers by highlighting the need for fostering green capabilities and supporting eco-innovation initiatives. Future research could explore the role of external environmental pressures in influencing these relationships.

Keywords: Green Absorptive Capacity, Strategically Environmental Orientation, Eco-innovation, Sustainable Business Performance



INTRODUCTION

Small and Medium Enterprises (SMEs) play a vital role in Indonesia's economic development, contributing significantly to job creation and the country's GDP. However, SMEs face substantial challenges in adopting environmentally sustainable practices, particularly due to limited resources, technology, and strategic capabilities (Wang & Marquis, 2025; Mady et al., 2023). As environmental concerns become increasingly significant, the integration of organizational capabilities, green absorptive capacity, and strategic environmental orientation is crucial for SMEs seeking sustainable competitive advantage through green innovation (Sang & Hung, 2024; Fatoki, 2024).

Organizational capabilities, which include the firm's internal processes, resources, and skills, are pivotal in enabling SMEs to integrate eco-friendly innovations effectively (Benitez-Amado & Walczuch, 2012). Green absorptive capacity refers to a firm's ability to acquire, assimilate, and apply external environmental knowledge, which can foster eco-innovation (Cheng et al., 2014). Furthermore, strategic environmental orientation is essential for ensuring that environmental considerations are embedded within a company's culture and strategic planning (Zhang & Lim, 2024).

Despite these frameworks, there is a lack of comprehensive research on how these elements interact to drive green innovation in SMEs, particularly in Indonesia (Mousavi et al., 2024). This study addresses this gap by investigating the relationship between organizational capabilities, green absorptive capacity, and strategic environmental orientation, and their combined effect on sustainable business performance via eco-innovation and competitive advantage (Mady et al., 2023). Understanding this interaction is crucial for enhancing the competitive edge of SMEs, enabling them to thrive in an environmentally conscious market.

The urgency of this research is amplified by the environmental challenges faced by SMEs in Jambi and Sungai Penuh, regions which, despite their economic potential, struggle with the integration of green practices into their operations due to resource constraints and lack of supportive ecosystem policies (Xiumei et al., 2023). This study aims to provide empirical evidence on how these organizational factors influence eco-innovation, which in turn enhances sustainable competitive advantage.

Research Problem: How do organizational capabilities, green absorptive capacity, and strategic environmental orientation influence the sustainable business performance of SMEs through the mediation of eco-innovation and sustainable competitive advantage?

This study employs a quantitative approach, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) with WarpPLs software to analyze the data



collected from 300 SME managers in Jambi and Sungai Penuh. The outcomes are expected to enrich the academic literature on green innovation in SMEs and offer practical recommendations for SMEs and policymakers on how to improve their environmental performance and competitiveness (Mady et al., 2023; Mushi et al., 2024).

LITERATURE REVIEW

The adoption of green innovation is crucial for SMEs aiming for sustainable competitive advantage. Green innovation refers to changes in business models, products, or processes that reduce environmental impacts while maintaining or improving business performance (Mady et al., 2023). SMEs, particularly in developing regions such as Jambi, face numerous challenges in adopting green practices due to resource constraints, lack of technological access, and weak integration with sustainable practices in the business ecosystem (Wang & Marquis, 2025; Mady et al., 2023).

Organizational Capabilities (OC) refer to the firm's ability to integrate, build, and reconfigure internal and external resources effectively. OC, which includes technological and organizational capabilities, plays a crucial role in facilitating eco-innovation (Mousavi et al., 2024). In the context of SMEs, organizational capabilities are essential for effectively responding to environmental pressures and implementing eco-friendly innovations, ultimately contributing to business sustainability and competitive advantage (Benitez-Amado & Walczuch, 2012; Sang & Hung, 2024).

Green Absorptive Capacity (GAC) involves a firm's ability to absorb, integrate, and apply external environmental knowledge into its business operations (Cheng et al., 2014). This capacity is vital for SMEs to implement green innovations and stay competitive in a rapidly evolving market. The role of GAC as a mediator between organizational capabilities and green innovation is well-documented, particularly in helping SMEs navigate the complexities of eco-innovation and sustainability (Xiumei et al., 2023; Mady et al., 2023).

Strategic Environmental Orientation (SEO) reflects a firm's commitment to integrating environmental considerations into its strategic decision-making (Zhang & Lim, 2024). SEO influences how SMEs align their business models with sustainability goals, guiding them towards environmentally responsible innovation. The strategic focus on environmental issues can enhance an SME's green competitive advantage, positioning it to outperform competitors that fail to integrate green strategies into their operations (Sang & Hung, 2024; Zhang & Lim, 2024).



In examining these constructs, the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT) serve as foundational theories for understanding how internal resources, such as organizational capabilities and absorptive capacity, interact to foster eco-innovation. The RBV emphasizes the importance of valuable, rare, inimitable, and non-substitutable resources in gaining competitive advantage, while DCT focuses on how organizations adapt to changing environments (Teece et al., 1997; Wang & Marquis, 2025).

Previous research highlights the positive relationship between organizational capabilities and eco-innovation, with firms with stronger organizational capabilities being more likely to engage in green product development and process innovation (Benitez-Amado & Walczuch, 2012). Similarly, GAC has been shown to positively affect green innovation and environmental performance, as firms with higher green absorptive capacity are better equipped to assimilate external green knowledge and translate it into actionable business strategies (Mousavi et al., 2024). SEO, in turn, strengthens this relationship by aligning the organization's strategic direction with environmental sustainability goals, further enhancing the firm's competitive position (Sang & Hung, 2024).

1. Organizational Capabilities (OC) → Green Innovation (EI)

Organizational capabilities, such as technological competence and resource management, have a positive impact on green innovation, enabling SMEs to adopt eco-friendly innovations and achieve competitive advantage (Benitez-Amado & Walczuch, 2012; Mady et al., 2023).

2. Green Absorptive Capacity (GAC) → Green Innovation (EI)

Green absorptive capacity significantly influences green innovation by enhancing the firm's ability to absorb and apply external green knowledge, contributing to eco-innovation (Cheng et al., 2014).

3. Strategic Environmental Orientation (SEO) → Green Innovation (EI)

SEO has a positive impact on green innovation, as firms with a strategic focus on environmental sustainability are more likely to engage in eco-innovative practices (Zhang & Lim, 2024).

4. Organizational Capabilities (OC) → Green Competitive Advantage (GCA)

Organizational capabilities are directly linked to green competitive advantage, as firms with strong organizational capabilities can leverage internal resources for sustainable competitive positioning (Mousavi et al., 2024).

5. Green Absorptive Capacity (GAC) → Green Competitive Advantage (GCA)

GAC contributes to the development of a green competitive advantage by enabling SMEs to integrate external environmental knowledge into their business operations, enhancing their eco-innovation capabilities (Mady et al., 2023).

**6. Strategic Environmental Orientation (SEO) → Green Competitive Advantage (GCA)**

SEO plays a crucial role in enhancing green competitive advantage by aligning business strategies with environmental sustainability goals, ensuring long-term competitive success (Sang & Hung, 2024).

7. Organizational Capabilities (OC) → Sustainable Business Performance (SBP)

Strong organizational capabilities positively impact sustainable business performance, as they enable SMEs to implement efficient and sustainable business practices (Benitez-Amado & Walczuch, 2012).

8. Green Absorptive Capacity (GAC) → Sustainable Business Performance (SBP)

Green absorptive capacity positively influences sustainable business performance by enabling SMEs to apply green innovations effectively to their operations (Cheng et al., 2014).

9. Strategic Environmental Orientation (SEO) → Sustainable Business Performance (SBP)

SEO has a significant positive impact on sustainable business performance, as it integrates environmental concerns into business strategies, improving overall performance (Zhang & Lim, 2024).

10. Employee Involvement (EI) → Green Competitive Advantage (GCA)

Employee involvement is critical to green innovation, and employee engagement in sustainability practices positively impacts green competitive advantage (Mousavi et al., 2024).

11. Green Competitive Advantage (GCA) → Sustainable Business Performance (SBP)

A strong green competitive advantage directly enhances sustainable business performance by positioning SMEs as leaders in eco-innovation and sustainable business practices (Mady et al., 2023).

RESEARCH METHOD

This research employs a quantitative approach to examine the impact of organizational capabilities, green absorptive capacity, and strategic environmental orientation on sustainable competitive advantage, with green innovation acting as a mediator. The study utilizes a structured questionnaire to collect data from 300 SME managers in Jambi and Sungai Penuh, Indonesia. This approach allows for an in-depth understanding of the relationships among the key variables in a structured and statistically robust manner (Hair et al., 2019; Mady et al., 2023).



The study employs judgment sampling, a nonprobability sampling method, to select SMEs that meet specific criteria, including their involvement in green innovation and sustainable practices. The sample size of 300 respondents is deemed appropriate based on the recommendations for Structural Equation Modeling (SEM) applications, which suggest a sample of at least 100 respondents for reliable analysis (Hair et al., 2019). This ensures sufficient statistical power to detect significant relationships between the constructs under investigation.

Data collection is conducted via a survey, with questionnaires designed to measure the key constructs based on existing validated scales. These constructs include organizational capabilities, green absorptive capacity, strategic environmental orientation, eco-innovation, and sustainable competitive advantage. The questionnaire was pre-tested with a sample of 30 respondents to ensure its validity and reliability using Cronbach's alpha and factor analysis techniques (Mousavi et al., 2024).

The collected data are analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the WarpPLS software. PLS-SEM is chosen due to its ability to handle complex models with multiple constructs and its suitability for exploratory research (Sarfo et al., 2024). The analysis will test the direct and indirect relationships between the variables and examine the mediating role of eco-innovation in linking organizational capabilities, green absorptive capacity, and strategic environmental orientation with sustainable competitive advantage.

The conceptual model integrates three independent variables: organizational capabilities (OC), green absorptive capacity (GAC), and strategic environmental orientation (SEO). These variables are hypothesized to influence green innovation (EI), which, in turn, mediates the relationship between the independent variables and sustainable business performance (SBP), as well as green competitive advantage (GCA). Structural paths in the model are tested for significance using bootstrapping techniques, and the model fit is assessed through various goodness-of-fit indicators, including the average variance extracted (AVE) and composite reliability (CR) (Mady et al., 2023).

RESULTS AND DISCUSSION

The findings of this study provide strong empirical support for the hypothesized relationships, particularly in the context of organizational capabilities, green absorptive capacity, and strategic environmental orientation as key drivers of eco-innovation and sustainable competitive advantage in SMEs in Jambi, Indonesia. The results contribute to a growing body of literature on sustainable business practices,



eco-innovation, and the organizational dynamics that support green strategies in SMEs.

Impact of Organizational Capabilities on Green Innovation

First, the positive and significant relationship between organizational capabilities and green innovation aligns with previous research (Mady et al., 2023; Mushi et al., 2024). This finding highlights the importance of internal resources, such as technology, research and development (R&D) capabilities, and environmental management practices, in enabling SMEs to innovate in eco-friendly ways. The Resource-Based View (RBV) theory supports this result, suggesting that firms with valuable, rare, and inimitable capabilities are more likely to gain a competitive advantage through green innovation (Barney, 1991; Mady et al., 2023).

Influence of Green Absorptive Capacity on Green Innovation

The results further confirm that green absorptive capacity plays a critical role in facilitating green innovation. SMEs with higher green absorptive capacity—those that can effectively acquire, integrate, and apply external environmental knowledge—are better positioned to implement sustainable practices (Cheng et al., 2014; Mady et al., 2023). This finding is consistent with the notion that knowledge management and innovation capacity are key enablers of sustainability in SMEs (Sang & Hung, 2024).

Strategic Environmental Orientation and Its Effect on Innovation

Strategic environmental orientation (SEO) is found to have a significant impact on green innovation, confirming the role of environmental commitment in shaping organizational strategies toward sustainability (Zhang & Lim, 2024). Firms that prioritize environmental issues and embed them into their strategic planning are more likely to adopt green innovations. This finding underscores the need for SMEs to integrate sustainability into their core strategies to achieve long-term competitive advantage.

Mediating Role of Green Innovation in Enhancing Competitive Advantage

The study highlights that green innovation mediates the relationship between organizational capabilities, green absorptive capacity, SEO, and sustainable competitive advantage. This result confirms the critical role of eco-innovation in converting internal capabilities and external knowledge into a green competitive advantage (Mady et al., 2023). The Dynamic Capabilities Theory (DCT) also supports this view by emphasizing how firms' abilities to integrate, build, and reconfigure internal and external resources can help them adapt to environmental challenges and create new sources of competitive advantage (Teece et al., 1997; Mady et al., 2023).

Direct and Indirect Effects on Sustainable Business Performance



In terms of direct effects, organizational capabilities, green absorptive capacity, and SEO significantly influence sustainable business performance (SBP). This result aligns with prior studies that have emphasized the importance of these variables in driving long-term business success (Sang & Hung, 2024; Mady et al., 2023). The positive effect of green competitive advantage on SBP further validates the hypothesis that green innovation leads to superior performance by enhancing operational efficiency, market differentiation, and customer loyalty (Benitez-Amado & Walczuch, 2012; Mady et al., 2023).

Synthesis of Discussion

The findings of this study offer substantial empirical evidence supporting the hypothesized relationships among organizational capabilities, green absorptive capacity, strategic environmental orientation, and their combined effects on green innovation and sustainable competitive advantage within SMEs in Jambi, Indonesia. These results contribute to the theoretical and practical understanding of how small and medium-sized enterprises can leverage their internal and external resources to pursue eco-innovation and sustainability-oriented performance (Kurniawati et al., 2022) The discussion integrates the perspectives of the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT) to explain how organizational mechanisms can drive green transformation and sustainable business outcomes.

Organizational Capabilities as a Foundation for Green Innovation

The significant relationship between organizational capabilities and green innovation underscores the central role of internal resources as the foundation of sustainable competitiveness. Consistent with RBV theory (Barney, 1991), the results affirm that organizational capabilities—such as technological expertise, R&D capacity, and environmental management systems—serve as valuable, rare, and inimitable assets that enable firms to innovate in eco-friendly ways. These findings align with Mady et al. (2023) and Mushi et al. (2024), who found that organizational capabilities determine the extent to which firms can adapt and respond to environmental challenges through innovation. SMEs that effectively develop these capabilities can integrate environmental goals into their operational systems, creating environmentally responsible products and processes that enhance market reputation and regulatory compliance. (Mohd Saman et al., 2025) This also implies that capability development should not be perceived as a cost, but as an investment in strategic resilience and long-term value creation.

The Central Role of Green Absorptive Capacity

The findings confirm that green absorptive capacity plays a pivotal role in facilitating green innovation within SMEs. Green absorptive capacity represents a



firm's ability to acquire, assimilate, transform, and exploit external environmental knowledge to generate eco-innovations (Cheng et al., 2014). The study indicates that firms with higher levels of green absorptive capacity are more adept at identifying sustainable technologies, learning from environmental networks, and applying this knowledge to create innovative and eco-efficient solutions. This result reinforces the argument made by Sang and Hung, who emphasize the significance of knowledge management in enhancing innovation and sustainability outcomes. (Duan, 2023) In the context of Jambi's SMEs, where resource limitations are common, developing absorptive capacity can mitigate structural weaknesses by enabling firms to learn from external stakeholders—such as suppliers, customers, and environmental agencies—and translate that knowledge into actionable innovation strategies.

Strategic Environmental Orientation as a Catalyst for Green Transformation

Another key finding of this research is the significant impact of strategic environmental orientation (SEO) on green innovation. SEO reflects a firm's strategic commitment to environmental responsibility and its integration into long-term planning and decision-making (Zhang & Lim, 2024). The results indicate that SMEs that adopt a proactive SEO are more likely to embed sustainability into their operations, leading to higher levels of green innovation. This finding highlights that environmental consciousness should not remain at the tactical level but must be integrated into the firm's strategic vision. By aligning business objectives with sustainability goals, firms can generate synergies between ecological and economic performance. This supports the argument that strategic orientation toward the environment enhances organizational adaptability, innovation potential, and legitimacy in increasingly eco-conscious markets. Therefore, SEO serves as both a philosophical foundation and an operational framework for sustainable business transformation (Cong, 2023).

Green Innovation as a Mediating Mechanism

A major theoretical contribution of this study lies in demonstrating that green innovation mediates the relationship between organizational capabilities, green absorptive capacity, SEO, and sustainable competitive advantage. This mediation indicates that internal strengths and environmental orientations alone are insufficient to guarantee sustainability outcomes unless they are transformed into concrete eco-innovative actions. The findings validate prior studies (Mady et al., 2023) suggesting that green innovation acts as a bridge that translates resources and capabilities into competitive outcomes. From the perspective of the Dynamic Capabilities Theory (Teece et al., 1997), this relationship highlights that firms that can continuously integrate and reconfigure internal and external resources to respond to environmental



shifts are more likely to maintain a green competitive advantage. In essence, green innovation becomes the operational manifestation of a firm's dynamic capabilities—an adaptive process through which resources are mobilized for sustainability-oriented growth (Du & Wang, 2022).

Impact on Sustainable Competitive Advantage and Business Performance

The empirical results further reveal that organizational capabilities, green absorptive capacity, and SEO have both direct and indirect effects on sustainable business performance (SBP). The direct effects demonstrate that firms with robust internal structures, higher environmental learning capacities, and proactive strategic orientations tend to achieve superior sustainability outcomes. (Kunaifi & Syam, 2021) The indirect effects—mediated by green innovation—show that eco-innovation enhances operational efficiency, market differentiation, and brand reputation, which collectively strengthen the firm's sustainable competitive advantage (Benitez-Amado & Walczuch, 2012). This finding supports the notion that sustainability and profitability are not mutually exclusive but can be mutually reinforcing when guided by innovation and strategic alignment. The results from Jambi SMEs validate this theoretical premise, showing that eco-innovative firms not only reduce environmental impact but also achieve improved customer trust and long-term competitiveness. (Riaz et al., 2024)

Practical and Theoretical Implications

From a practical standpoint, the findings provide actionable insights for SME managers and policymakers. Firms should focus on developing internal capabilities that support environmental initiatives, such as investing in employee training, sustainable technology, and an innovation-oriented culture. Additionally, fostering green absorptive capacity through partnerships, external learning, and digital knowledge platforms can accelerate green transformation in resource-constrained contexts. Policymakers should also provide incentives, infrastructure, and knowledge-sharing networks that encourage SMEs to adopt green innovation as part of their sustainability strategy. (Kunaifi & Qomariyah, 2021)

From a theoretical perspective, this study enriches the discourse on RBV and DCT by integrating them into the context of sustainability and eco-innovation. It demonstrates how static resources (organizational capabilities) and dynamic processes (absorptive capacity and SEO) interact to produce green innovation and sustainable competitive advantage. By focusing on SMEs in an emerging economy, the study extends existing theories into new empirical settings where environmental awareness and innovation capacity are still evolving. (Kunaifi et al., 2025)

Conclusion of the Synthesis



Overall, the synthesis underscores that achieving sustainable competitive advantage in SMEs requires a holistic integration of internal strengths, environmental learning, and strategic commitment to sustainability. Organizational capabilities provide the structural foundation; green absorptive capacity supplies the learning mechanism; and strategic environmental orientation offers the directional focus. Green innovation serves as the central process that transforms these elements into tangible sustainability outcomes. The study thus highlights that eco-innovation is not merely a response to environmental pressures but a strategic pathway toward long-term competitiveness and societal well-being.

CONCLUSION

This study examined the impact of organizational capabilities, green absorptive capacity, and strategic environmental orientation on sustainable competitive advantage through green innovation in SMEs in Jambi, Indonesia. The findings highlight the significant role of these organizational factors in fostering eco-innovation and enhancing the sustainable business performance of SMEs. The research demonstrated that organizational capabilities, green absorptive capacity, and strategic environmental orientation positively influence green innovation, which in turn mediates the relationship between these factors and the sustainable competitive advantage of SMEs. Moreover, green competitive advantage was found to be a key driver of sustainable business performance. These results underscore the importance of integrating internal capabilities and environmental knowledge to create competitive advantage through green innovation.

The study contributes to the growing body of literature on eco-innovation and green business practices, providing empirical evidence on how SMEs can leverage their internal resources and environmental strategies to improve their sustainability and competitiveness in a rapidly changing market. By validating the relationships between these variables, the research offers insights for SMEs and policymakers seeking to promote green innovation and sustainable practices within the context of Indonesia.

Based on the findings, it is recommended that SMEs in Indonesia focus on strengthening their organizational capabilities and green absorptive capacity to better integrate green practices into their operations. Firms should invest in developing internal resources such as technology and knowledge management systems to enhance their ability to innovate sustainably. Additionally, policymakers and industry stakeholders should provide support to SMEs through initiatives that encourage environmental orientation and facilitate knowledge transfer. This can include



government incentives, capacity-building programs, and creating networks for knowledge sharing among SMEs to foster green innovation.

Future research could explore the role of external environmental factors such as customer preferences, market trends, and regulatory frameworks in shaping green innovation in SMEs. Additionally, longitudinal studies could examine the long-term impacts of green innovation on the competitiveness and sustainability of SMEs over time.

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