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Sustainable Competitive Advantage: Transforming Green Practices Into Batik SME Performance

Srikalimah[1], Ahmad Idris[*], Taufik Akbar[3], Nuril Aulia Munawaroh[4], Miftahul Munir[5]
Universitas Islam Kadiri
srikalimah@uniska-kediri.ac.id[1*], ahmadidris@uniska-kediri.ac.id[2], taufikakbar@uniska-kediri.ac.id[3], nurilaulia@uniska-kediri.ac.id[4], miftahulmunir@uniska-kediri.ac.id[5]

*Corresponding Author
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ABSTRACT

This study analyzes how green entrepreneurship (GE) and sustainable business management (GBM) affect the performance of natural-dye batik SMEs., with sustainable competitive advantage (SCA) serving as a mediating factor. The research population consists of 48 natural-dye batik MSMEs in Kediri registered with relevant institutions. A saturated sampling technique was applied, making the entire population the research sample. The research utilized Structural Equation Modeling-Partial Least Squares (SEM-PLS) to quantitatively investigate both direct effects and mediated relationships among variables. The findings indicate that GE and GBM have no significant direct effect on BP or SCA. Conversely, SCA has a significant positive effect on BP and fully mediates the influence of GE on BP as well as GBM on BP. The study underlines that improvements in business performance through green entrepreneurship and green business management are achieved only if such practices are first shaped into sustainable competitive advantage. These results provide empirical support for the Natural Resource-Based View (NRBV), highlighting that environmental strategies yield sustainable performance only when coupled with inimitable organizational capabilities and provides practical implications for batik MSMEs to focus on product differentiation, innovation, and eco-branding.

Keywords: *eco-branding; innovation; NRBV; SEM-PLS; SCA*

INTRODUCTION

Batik industry growth has generated adverse effects on the environment, as synthetic dye residues have led to degradation, with 85% of wastewater confirmed as pollutants (Kusumawardani et al., 2024). This environmental impact is a serious threat that requires immediate solutions. The use of natural dyes offers a sustainable alternative for the batik industry, although the implementation of green industry standards in SMEs still faces significant challenges (Kusumawardani et al., 2024) . Natural-based batik should be a priority for government protection (Suprayitno et al., 2025), given major constraints such as high production costs due to longer dyeing processes (Kurniati et al., 2019; Wibowo et al., 2025) and the lack of effective institutional support for technological innovation (Kurniati et al., 2019).

Fundamentally, natural-colored batik (which uses dyes from plants, fruits, or insects) has strategic advantages: it is skin-friendly, its color fastness improves over time, and its raw materials are easy to cultivate at low cost (Amaningsih Jumhur & Prabawati, 2019; Indriyaningrum & Fachrunnisa, 2021; Wibowo et al., 2025). Its application represents a form of green innovation capable of creating a sustainable competitive advantage through product differentiation based on local resources (Indriyaningrum & Fachrunnisa, 2021; Widjajanti & Sugiyanto, 2024a) and enhanced environmental branding (eco-branding) (Wibowo et al., 2025). However, achieving this competitive advantage heavily depends on strengthening intellectual capital and technological orientation (Utomo et al., 2024) as well as knowledge management capabilities in driving green innovation (Prajadi Cipto Utomo et al., 2024)

To overcome systemic constraints, focused policy interventions are needed: specific regulations supporting natural materials (Suprayitno et al., 2025), incentives for the adoption of cleaner production (Utomo et al., 2024), and strengthening the role of cooperatives in market access/funding (Kurniati et al., 2019) **.** Integrating green entrepreneurship through environmentally conscious organizational values (Jumhur & Prabawati, 2019) combined with innovative leadership (Suprayitno et al., 2025) has proven effective in strengthening the sustainability performance of batik SMEs.

Sustainable development has three main pillars that are interdependent (Sudrajat, 2018) namely economic growth, social sustainability, and environmental sustainability. Integrating the three dimensions into economic activities is essential for addressing poverty, enhancing social living standards, preserving the environment, and fostering economic progress. The concept of green entrepreneurship considers the individual and organizational aspects involved in entrepreneurial activities to create benefits for the environment (Nurfitriani et al., 2024) (Purvis et al., 2019) (Muo & Azeez, 2019). The dimensions and indicators of green entrepreneurship developed and used in this study are based on integrated characteristics of the green concept considered for conducting business. These dimensions include clean growth business (business activities that grow and develop without causing pollution), socially-aware business (business activities that are mindful of social aspects), and environmentally-safe business (business activities that are safe for the environment). These three dimensions are considered in business activities from input, process, and output, even up to the outcomes that arise as externalities from business activities. The unity of these three dimensions is crucial for sustainability, not only for the continuity of the business but also for attention to environmental conservation and preservation in a broader perspective, as well as concern for the surrounding social environment. Additionally, there are policy instrument variables that can control the implementation of the three dimensions of green entrepreneurship. A green entrepreneur is someone who starts a business by creating or offering environmentally friendly products, services, or processes. Green entrepreneurship represents a business opportunity that not only provides income but also supports environmental preservation, with a strong focus on practical application (Utomo, Mohamad Nur, 2021) .

Sustainable competitive advantage is driven by four main aspects: organizational scale, target market, access to both resources and customers, and the extent of competitive restrictions (Kamboj & Rahman, 2017) (Bharadwaj et al., 1993). Sustainable competitive advantage (SCA) based on these various views is achieved through relational structure, reputation, innovation, and strategic assets. Sustainable Competitive Advantage is the process of maintaining long-term performance with management support, formulating competitive advantage plans, and continuously and sustainably implementing and evaluating them through innovation that is difficult to imitate, substitute, and has added value (Porter, 2008).

Businesses cannot separate themselves from the environment in which they operate. Within sustainable business literature, green management denotes the systematic internalization of ecological values into operational practices and managerial systems. Its application in organizations is believed to reduce negative ecological and social impacts, while simultaneously generating corporate benefits. Managing environmental, social, and economic aspects is crucial, as these dimensions directly affect sustainability performance and, in turn, overall organizational performance, both financially and non-financially. However, empirical evidence remains inconclusive: certain studies confirm that green management improves financial performance, whereas others find no significant linkage between the two (O'Donohue & Torugsa, 2016) (Raharjo, 2019)

The key research gap in this study is the absence of a comprehensive integration of green entrepreneurship, green management, and policy instruments in building Sustainable Competitive Advantage (SCA) in batik MSMEs, where previous studies tend to focus partially on the impact of synthetic waste (Kusumawardani et al., 2024) without a conversion strategy to SCA. the potential of natural dyes (Jumhur & Prabawati, 2019) that have not been linked to eco-branding-based premium pricing mechanisms, or institutional aspects (Kurniati et al., 2019) which neglect the function of SCA as a key mediator linking green practices with economic outcomes. Thus, this

study fills the gap with an integrated model that combines Green Entrepreneurship, Green Management, SCA, and SME Business Performance.

This study aims to explore and evaluate various aspects of green entrepreneurship by considering three dimensions, namely economic, social, and environmental, in the batik industry, as well as the use of digital marketing for the sustainability of the batik business. This research is expected to function as an empirical model to help resolve the issues faced by producers of natural dye batik, in accordance with the research questions that have been formulated. The objective is for the natural dye batik industry in the City and Regency of Kediri to continue to grow and be sustainable. For practitioners in the natural dye batik creative industry in the region, this research provides insights into how to manage their businesses effectively, with the awareness that making the right decisions is crucial for maintaining and even expanding their businesses amid rapid changes and unpredictable conditions. For stakeholders, particularly the government. These findings directly support policy development initiatives aimed at protecting and promoting Kediri's natural-dye batik heritage as a sustainable creative industry.

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LITERATURE REVIEW

Previous Research

According to research by Putri & Sudarma in 2020, green management plays an important role in shaping competitive advantage, which subsequently drives sustainability performance (Purwatiningsih et al., 2023) . The study, focusing on SMEs in Semarang, confirmed that the implementation of green management positively influenced the sustainability performance of these businesses

Sustainability outcomes, including financial and non-financial aspects, are largely driven by the extent to which businesses integrate economic, social, and environmental management (Ananda & Sisdianto, 2024). Prior studies further demonstrate that adopting green management contributes positively to financial performance (Bibi & Narsa, 2022). In light of these findings, this research aims to explore field-level issues in Kediri's batik industry, where the application of the three dimensions remains essential. The novelty of this research stems from its focus on examining how green entrepreneurship and green management practices contribute to creating competitive advantages and enhancing the performance of natural-dye batik SMEs.

Green Entrepreneurship → Business Performance

The significance of green entrepreneurship lies in its ability to strengthen the performance of batik MSMEs through the adoption of sustainability practices integrating economic, social, and environmental factors. This strategy promotes resource efficiency, fosters eco-friendly product innovation, and supports differentiation that generates added value while reinforcing market competitiveness (Nurfitriani et al., 2024). Green entrepreneurship practices not only minimize negative environmental impacts but also drive process and product innovations that contribute to increased productivity and profitability. Research results confirm that green innovations applied in batik SMEs contribute positively to both environmental preservation and economic achievement, producing a substantial impact. ($\beta = 0.52$, $p < 0.01$) (Wibowo et al., 2025). The results reinforce the perspective that green entrepreneurship is a major catalyst for developing sustainable competitive advantage and enhancing the performance of batik SMEs. Accordingly, based on theoretical and empirical foundations, the hypothesis is stated as follows:

H1 : Green entrepreneurship has a significant positive influence on the business performance of batik MSMEs.

Green Business Management → Business Performance

Introducing green management into batik MSMEs plays a vital role in streamlining operations and lowering environmental hazards. This management approach emphasizes the integration of sustainability principles into business processes, from planning and control to performance evaluation (Raharjo, 2019). By adopting green management practices, businesses can optimize resource use, reduce operational costs, and enhance their positive image in the eyes of consumers and stakeholders. Empirical data suggest that the enforcement of environmental

management practices, particularly ISO 14001, can improve financial performance, as reflected in a 14.2% increase in Return on Assets (ROA) for textile SMEs (Bibi & Narsa, 2022). In line with this, research (Eccles et al., 2014) revealed that organizations practicing proactive environmental management recorded stock performance 4.8% higher than firms that neglected such approaches. The results validate that green business management delivers not only environmental advantages but also functions as a strategic tool to improve competitiveness and the performance of batik SMEs. Consistent with theory and prior research, the hypothesis is formulated as follows:
H2 : Implementing green business management significantly and positively influences the business performance of batik SMEs

Green Entrepreneurship → Sustainable Competitive Advantage (SCA)

Green entrepreneurship plays a substantial role in building sustainable competitive advantage by integrating green values into business operations and products. This approach utilizes local resources sustainably, creates unique product differentiation, and strengthens environmentally-based brand identity (Indriyaningrum & Fachrunnisa, 2021). Through environmentally friendly innovation and a focus on sustainability, businesses can create value propositions that are difficult for competitors to replicate, thereby maintaining long-term competitiveness. Empirical evidence shows that batik SMEs with a green orientation have 37% higher competitiveness compared to those that do not adopt it, particularly through eco-branding strategies that reinforce positive consumer perceptions (Kurniati et al., 2019). These results highlight that green entrepreneurship contributes not only to better business outcomes but also to laying a critical foundation for achieving sustainable competitive advantage. Thus, drawing upon both theoretical perspectives and empirical findings, the following hypothesis is presented:
H3: Green entrepreneurship significantly and positively influences the development of sustainable competitive advantage

Green Business Management → Sustainable Competitive Advantage (SCA)

SCA significantly contributes to improving the performance of batik MSMEs through its capacity to uphold distinctive differentiation and efficiency, which remain challenging for competitors to duplicate. SCA enables businesses to set premium pricing, maintain customer loyalty, and consistently expand market share (Kamboj & Rahman, 2017). SCA is not only based on product and process innovation but also on brand management, customer relationships, and the ability to adapt to market dynamics. Empirical evidence shows that SCA contributes to a 29.3% increase in SME sustainability performance across economic, social, and environmental aspects (Purwatiningsih et al., 2023). These findings highlight that maintaining SCA is essential for batik SMEs in realizing sustainable business outcomes. Thus, the hypothesis is proposed:
H4: Sustainable competitive advantage serves as a critical factor that positively influences the business outcomes of batik SMEs.

Sustainable Competitive Advantage (SCA) → Business Performance

SCA functions as a strategic mechanism that transforms the green values generated by green entrepreneurship into tangible positioning advantages. Within the batik SME sector, green innovations carried out through sustainable entrepreneurship require a process of strengthening these values into product differentiation, brand image, and strong consumer loyalty that competitors struggle to replicate (Widjajanti & Sugiyanto, 2024). SCA bridges the gap between creativity and environmentally friendly innovation with business performance outcomes, ensuring that every sustainable effort not only impacts internal efficiency but also competitive positioning in the market. Empirical findings indicate that SCA mediates 58% of the influence of green innovation on the market performance of batik SMEs, highlighting its critical mediating role (Widjajanti & Sugiyanto, 2024). Empirical findings indicate that SCA mediates 58% of the influence of green innovation on the market performance of batik SMEs, highlighting its critical mediating role
H5: SCA fully mediates the relationship between green entrepreneurship and the business performance of batik SMEs

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Mediation of SCA on Green Entrepreneurship → Business Performance

Grounded in the Resource-Based View (RBV) and Dynamic Capabilities Theory, the findings indicate that Sustainable Competitive Advantage (SCA) acts as a complete mediator. It channels the influence of Green Entrepreneurship (GE) on Business Performance (BP) by converting capabilities in eco-innovation into compelling market value propositions. Green entrepreneurs develop VRIN resources (e.g., proprietary *ecoprint* techniques, circular supply chains) that require strategic market positioning to translate environmental value into economic returns. Empirical evidence from (Widjajanti & Sugiyanto, 2024) confirms SCA's pivotal mediating role, where GE's impact on BP is channeled entirely through SCA (β_{indirect} = 0.360, *p* = 0.000), while the direct path remains non-significant (β_{direct} = 0.158, *p* = 0.220). This aligns with (Prajadi Cipto Utomo et al., 2024) showing that GE-driven innovations (e.g., natural dye optimization) only enhance profitability when converted into *differentiated market offerings* (e.g., certified eco-luxury batik) that command premium pricing and consumer loyalty. Thus, the hypothesis is formulated:

H6: The relationship between GE and BP is fully mediated by Sustainable Competitive Advantage

Mediation of SCA on Green Entrepreneurship → Business Performance

Sustainable competitive advantage (SCA) acts as a strategic bridge connecting the implementation of green business management with improved business performance of batik MSMEs. The implementation of green management practices contributes to superior performance not only directly by optimizing operations but also indirectly by establishing a sustainable competitive advantage, which is the principal driver of comprehensive organizational success (O'Donohue & Torugsa, 2016). With SCA, the benefits of green management policies and practices can be maximized through the creation of value that is difficult for competitors to replicate, thereby strengthening market position and long-term competitiveness. Empirical evidence shows that integrated supportive policies enhance the effectiveness of the relationship between green business management → SCA → business performance with a high coefficient of determination ($R^2 = 0.61$) (Suprayitno et al., 2025). The empirical results support a partial mediation model. This indicates that green business management influences business performance through two distinct pathways: a direct effect and an indirect effect that is facilitated by the strengthening of Sustainable Competitive Advantage (SCA). Consequently, and in alignment with the theoretical framework, the following hypothesis is substantiated:

H7 : SCA partially mediates the relationship between green business management and the business performance of batik SMEs

Conceptual Framework

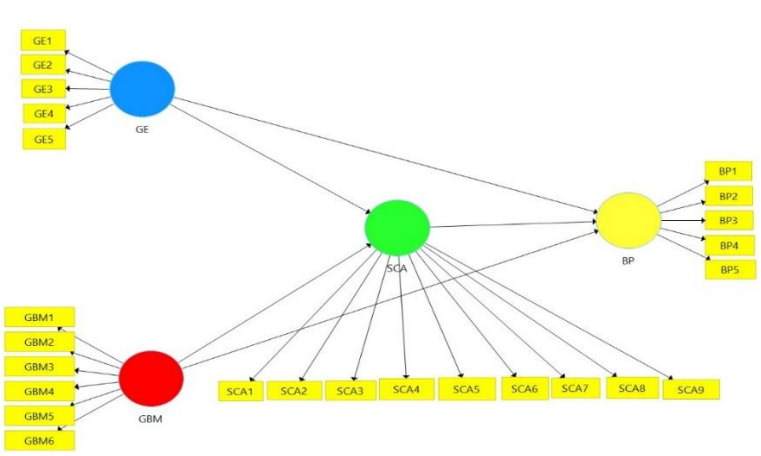

Figure 1: Conceptual Framework
Source: Author's elaboration (2025)

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METHOD

This research employed a quantitative methodology to investigate the multifaceted concept of green entrepreneurship within the batik industry of Kediri City and Regency. The study specifically examined its three core dimensions—economic, social, and environmental—alongside the role of digital marketing in fostering business sustainability. Data were gathered from both primary and secondary sources to ensure a comprehensive analysis. The investigation focused on four key variables: Green Entrepreneurship, Green Business Management, Sustainable Competitive Advantage, and Business Performance. To analyze the direct and indirect relationships between these constructs, the study utilized Structural Equation Modeling (SEM) via the Partial Least Squares (PLS) approach, a technique well-suited for predictive research models and complex latent variables.. The study was conducted by strengthening the source of the problem and searching for literature studies as well as comparing previous studies on the research variables. Then the study began with data collection. Data collection was conducted by distributing questionnaires to examine, describe, and analyze aspects of green entrepreneurship, considering the three dimensions of economy, society, and environment in the batik industry in the city and regency of Kediri, as well as the use of digital marketing for the sustainability of batik businesses (sustainable business). The questionnaire used a Likert scale with a rating of 1-5. The study's population comprised all registered natural-dye batik artisans in Kediri City and Regency, as listed by the local Industry and Trade Office and the Cooperative and SME Office. With a total population of 48 artisans, a saturated (census) sampling technique was employed, whereby the entire population was included as the research sample

RESULTS

Outer Model Test Results

Based on table 1 that rule of thumb (>0.70) and cross loading comparison, all indicators on each construct meet the convergent validity criteria. This establishes the convergent validity of the constructs, confirming that the indicators are precise and consistent measures (Hair et al., 2021)

Table 1. Convergent Validity Value

	Business Performance	Green Business Management	Green Entrepreneurship	Sustainable Competitive Advantage
BP1	0,837	-0,118	0,169	0,501
BP2	0,825	0,061	0,236	0,419
BP3	0,831	0,024	0,108	0,547
BP4	0,766	0,248	0,289	0,538
BP5	0,844	0,209	0,333	0,620
GBM3	-0,019	0,746	0,380	0,129
GBM4	0,070	0,764	0,753	0,071
GBM5	0,133	0,836	0,781	0,175
GBM6	0,096	0,826	0,431	0,197
GE1	0,258	0,584	0,918	0,275
GE3	0,265	0,678	0,897	0,253
GE4	0,182	0,665	0,751	0,120
SCA4	0,506	0,212	0,195	0,732
SCA7	0,535	0,106	0,245	0,790
SCA8	0,533	0,241	0,239	0,880
SCA9	0,526	0,084	0,182	0,847

Source:
Processed Data (2025)

In accordance with the established benchmark (Hair et al., 2021) the Average Variance Extracted (AVE) for every construct surpassed the 0.50 threshold (see Table 2). This confirms

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strong convergent validity, indicating that the indicators collectively explain over half of the variance in their respective constructs, thereby affirming their suitability as reliable measures.

Table 2. Average Variance Extracted (AVE) Value

Variabel	Average variance extracted (AVE)
Business Performance	0,674
Green Business Management	0,630
Green Entrepreneurship	0,737
Sustainable Competitive Advantage	0,663

Source: Processed Data (2025)

See table 3 that all constructs have higher AVE square root values than correlations between other constructs, so discriminant validity is met. This shows that each construct in the model has a clear difference and the indicator reflects its own construct more than other constructs.

Table 3. Discriminant Validity Value with Fornell Larcker Criterion

Variabel	Business Performance	Green Business Management	Green Entrepreneurship	Sustainable Competitive Advantage
Business Performance	**0,821**			
Green Business Management	0,106	**0,794**		
Green Entrepreneurship	0,280	0,732	**0,858**	
Sustainable Competitive Advantage	0,646	0,198	0,266	**0,814**

Source: Processed Data (2025)

Referring to the rule of thumbs (Hair et al., 2021), all of these values meet the criteria ≥ 0.70, so it can be concluded that all constructs have good reliability and are suitable for use in further analysis (see table 4)

Table 4. Reliability Value

Variabel	Cronbach's alpha	Composite reliability
Business Performance	0,879	0,912
Green Business Management	0,817	0,872
Green Entrepreneurship	0,824	0,893
Sustainable Competitive Advantage	0,828	0,887

Source: Processed Data (2025)

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The measurement model assessment confirmed that all constructs satisfy the requisite criteria for reliability, convergent validity, and discriminant validity. Specifically, the Average Variance Extracted (AVE) for each construct exceeded the 0.50 threshold, and both Composite Reliability (CR) and Cronbach's Alpha (α) values surpassed 0.70, indicating strong internal consistency and convergent validity. Furthermore, discriminant validity was established via the Fornell-Larcker criterion, as the square root of the AVE for each latent variable was greater than its correlations with all other constructs.

Table 5. Summary of Construct Validity and Reliability Tests

Construct	AVE	CR (Composite Reliability)	CA (Cronbach's Alpha)	Criteria	Description
Business Performance (BP)	>0,50	≥0,70	≥0,70	AVE ≥ 0,50; CR ≥ 0,70; CA ≥ 0,70	Valid & Reliabel
Green Business Management (GBM)	>0,50	≥0,70	≥0,70	AVE ≥ 0,50; CR ≥ 0,70; CA ≥ 0,70	Valid & Reliabel
Green Entrepreneurship (GE)	>0,50	≥0,70	≥0,70	AVE ≥ 0,50; CR ≥ 0,70; CA ≥ 0,70	Valid & Reliabel
Sustainable Competitive Advantage (SCA)	>0,50	≥0,70	≥0,70	AVE ≥ 0,50; CR ≥ 0,70; CA ≥ 0,70	Valid & Reliabel

Source: Processed Data (2025)

Inner Model Testing Results

The model's explanatory power, as indicated by the adjusted R^2, is moderate for Business Performance (51.4%) and low-moderate for Sustainable Competitive Advantage (34.3%). The model also demonstrates strong predictive relevance for Business Performance ($Q^2 = 0.665$) and moderate predictive relevance for SCA ($Q^2 = 0.420$). Regarding the hypotheses, the analysis reveals that while Green Business Management (GBM) and Green Entrepreneurship (GE) exert no significant direct influence on either Business Performance or Sustainable Competitive Advantage, they do exhibit a significant indirect effect on Business Performance. This effect is fully mediated by Sustainable Competitive Advantage.

Table 2. Summary of Structural Model Results

Relationship Between Variables	Path Coefficient (β)	T-Stat	P-Value	Significance	Description
GBM → BP	-0.216	0.939	0.348	Not significant	Direct effect
GBM → SCA	0.007	0.022	0.982	Not significant	Direct effect
GE → BP	0.274	1.227	0.22	Not significant	Direct effect
GE → SCA	0.26	0.912	0.362	Not significant	Direct effect
SCA → BP	0.616	5.95	0.0	**Signifikan**	Direct effect
GBM → SCA → BP	0.264	3.896	0.001	**Signifikan**	Full mediation
GE → SCA → BP	0.36	4.895	0.0	**Signifikan**	Full mediation
Source: Processed Data (2025)					

DISCUSSION

The results of the first hypothesis test (H1) indicate that Green Entrepreneurship (GE) does not have a significant direct effect on Business Performance (BP). This suggests that the green entrepreneurship orientation of natural dye batik MSMEs has not been able to directly improve performance without the formation of sustainable competitive advantages. This finding is inconsistent with some studies, such as (Wibowo et al., 2025) which found a direct effect of GE on

SME performance, but consistent with the study by (Widjajanti & Sugiyanto, 2024) which emphasizes the need for mediation mechanisms to transform green values into competitive advantages.

The second hypothesis (H2) is also not supported, as Green Business Management (GBM) does not have a significant direct effect on BP. This indicates that environmentally oriented business management does not automatically lead to improved performance, consistent with the perspective of (Hart, 1995) in the Natural Resource-Based View, which emphasizes the importance of unique capabilities for environmental strategies to have a business impact. Regarding the statement that green business management does not directly Regarding the statement that green business management does not directly improve performance in natural dye batik SMEs, these results differ from studies such as Environmental management: Implications for business performance, innovation, and financing (Fernandez, 2022), which found that high-quality environmental management practices improve productivity, sales, and innovation—supporting the direct positive influence of GBM on performance.

The third hypothesis (H3), which tests the influence of GE on Sustainable Competitive Advantage (SCA), is also not significant. This indicates that green entrepreneurship orientation has not yet been able to directly form sustainable competitive advantage in batik SMEs, possibly due to limitations in resources, technology, and market support. This finding aligns with (Purwatiningsih et al., 2023) which emphasizes the need for external intervention to strengthen SCA.

The fourth hypothesis (H4), which tests the influence of GBM on SCA, is also not significant. This indicates that the implementation of green management is insufficient to create SCA without consistent product differentiation and innovation strategies. This finding reinforces Porter's (Porter, 2008) argument that competitive advantage requires a value proposition that is difficult to imitate.

Conversely, the fifth hypothesis (H5) received full support, where SCA has a significant positive effect on BP. This shows that the higher the sustainable competitive advantage possessed by batik SMEs, the higher the business performance achieved. These results align with the research by (Widjajanti & Sugiyanto, 2024a) and (Purwatiningsih et al., 2023) which state that SCA is the primary determinant of sustainable performance improvement.

The sixth hypothesis (H6) tests the indirect influence of GE on BP through SCA, and the results are significant, indicating full mediation. This means that green entrepreneurship orientation will only improve performance if it is first translated into competitive advantage. This finding supports the mediation model proposed by (Weng et al., 2015) regarding green innovation.

Similarly, the seventh hypothesis (H7), which tests the indirect influence of GBM on BP through SCA, is also significant with full mediation. This means that environmentally-based business management is only effective in improving performance if it is part of a competitive advantage strategy. This is consistent with the findings of (Kurniati et al., 2019) which emphasize that environmental management practices require strengthening core capabilities to have a significant impact. Overall, this pattern of results shows that the direct paths of GE and GBM to BP and SCA have not been confirmed, while the indirect path through SCA is the main mechanism for improving performance. Thus, SCA plays a strategic role as a bridge between green orientation and the business performance of batik MSMEs, both in theory and practice.

CONCLUSION

This study proves that green practices (green entrepreneurship and green business management) do not directly affect the business performance or sustainable competitive advantage (SCA) of natural dye batik MSMEs in Kediri. However, SCA significantly improves business performance and acts as a full mediator that transforms green value into improved performance. This means that environmental strategies are only effective if they are translated into competitive advantage through product differentiation, eco-friendly innovation, and eco-branding. These findings support the Natural Resource-Based View theory and recommend that SMEs focus on strengthening SCA based on local resources, developing eco-branding, and collaborating with the government for incentives for clean production and supportive regulations..

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REFERENCES

Amaningsih Jumhur, A., & Prabawati, M. (2019). The Competitive Advantage of Small Industry Batik. *KnE Social Sciences*, *3*(12), 287. https://doi.org/10.18502/kss.v3i12.4094

Ananda, A. S., & Sisdianto, E. (2024). Analisis Laporan Keuangan: Perspektif Non-Finansial Dan Dampaknya Pada Kinerja. *Jurnal Media Akademik (JMA)*, *2*(12).

Ayu Kusumawardani, S. D., Kurnani, T. B. A., Astari, A. J., & Sunardi, S. (2024). Readiness in implementing green industry standard for SMEs: Case of Indonesia's batik industry. *Heliyon*, *10*(16). https://doi.org/10.1016/j.heliyon.2024.e36045

Bharadwaj, S. G., Varadarajan, P. R., & Fahy, J. (1993). Sustainable competitive advantage in service industries: a conceptual model and research propositions. *Journal of Marketing*, *57*(4), 83–99.

Bibi, Y. S., & Narsa, N. P. D. R. H. (2022). Pengaruh enviromental management terhadap kinerja keuangan dengan green innovation sebagai variabel mediasi. *Jurnal Akuntansi Universitas Jember*, *20*(2), 90–105.

Coyne, K. P. (1986). Sustainable Competitive Advantage -What it is, What it isn‟t. *Business Horizons*.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The Impact of Corporate Sustainability on Organizational Processes and Performance. *Management Science*, *60*(11), 2835–2857. https://doi.org/10.1287/mnsc.2014.1984

Fernandez, V. (2022). Environmental management: Implications for business performance, innovation, and financing. *Technological Forecasting and Social Change*, *182*, 121797. https://doi.org/10.1016/j.techfore.2022.121797

Hart, S. L. (1995). A Natural-Resource-Based View of the Firm. *Academy of Management Review*, *20*(4), 986–1014. https://doi.org/10.5465/amr.1995.9512280033

Indriyaningrum, E., & Fachrunnisa, O. (2021). A Model For Sustainable Competitive Advantage Improvement Of Batik SMEs At Central Java Province And DIY (Special Region Of Yogyakarta). *Jurnal Aplikasi Bisnis Dan Manajemen*. https://doi.org/10.17358/jabm.7.2.272

Kamboj, S., & Rahman, Z. (2017). Market orientation, marketing capabilities and sustainable innovation: The mediating role of sustainable consumption and competitive advantage. *Management Research Review*, *40*(6), 698–724.

Kurniati, E. D., Susilowati, I., & Suharno. (2019). Sustainable Competitive Advantage of SMEs through Resource and Institutional-Based Management: An Empirical Study of Batik SMEs in Central Java, Indonesia. *Market-Tržište*, *31*(1), 61–82. https://doi.org/10.22598/mt/2019.31.1.61

Muo, I., & Azeez, A. A. (2019). Green entrepreneurship: Literature review and agenda for future research. *International Journal of Entrepreneurial Knowledge*, *7*(2).

Nurfitriani, N., Yudhyani, E., & Indrawati, A. (2024). Peran Green Entrepreneurs Dalam Memahami Keberlanjutan Pembangunan Perekonomian Di Kalangan Generasi Muda di Kota Samarinda. *YUME: Journal of Management*, *7*(3), 1297–1305.

O'Donohue, W., & Torugsa, N. (2016). The moderating effect of 'Green'HRM on the association between proactive environmental management and financial performance in small firms. *The International Journal of Human Resource Management*, *27*(2), 239–261.

Porter, M. E. (2008). *Competitive advantage: Creating and sustaining superior performance*. simon and schuster.

Prajadi Cipto Utomo, B., Sentosa, I., & Osman, S. (2024). Model Sustainability Competitive Advantage for Manufacturing SMEs: A Structural Equation Modelling Approach. *PaperASIA*, *40*(5b), 295–306. https://doi.org/10.59953/paperasia.v40i5b.252

Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: in search of conceptual origins. *Sustainability Science*, *14*(3), 681–695. https://doi.org/10.1007/s11625-018-0627-5

Purwatiningsih, P., Nofryanti, N., & Rosini, I. (2023). Pengaruh Competitive Advantage Dan Ketidakpastian Lingkungan Terhadap Kinerja Usaha Dan Implikasinya Pada Keberlanjutan Usaha. *Jurnal Ilmiah Global Education*, *4*(4), 2541–2552.

Raharjo, K. (2019). The role of green management in creating sustainability performance on the small and medium enterprises. *Management of Environmental Quality: An International Journal*, *30*(3), 557–577.

Sudrajat, A. S. E. (2018). Pilar pembangunan berkelanjutan: kajian pengelolaan sumber daya alam dan lingkungan kampung batik rejomulyo semarang timur. *Jurnal Riptek*, *12*(1), 83–88.

Suprayitno, Dwiatmadja, C., & Suharti, L. (2025). Factors affecting batik SME performance and sustainability: The role of government support and business associations. *Problems and Perspectives in Management*, *23*(1), 249–262. https://doi.org/10.21511/ppm.23(1).2025.19

Utomo, B. P. C., Sentosa, I., Osman, S., & Santosa, T. D. (2024). The Influence of Intellectual Capital, Learning Capability, and Technological Orientation on the Innovation Capability and Sustainable Competitive Advantage of Batik SMEs in Indonesia. *JINAV: Journal of Information and Visualization*, *5*(2), 240–249. https://doi.org/10.35877/454RI.jinav3277

Utomo, Mohamad Nur, S. R. P. (2021). Analisis Penerapan Green Business Terhadap Kinerja Ukm Di Kota Tarakan. *Jakpi*, *1*(1), 113–121. https://journal.moestopo.ac.id/index.php/jakpi/article/view/1348

Weng, H.-H., Chen, J.-S., & Chen, P.-C. (2015). Effects of Green Innovation on Environmental and Corporate Performance: A Stakeholder Perspective. *Sustainability*, *7*(5), 4997–5026. https://doi.org/10.3390/su7054997

Wibowo, N. M., Widiastuti, Y., Tampubolon, L. R. R. U., & Bramantijo. (2025). The role of local wisdom on green competitive advantages in batik MSMEs: Green innovation as a mediator. *International Journal of Management and Sustainability*, *14*(2), 601–615. https://doi.org/10.18488/11.v14i2.4275

Widjajanti, K., & Sugiyanto, E. K. (2024a). Competitiveness Improvement Strategies of Msme Blora Batik: Analytic Network Process Approach. *International Journal of Professional Business Review*, *9*(1), e03381. https://doi.org/10.26668/businessreview/2024.v9i1.3381

Widjajanti, K., & Sugiyanto, E. K. (2024b). Competitiveness Improvement Strategies of Msme Blora Batik: Analytic Network Process Approach. *International Journal of Professional Business Review*, *9*(1), e03381. https://doi.org/10.26668/businessreview/2024.v9i1.3381