

## **Contribution of Green Creativity to Business Sustainability: The Mediating Role of Green Supply Chain Management and MSMEs Independence**

Retno Purwani Setyaningrum\*

Department of Management, Universitas Pelita Bangsa, Indonesia

Muafi Muafi

Department of Management, Universitas Islam Indonesia, Indonesia

Sonny Indrajaya

Department of Management, Universitas Mercubuana, Jakarta, Indonesia

Erina Rulianti

Department of Management, Universitas Pelita Bangsa, Indonesia

— *Review of* —  
**Integrative  
Business &  
Economics**  
— *Research* —

### **ABSTRACT**

Innovation in entrepreneurship, particularly green creativity, has become crucial as environmental concerns grow increasingly important to customers. This study investigates the factors that lead to business sustainability for MSMEs in creative industries in West Java, DKI Jakarta, and Banten, Indonesia by considering the role of green creativity, green supply chain management (GSCM), and MSMEs independence. Data were collected via a survey distributed through Google Forms, resulting in responses from 400 MSMEs, of which 334 were valid for analysis. Structural Equation Modeling (SEM) was employed using SmartPLS 23 to test the hypotheses. The findings reveal that green creativity positively influences environmental performance, GSCM, and MSME independence. Furthermore, green creativity positively affects business sustainability through the mediating roles of MSME independence and GSCM. Additionally, MSME independence strengthens sustainable business practices, while GSCM contributes significantly to overall business sustainability. This study contributes to the literature by highlighting the critical role of green creativity in enhancing environmental performance and sustainable practices within MSMEs. It underscores the importance of integrating GSCM and fostering MSME independence to achieve long-term business sustainability.

**Keywords:** Green Creativity, MSME Independence, Green Supply Chain Management, Sustainable MSME Performance.

Received 1 May 2024 | Revised 2 September 2024 | Accepted 11 October 2024.

## **1. INTRODUCTION**

The creative industry is a strategic sector that, when effectively maintained and developed, can thrive in the era of globalization, enhancing competitiveness, productivity, and sustainable growth. The role of MSMEs in showcasing creativity offers developing markets the opportunity to leverage creativity, culture, and globalization for economic

benefit (Gregurec et al., 2021). Recently, environmental awareness has surged within the creative industry, particularly through the use of natural colors. These green, eco-friendly alternatives align with market expectations and reflect a broader shift toward sustainability.

Creativity and innovation are intrinsically linked, as innovation cannot exist without creativity. Successful businesses often begin with creative ideas, and the implementation of these ideas leads to innovation, such as in creative industries that utilize environmentally friendly natural colors. This approach has already been adopted by MSMEs in Bekasi Regency, even as global attention is increasingly focusing on environmental concerns. In recent years, research on creativity within the creative industry, especially involving natural colors, has garnered significant interest. Studies have largely focused on the role of creativity, culture, and social enterprises in promoting environmental sustainability, and their impact on business longevity. However, some scholars argue that the connection between the creative economy and sustainability is not fully understood (Kozarević & Puška, 2018). On the contrary, others, like Pratomo et al. (2021), asserted that economic sustainability is indeed linked to creative and cultural industries, emphasizing the importance of creativity in fostering a green economy.

In the context of developing economies, the integration of creativity and sustainability within MSMEs is particularly critical. These enterprises often face challenges such as limited resources, market competition, and regulatory pressures (Cheok & Singh, 2018; Siregar et al., 2022). Consequently, it is essential for them to adopt innovative practices that not only enhance their market position but also contribute to broader environmental goals. The utilization of green creativity and sustainable practices in production processes, such as the use of natural dyes, provides MSMEs with a unique competitive edge. It allows them to cater to a growing segment of environmentally conscious consumers, thereby driving demand for eco-friendly products. Additionally, the adoption of green supply chain management (GSCM) practices ensures that these MSMEs can operate efficiently while minimizing their environmental footprint (Arijanto, 2022; Diana, 2021), further solidifying their role in promoting sustainable economic development.

One of the key drivers of MSMEs' independence in the creative economy is the strength of the green supply chain, which encompasses the entire process from production to distribution and sales (Kot, 2018; Arijanto, 2022). Effective supply chain management not only enhances the competitive advantage of MSMEs but also contributes to their independence. As MSMEs enter the global market, maintaining independence through customer engagement and product innovation, such as creative and eco-friendly packaging, is vital for their survival (Arijanto, 2022; Gurria, 2018). MSMEs play a crucial role not only in economic growth and job creation but also in ensuring equitable development outcomes across regions.

This study aims to investigate the interconnectedness of green creativity, GSCM, and MSMEs' independence, and their collective impact on business sustainability. By analyzing these relationships, this study contributes to the existing literature by providing empirical evidence on how green creativity and supply chain practices can drive sustainable growth within MSMEs. It also highlights the critical role of MSMEs' independence in sustaining long-term business viability in the creative industries. Specifically, it aims to examine and analyze the relationship of green creativity to MSMEs' business sustainability, by considering the mediating role of GSCM, and MSMEs' independence.

## **2. LITERATURE REVIEW**

## 2.1 Green Creativity and Business Sustainability

In the era of globalization, businesses are increasingly recognizing the importance of environmental sustainability, making natural resource-based view in the industry to be more relevant. Future business success increasingly depends on the ability to innovate in ways that are environmentally friendly, with only firms adopting green practices poised to survive and thrive (Maitlo et al., 2022; Fang et al., 2021; Hart, 1995). Green creativity, which involves developing innovative solutions that prioritize environmental considerations, is essential for driving sustainable business practices within the creative industry. (Chen et al., 2014; Al-Ghazali et al., 2022).

Prior research has shown how green creativity can significantly impact various dimensions of business sustainability. By integrating green creativity, companies can enhance their business performance through improved operational efficiencies, cost savings from reduced waste, and differentiation in the marketplace (Setyaningrum et al., 2023). In addition, green creativity contributes to social performance by fostering a positive company image and aligning with societal values on sustainability. Companies that prioritize environmentally friendly practices often build stronger relationships with stakeholders, including customers, employees, and communities (Ogbeibu et al., 2021), (Joshi & Dhar, 2020). Furthermore, by focusing on eco-friendly innovations and sustainable practices, companies can significantly reduce their environmental footprint (Setyaningrum et al., 2023). Thus, the hypothesis proposed are as follows:

H1a: Green creativity positively influences business performance

H1b: Green creativity positively influences environmental performance

H1c: Green creativity positively influences social performance

## 2.2 Green Creativity on Green Supply Chain Management

In today's business environment, environmental sustainability has become a critical focus, influencing various aspects of operations. Effective supply chain management increasingly depends on integrating green practices to align with sustainability goals (Sauer et al., 2022; Huo et al., 2021). Green creativity plays a pivotal role in advancing GSCM by generating innovative solutions to environmental challenges.

Organizations that foster green creativity are better equipped to develop eco-friendly supply chain processes as it enhances overall sustainability. GSCM involves implementing practices that reduce environmental impact, and green creativity contributes by introducing novel approaches to improve operations (Richey et al., 2022). Additionally, green supply chain learning—gaining and applying knowledge about green practices—can significantly be boosted by employee creativity in environmental management. By encouraging green creativity, organizations can better manage their environmental footprint and achieve greater operational efficiency. (Awan et al., 2019). Thus, the hypothesis proposed is as follows:

H2: Green creativity positively influences green supply chain management

## 2.3 Green Supply Chain Management on Business Sustainability

In facing evolving market conditions, MSMEs encounter unique challenges in implementing green growth strategies compared to larger corporations. Despite their flexibility, MSMEs must focus on effective supply chain practices to bridge the gap between suppliers and customers, thereby promoting efficient management (Cheok & Singh, 2018; Kozarević & Puška, 2018). GSCM is crucial for managing these relationships and ensuring that environmental considerations are integrated throughout the supply chain.

GSCM involves adopting practices that reduce environmental impact and enhance sustainability (Diana, 2021; Geng et al., 2017). This includes maintaining high-quality information exchange between suppliers and companies and addressing customer complaints regarding environmental practices. As MSMEs operate in an increasingly eco-conscious market, integrating GSCM becomes essential for aligning with environmental standards and customer expectations (Dzikriansyah et al., 2023).

Previous scholars have suggested that implementing GSCM is vital for sustainable growth (Geng et al., 2017; Cheok & Singh, 2018). It helps MSMEs improve productivity, reduce inventory levels, and shorten waiting times, all of which contribute to better operational efficiency. These practices not only support environmental sustainability but also can enhance business performance and social impact. For instance, by adopting green practices, MSMEs can increase their market share and achieve greater integration within their industries, ultimately supporting long-term sustainability (Ruangchoengchum & Dechkerd, 2024; Setyaningrum & Muafi, 2022). Thus, the hypothesis proposed are as follows:

H3a. Green supply chain management positively influences business performance

H3b. Green supply chain management positively influences environmental performance

H3c. Green supply chain management positively influences social performance

#### **2.4 Green Creativity on MSME Independence**

In an increasingly competitive and environmentally conscious market, MSMEs are seeking to establish and sustain their independence through innovative and sustainable practices. Green creativity plays a pivotal role in this process, as it enables MSMEs to adopt sustainable and resource-efficient practices. As stated by Fang et al. (2021), green creativity involves integrating environmentally friendly solutions into business operations, which not only aligns with market expectations but also strengthens the MSMEs' position in the market.

The adoption of green creativity aligns MSMEs with contemporary environmental standards and can bolster their independence (Osadolor et al., 2021). Eco-friendly practices enable MSMEs to streamline their operations, improve efficiency, and reduce costs associated with resource use and waste management (Lee et al., 2021). Moreover, a strong commitment to green creativity can enhance an MSME's market position and customer loyalty, further solidifying its independence. By leading in sustainable practices, MSMEs can differentiate themselves from competitors and secure a stronger foothold in their respective industries. This commitment not only supports long-term business viability but also empowers MSMEs to remain self-reliant and thrive independently in a rapidly evolving market (Zameer et al., 2020; Ormazabal et al., 2018). Thus, the hypothesis proposed is as follows:

H4: Green creativity positively influences MSME Independence

#### **2.5 MSME Independence on Green Supply Chain Management**

MSMEs that achieve a high level of independence are better positioned to enhance their green supply chain management (GSCM) practices. Independence allows MSMEs to integrate various functions such as production, shipping, warehousing, distribution, and sales, creating a cohesive and efficient supply chain system (Ruangchoengchum & Dechkerd, 2024; Kot, 2018; Ariyanto, 2022). When MSMEs are independent, they are not reliant on external partners for critical decision-making, enabling them to adopt and implement green practices more effectively across their entire supply chain. This autonomy supports their ability to manage resources sustainably, reduce environmental

impact, and improve overall performance. By being self-reliant, MSMEs can make strategic decisions that align with environmental goals and integrate sustainability into every aspect of their operations. Thus, the hypothesis proposed is as follows:

H6. MSMEs Independence positively influences green supply chain management

## 2.6 MSME Independence on Business Sustainability

The role of MSME independence is pivotal in enhancing business sustainability. In the creative economy, creativity boosts employee motivation, leading to higher customer satisfaction and loyalty, which positively impacts MSME independence (Harini et al., 2022). In developing countries like Indonesia, MSMEs are crucial for economic growth and local development.

Green innovation and creativity significantly contribute to business success and environmental sustainability (Galindo et al., 2020). Entrepreneurs aim not only for business success but also for environmental preservation, considering the notion of natural resource-based view (Hart, 1995). Enhancing MSME independence through green creativity and innovation supports sustainable business practices (Tjahjadi et al., 2020).

Independence allows MSMEs to take initiative, solve problems independently, and improve performance, as indicated by its positive relationship with performance (Liu et al., 2023; Tjahjadi et al., 2020). Existing research also highlights that MSME independence and competence positively impact business resilience (Osadolor et al., 2021) and is crucial for sustainable business improvements (Setyaningrum & Muafi, 2022). Thus, the hypothesis proposed is as follows:

H5a. MSMEs independence positively influences business performance

H5b. MSMEs independence positively influences environmental performance

H5c. MSMEs independence positively influences social performance

Likewise, based on the literature and previous research, the following hypotheses are proposed to analyze the mediating roles of GSCM and MSME independence:

H7a. GSCM mediates the effect of green creativity on business performance

H7b. GSCM mediates the effect of green creativity on environmental performance

H7c. GSCM mediates the effect of green creativity on social performance

H8a. MSME Independence mediates the effect of green creativity on business performance

H8b. MSME Independence mediates the effect of green creativity on environmental performance

H8c. MSME Independence mediates the effect of green creativity on social performance

## 3. RESEARCH METHOD

This study utilizes a quantitative approach to build upon and extend existing literature by examining current phenomena, testing hypotheses, and providing numerical data to enhance understanding of the research results. The study focuses on MSMEs in the creative industry that use natural raw materials. The population was identified as fashion MSMEs employing natural materials such as eco-print and non-synthetic batik, and handicraft MSMEs using natural base materials without synthetic dyes.

The selection process involved purposive sampling, adhering to specific criteria. Out of the population, 400 MSMEs meeting these criteria were chosen as research respondents. Data collection was conducted through an online survey distributed via Google Forms,

with participation from all selected respondents. Ultimately, 334 valid responses were obtained and used for further analysis.

The survey utilized a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to assess responses. Data analysis was performed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS) analysis, executed through WarpPLS 7.0 software. SEM modeling was chosen for its capability to handle complex and simultaneous testing of relationships among variables (Ferdinand, 2014).

### 3.1 Variable Measurement

The variables in this study are measured using items from the existing literatures. Green creativity is measured using five items adopted from Baah et al. (2023) which consists of product development, new product ideas, new product promotion, proactive attitude, and creative product solutions. MSMEs independence is measured using four indicators adopted from Osadolor et al. (2021), namely finance, managerial abilities, facilities and infrastructure, as well as market access capabilities. Furthermore, green supply chain is measured using five items adopted from Kot (2018), namely selection of raw materials, product/service design, manufacturing process, product delivery, and useful life of eco-friendly products. Finally, business sustainability, which is comprised of three dimensions, is assessed with a total of 12 items, which belong to business performance, environmental performance, and social performance.

## 4. RESULT

### 4.1 Respondents' Characteristics

The characteristics of respondents in this study are divided into several categories. Table 1 below presents the research result.

Table 1. Respondents' Characteristics

Characteristics		Amount	Percentage
<b>Gender</b>	Male	19	5.7%
	Female	315	94.3%
<b>Age</b>	21-30 years old	44	13.17%
	31-40 years old	69	20.6%
	41-50 years old	137	41.01%
	51-60 years old	77	23.05%
	61-70 years old	7	2.09%
<b>Education</b>	Senior High School	116	34.7%
	Diploma	159	47.6%
	Bachelor	59	17.6%
<b>Position</b>	Manager	200	59.8%
	Owner and Manager	127	38.02%
	Others	7	2.09%
<b>Duration of Work</b>	1-5 years	20	5.9%
	6-10 years	246	73.6%
	11-20 years	51	15.2%
	21-25 years	10	2.9%
	26-30 years	4	1.19%
	31-40 years	2	0.59%
	>40 years	1	0.29%

<b>Type of Business</b>	Handicraft	168	50.2%
	Batik	154	46.10%
	Hand-drawn batik	12	3.59%
<b>Years in Business</b>	1-5 years	23	6.88%
	6-10 years	207	63.21%
	11-20 years	102	37.25%
	>21 years	2	0.58%

#### 4.2 Outer Model Evaluation

Outer model analysis was carried out to assess construct validity and reliability. Convergent validity requires a loading factor  $\geq 0.7$ , while construct validity requires an AVE  $\geq 0.5$ . The test results are shown in Table 2.

Table 2. Results of Validity Analysis

Variable	Indicator	Loading Factor	AVE
Green Creativity	CR1	0.844	0.611
	CR2	0.742	
	CR3	0.755	
Independence	INDEP1	0.886	0.764
	INDEP2	0.862	
Green Supply Chain	GSC1	1.000	1.000
Business Performance	BP1	0.898	0.794
	BP2	0.884	
Social Performance	SP1	0.832	0.626
	SP2	0.701	
	SP3	0.833	
Environmental Performance	EP1	0.830	0.650
	EP2	0.830	
	EP3	0.831	
	EP4	0.750	
	EP5	0.882	

Table 2 summarizes the results for validity test. Initially, 10 indicators were dropped due to loading factor values of  $< 0.7$  (CR3, CR5, INDEP3, INDEP4, GSC2, GSC3, GSC4, GSC5, BP3 and BP4). After removing these, all remaining indicators had loading factor values of  $> 0.7$ , confirming their validity. The AVE values for all variables were  $> 0.5$ , and the composite reliability values were  $> 0.7$  with Cronbach's Alpha of  $\geq 0.6$ , indicating that the variables are reliable.

#### 4.3 Inner Model Evaluation

Inner model evaluation was carried out using PLS bootstrap, with the hypothesis testing results shown in Figure 1 and Table 3.

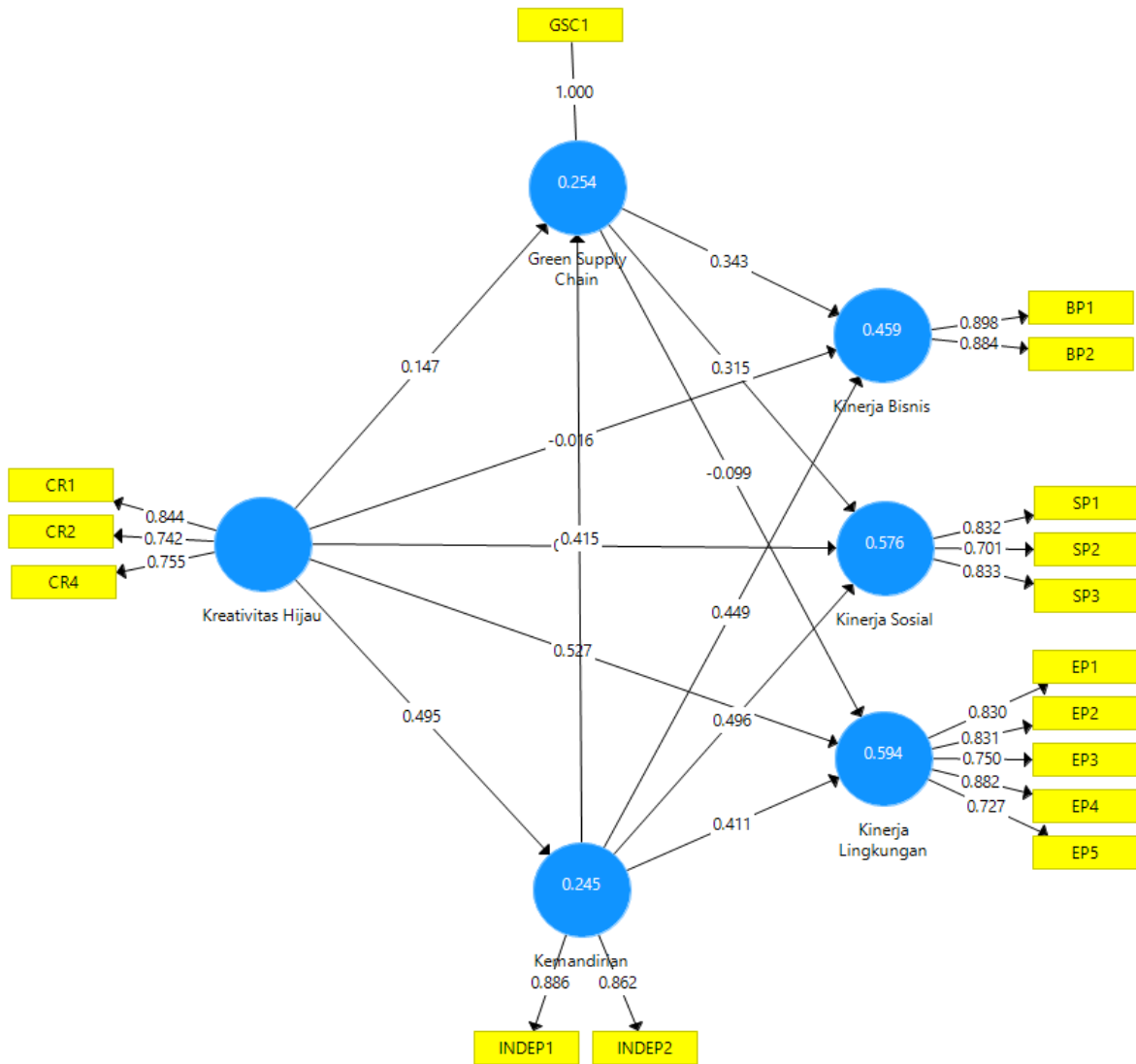


Figure 1. Output of SEM-PLS

#### 4.4 Hypothesis Test

A measurement item is considered significant if the T-statistic value exceeds 1.96 and the p-value is less than 0.05, indicating significance at the 5% level. The results of the hypothesis testing are presented in Table 3.

Table 3. Results of Hypothesis Test

		Original Sample (O)	T Statistics ( O/STDEV )	P Values
<b>H1</b>	a. GC → BP	-0.016	0.306	0.760
	b. GC → EP	0.527	12.788	0.000*
	c. GC → SP	0.097	1.668	0.096
<b>H2</b>	GC → GSCM	0.147	2.547	0.011*
	a. GSCM → BP	0.343	7.527	0.000*
<b>H3</b>	b. GSCM → EP	-0.099	2.226	0.026*



	c. GSCM → SP	0.315	7.691	0.000*
<b>H4</b>	GC → Independence	0.495	11.747	0.000*
<b>H5</b>	a. Independence → BP	0.449	8.823	0.000*
	b. Independence → EP	0.411	9.449	0.000*
	c. Independence → SP	0.496	10.248	0.000*
<b>H6</b>	Independence → GSCM	0.415	8.266	0.000*
	a. GC → GSCM → BP	0.050	2.218	0.027*
<b>H7</b>	b. GC → GSCM → EP	-0.015	1.550	0.122
	c. GC → GSCM → SP	0.046	2.278	0.023*
	a. GC → Independence → BP	0.222	6.873	0.000*
<b>H8</b>	b. GC → Independence → EP	0.203	7.231	0.000*
	c. GC → Independence → SP	0.245	8.750	0.000*

Note: \* sign = alpha 5%, GC: Green Creativity, GSCM: Green Supply Chain Management; , BP: Business Performance, EP: Environmental Performance, SP: Social Performance

Table 3 shows the results of the path analysis in this study with the following details:

- Green creativity significantly influences environmental performance (t statistics = 12.788,  $p < 0.05$ ), thus H1b is accepted. However, it does not significantly influence business performance (t statistics = 0.306,  $p = 0.760$ ) or social performance (t statistics = 0.306,  $p = 0.760$ ), so H1a and H1c are rejected.
- Green creativity positively influences GSCM (t statistics = 2.547,  $p < 0.05$ ), supporting H2.
- GSCM significantly influences business performance (t statistics = 7.527,  $p < 0.05$ ), environmental performance (t statistics = 2.226,  $p < 0.05$ ), and social performance (t statistics = 7.691,  $p < 0.05$ ), thus H3a, H3b, and H3c are accepted.
- Green creativity positively influences MSMEs independence (t statistics = 11.747,  $p < 0.05$ ), supporting H4.
- MSMEs independence significantly influences business performance (t statistics = 8.823,  $p < 0.05$ ), environmental performance (t statistics = 9.449,  $p < 0.05$ ), and social performance (t statistics = 10.248,  $p < 0.05$ ), thus H5a, H5b, and H5c are accepted.
- MSMEs independence positively influences GSCM (t statistics = 8.266,  $p < 0.05$ ), supporting H6.
- Green creativity significantly influences business performance through GSCM (t statistics = 1.550,  $p < 0.05$ ) and social performance through GSCM (t statistics = 6.783,  $p < 0.05$ ), supporting H7a and H7b. However, it does not influence environmental performance through GSCM (t statistics = 2.278,  $p = 0.122$ ), thus H7b is rejected.
- Green creativity significantly influences business performance through MSMEs independence (t statistics = 6.873,  $p < 0.05$ ), environmental performance through MSMEs independence (t statistics = 7.231,  $p < 0.05$ ), and social performance through MSMEs independence (t statistics = 8.750,  $p < 0.05$ ), thus H8a, H8b, and H8c are accepted.

## 5. DISCUSSION

Considering the growing emphasis on environmental sustainability and the increasing need for business to adapt to eco-friendly practices, this study explores the interplay between green creativity, GSCM, and MSMEs performance. The integration of green creativity into MSMEs operations is increasingly recognized for its significant impact on various performance dimensions. This study found that while green creativity directly enhanced environmental performance (H1b accepted), it did not show significant impact on business or social performance (H1a and H1c rejected). This finding underscores the importance of focusing green creativity efforts on environmental outcomes. This suggests that MSMEs with environmentally-oriented creative strategies are better positioned to improve their environmental performance. This aligns with the growing global emphasis on addressing environmental degradation and demonstrates how green creativity can signal to stakeholders to commit to sustainability (Shibuya et al., 2023; Mishra et al., 2019).

This study also highlights that green creativity significantly influences GSCM (H2 accepted). MSMEs employing green creativity can leverage environmentally friendly raw materials and efficient waste management practices, which not only enhance their environmental credentials, but also improve operational efficiency. This is consistent with the notion that creative, environmentally oriented practices contribute to better supply chain management and overall business performance (Awan et al., 2019; Assumpção et al., 2022; Madi & Bourdima, 2019).

Furthermore, GSCM was found to positively affect all dimensions of business sustainability of the MSMEs, namely business, environmental, and social performance (H3a, H3b, and H3c accepted). This suggests that adopting green supply chain practices can lead to improvements across multiple performance areas. This is due to enhanced environmental efficiencies, reduced waste, and better stakeholder relationships (Dzikriansyah et al., 2023; Gunawan et al., 2020). The shift towards more sustainable practices further reinforces the value of GSCM in achieving robust performance outcomes, supporting the results of previous studies (Siregar & Pinagara, 2022; Geng et al., 2017; Gibril et al., 2022).

The findings of this study also confirm the positive relationship between green creativity and MSMEs' independence (H4 accepted). This suggests that creative, eco-friendly practices can foster greater autonomy. This supports the results obtained by other scholars (Shibuya et al., 2023; Novitasari & Agustia, 2021; Diana, 2021). As MSMEs innovate and respond to green market demands through green creativity (Alraja et al., 2022; Adhitiya & Astuti, 2019), their independence and competitive advantage are strengthened.

This independence, in turn, positively impacts business, environmental, and social performance, and contributes to the adoption of green supply chain practices (H6 accepted). This is because GSCM has the potential to reduce risk and waste, as well as improve performance (Mishra et al., 2019; Assumpção et al., 2022; Shin & Cho, 2022). This interconnection indicates that independence derived from green creativity enables MSMEs to better align with sustainable practices and improve overall performance (Apriyani & Kustini, 2023; Hasbiah, 2023; Salaudeen & Sauri, 2020).

The result of the mediation analysis revealed that green creativity positively influenced business performance through GSCM and MSMEs independence (H7a, H8a accepted), while its impact on environmental performance through GSCM was not significant (H7b rejected). This suggests that while green creativity effectively boosts business performance via GSCM and MSMEs' independence, its direct influence on environmental performance may be more nuanced. Green creativity acts as a component of managerial processes, which will contribute to the development and competitive advantage of a company. Currently, concern for the environment is increasing due to high demand

from customers for environmentally friendly goods. For this reason, creative green ideas are required; thus, GSCM is needed to retain customers (Yang et al., 2023). In addition, as an initiative for eco-friendly practice, GSCM can maintain business sustainability (Huma et al., 2023).

Additionally, this study found that green creativity significantly enhanced environmental and social performance when mediated by MSMEs independence (H8b and H8c accepted). This supports the results of research carried out by Jiang et al. (2021) as well as Ginting and Tampubolon (2021). The findings emphasize the role of independence in translating creative efforts into broader performance gains.

## 6. CONCLUSION

This study highlights green creativity as a crucial driver for improving environmental performance and MSMEs' independence, which in turn positively impacts business, as well as environmental and social outcomes. The findings contribute to the understanding of how green creativity can drive not only environmental performance but also enhance MSMEs' independence, which further amplifies business success and sustainability. The study emphasizes the critical role of integrating green supply chain management (GSCM) practices, demonstrating how these practices reinforce and extend the benefits of green creativity, thus underscoring the need for businesses to embed sustainability into their strategies.

Future research could explore the specific mechanisms through which green creativity affects environmental performance and investigate additional factors that may enhance the effectiveness of green supply chains. This study, using cross-sectional data and purposive sampling from a broad range of creative businesses, offers valuable insights but also has limitations. It does not differentiate between specific types of creative businesses or account for their scale (small, micro, or medium). Subsequent studies should focus more on precise categorization of business sustainability and consider other antecedent variables, such as green transformational leadership, green innovation, green culture, and green work environment. Analyzing the impacts of GSCM and MSMEs' independence on green competitive advantage could also provide further valuable insights, enriching the understanding of how sustainability practices can be leveraged for competitive benefit.

## ACKNOWLEDGEMENT

The authors thank the anonymous reviewers for their helpful comments and suggestions.

## REFERENCES

- [1] Adhitiya, L., & Astuti, R. D. (2019). The Effect of Consumer Value on Attitude Toward Green Product and Green Consumer Behavior in Organic Food. *IPTEK Journal of Proceedings Series*, 0(5), 193. <https://doi.org/10.12962/j23546026.y2019i5.6299>
- [2] Al-Ghazali, B. M., Gelaidan, H. M., Shah, S. H. A., & Amjad, R. (2022). Green transformational leadership and green creativity? The mediating role of green thinking and green organizational identity in SMEs. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.977998>
- [3] Alraja, M. N., Imran, R., Khashab, B. M., & Shah, M. (2022). Technological Innovation, Sustainable Green Practices and SMEs Sustainable Performance in Times

- of Crisis (COVID-19 pandemic). *Information Systems Frontiers*, 24(4), 1081–1105. <https://doi.org/10.1007/s10796-022-10250-z>
- [4] Apriyani, M., & Kustini, K. (2023). The Influence of Entrepreneurial Competence and Entrepreneurial Knowledge on Business Success in Msmes in Madiun City. *Jurnal Syntax Admiration*, 4(6), 699–717. <https://doi.org/10.46799/jsa.v4i6.625>
- [5] Arijanto, R. (2022). The Role of Supply Chain Management on Competitive Advantage and SMEs Operational Performance During Post Pandemic and Digital Era. *Journal of Industrial Engineering & Management Research*, 3(6), 128-137.
- [6] Assumpção, J. J., Campos, L. M. S., Plaza-Úbeda, J. A., Sehnem, S., & Vazquez-Brust, D. A. (2022). Green Supply Chain Management and business innovation. *Journal of Cleaner Production*, 367(July). <https://doi.org/10.1016/j.jclepro.2022.132877>
- [7] Awan, U., Sroufe, R., & Kraslawski, A. (2019). Creativity enables sustainable development: Supplier engagement as a boundary condition for the positive effect on green innovation. *Journal of Cleaner Production*, 226, 172-185. <https://doi.org/10.1016/j.jclepro.2019.03.308>
- [8] Baah, C., Agyabeng-Mensah, Y., Afum, E., & Lascano Armas, J. A. (2024). Exploring corporate environmental ethics and green creativity as antecedents of green competitive advantage, sustainable production, and financial performance: empirical evidence from manufacturing firms. *Benchmarking: An International Journal*, 31(3), 990-1008. <https://doi.org/10.1108/BIJ-06-2022-0352>
- [9] Chen, Y. S., Chang, C. H., & Lin, Y. H. (2014). Green transformational leadership and green performance: The mediation effects of green mindfulness and green self-efficacy. *Sustainability (Switzerland)*, 6(10), 6604–6621. <https://doi.org/10.3390/su6106604>
- [10] Cheok, D., & Singh, S. K. (2018). Identifying Green, Sustainable and Innovative MSMEs in APEC. *APEC Policy Support Unit, Policy Brief*, (19).
- [11] Diana, A. (2021). The Effect of Green Innovation on the Relationship Between Green Supply Chain Management Practices and Environmental Performance. *Journal of Cleaner Production*, 8(2), 952–958.
- [12] Dzikriansyah, M. A., Masudin, I., Zulfikarijah, F., Jihadi, M., & Jatmiko, R. D. (2023). The role of green supply chain management practices on environmental performance: A case of Indonesian small and medium enterprises. *Cleaner Logistics and Supply Chain*, 6, 100100. <https://doi.org/10.1016/j.clscn.2023.100100>
- [13] Fang, W., Wu, T. H., Chang, T. W., & Hung, C. Z. (2021). What could entrepreneurial vision do for sustainable development? Explore the cross-level impact of organizational members' green shared vision on green creativity. *Sustainability (Switzerland)*, 13(10). <https://doi.org/10.3390/su13105364>
- [14] Ferdinand, A. (2014). *Metode Penelitian Manajemen*. BP Universitas Diponegoro. Semarang.
- [15] Galindo, M. Á., Castaño, M. S., & Méndez, M. T. (2020). The relationship between green innovation, social entrepreneurship, and sustainable development. *Sustainability (Switzerland)*, 12(11), 4467.
- [16] Geng, R., Mansouri, S. A., & Aktas, E. (2017). The relationship between green supply chain management and performance: A meta-analysis of empirical evidences in Asian emerging economies. *International Journal of Production Economics*, 183(January), 245–258. <https://doi.org/10.1016/j.ijpe.2016.10.008>
- [17] Gibral, A., Zulfikarijah, F., & Firdaus, K. R. (2022). The Effect of Green Supply Chain Management on Business Performance and Competitiveness in Malang SMEs.

- Jamanika (Jurnal Manajemen Bisnis Dan Kewirausahaan)*, 2(04), 290–300.  
<https://doi.org/10.22219/jamanika.v2i04.22759>
- [18] Ginting, G. R., & Tampubolon, L. (2021). Study on Green Products Innovation of Fashion SME “NP.” *BISNIS & BIROKRASI: Jurnal Ilmu Administrasi dan Organisasi*, 28(1). <https://doi.org/10.20476/jbb.v28i1.1289>
- [19] Gregurec, I., Furjan, M. T., & Tomičić-pupek, K. (2021). The impact of Covid-19 on sustainable business models in SMEs. *Sustainability (Switzerland)*, 13(3), 1–24.  
<https://doi.org/10.3390/su13031098>
- [20] Guckenbiehl, P., & Zubielqui, G. C. de. (2022). Start-ups’ business model changes during the COVID-19 pandemic: Counteracting adversities and pursuing opportunities. *International Small Business Journal: Researching Entrepreneurship*, 40(2). <https://doi.org/10.1177/02662426211055447>
- [21] Gunawan, M., Asyahira, R., & M Sidjabat, F. (2020). Environmental Management System Implementation in MSMEs: A Literature Review. *Jurnal Serambi Engineering*, 5(2), 1070–1078. <https://doi.org/10.32672/jse.v5i2.1958>
- [22] Gurria, A. (2018). Smes are key for more inclusive growth. *OECD Observer*, 2018-April(, 313(3).
- [23] Harini, S., Silaningsih, E., & Putri, M. E. (2022). Pengaruh orientasi pasar, kreativitas dan inovasi produk terhadap kinerja pemasaran UMKM. *Jurnal Inspirasi Bisnis dan Manajemen*, 6(1), 67. <https://doi.org/10.33603/jibm.v6i1.6040>
- [24] Hart, S. L. (1995). The Nature of the Firm. *The Academy of Management Review*, 20(4).
- [25] Hasbiah, S. (2023). The Influence of Entrepreneurial Competence and Personal Independence on Business Success in Micro Businesses in Tamalate Sub-District Makassar City. *Indonesian Journal of Business and Entrepreneurship Research*, 1(2), 107–112.
- [26] Huma, S., Ahmed Siddiqui, D., & Ahmed, W. (2023). Understanding the impact of Green supply chain management practices on operational competitive capabilities. *The TQM Journal*, 35(3), 796-815. <https://doi.org/10.1108/TQM-08-2021-0246>
- [27] Huo, B., Haq, M. Z. U., & Gu, M. (2021). The impact of information sharing on supply chain learning and flexibility performance. *International Journal of Production Research*, 59(5), 1411–1434. <https://doi.org/10.1080/00207543.2020.1824082>
- [28] Jiang, H., Wang, K., Lu, Z., Liu, Y., Wang, Y., & Li, G. (2021). Measuring green creativity for employees in green enterprises: Scale development and validation. *Sustainability (Switzerland)*, 13(1), 1–16. <https://doi.org/10.3390/su13010275>
- [29] Joshi, G., & Dhar, R. L. (2020). Green training in enhancing green creativity via green dynamic capabilities in the Indian handicraft sector: The moderating effect of resource commitment. *Journal of Cleaner Production*, 267, 121948.  
<https://doi.org/10.1016/j.jclepro.2020.121948>
- [30] Kot, S. (2018). Sustainable Supply Chain Management in Small and Medium Enterprises. *Sustainability (Switzerland)*, 10.
- [31] Kozarević, S., & Puška, A. (2018). Use of fuzzy logic for measuring practices and performances of supply chain. *Operations Research Perspectives*, 5(March), 150–160.  
<https://doi.org/10.1016/j.orp.2018.07.001>
- [32] Lee, T. C., Anser, M. K., Nassani, A. A., Haffar, M., Zaman, K., & Abro, M. M. Q. (2021). Managing natural resources through sustainable environmental actions: A cross-sectional study of 138 countries. *Sustainability (Switzerland)*, 13(22), 1–19.  
<https://doi.org/10.3390/su132212475>

- [33] Liu, C. H., Horng, J. S., Chou, S. F., Zhang, S. N., & Lin, J. Y. (2023). Creating competitive advantage through entrepreneurial factors, collaboration and learning. *Management Decision*, 61(7), 1888-1911. <https://doi.org/10.1108/MD-07-2022-0914>.
- [34] Lopez-Torres, G. C. (2023). The impact of SMEs' sustainability on competitiveness. *Measuring Business Excellence*, 27(1), 107-120. <https://doi.org/10.1108/MBE-12-2021-0144>
- [35] Madi, S., & Bourdima, S. (2019). The Role of Creative Thinking on Greening the Supply Chain Management in Algerian Startups. *Economics and Sustainable Development Review*, 3(2), 58–66.
- [36] Maitlo, Q., Wang, X., Jingdong, Y., Lashari, I. A., Faraz, N. A., & Hajaro, N. H. (2022). Exploring Green Creativity: The Effects of Green Transformational Leadership, Green Innovation Climate, and Green Autonomy. *Frontiers in Psychology*, 13(March). <https://doi.org/10.3389/fpsyg.2022.686373>
- [37] Mishra, M. K., Choudhury, D., & Rao, K. V. G. (2019). Impact of SMEs green supply chain practice adoption on SMEs firm and environmental performance. *Theoretical Economics Letters*, 9(6), 1901-1919. <https://doi.org/10.4236/tel.2019.96121>
- [38] Novitasari, M., & Agustia, D. (2021). Green Supply Chain Management and Firm Performance: The Mediating Effect of Green Innovation. *Journal of Industrial Engineering & Management Research*, 14(2), 391–403.
- [39] Ogbeibu, S., Senadjki, A., Emelifeonwu, J., Gaskin, J., & Pereira, V. (2021). Augmenting environmental sustainability through the exchange of green creative ideas—evidence from an emerging economy. *Sustainable Production and Consumption*, 26, 275-287. <https://doi.org/10.1016/j.spc.2020.10.007>
- [40] Ormazabal, M., Prieto-Sandoval, V., Puga-Leal, R., & Jaca, C. (2018). Circular Economy in Spanish SMEs: Challenges and opportunities. *Journal of Cleaner Production*, 185, 157–167. <https://doi.org/10.1016/j.jclepro.2018.03.031>
- [41] Osadolor, V., Agbaeze, E. K., Isichei, E. E., & Olabosinde, S. T. (2021). Entrepreneurial self-efficacy and entrepreneurial intention: The mediating role of the need for independence. *Journal of Entrepreneurship, Management and Innovation*, 17(4), 91-119. <https://doi.org/10.7341/20211744>
- [42] Pratomo, S., Ashar, K., & Satria, D. (2021). Role of Creative Economy on Local Economic Development. *Journal of Indonesian Applied Economics*, 9(2), 27–35. <https://doi.org/10.21776/ub.jiae.2021.009.02.4>
- [43] Richey, R. G., Roath, A. S., Adams, F. G., & Wieland, A. (2022). A Responsiveness View of logistics and supply chain management. *Journal of Business Logistics*, 43(1), 62–91. <https://doi.org/10.1111/jbl.12290>
- [44] Ruangchoengchum, P., & Dechkerd, P. (2024). Measuring Efficiency of Information Flow within Supply Chain: A Case Study on Smoked Rubber Sheet Production in Thailand. *Review of Integrative Business and Economics Research*, 13(4), 18-31.
- [45] Salaudeen, N. H., & Sauri, B. G. K. (2020). Modelling the influence of culture on Entrepreneurial competencies and business success of the women micro entrepreneurs in the informal sector of the economy. *Jurnal Aplikasi Manajemen, Ekonomi Dan Bisnis*, 5(1), 85-100. <https://doi.org/10.51263/jameb.v5i1.118>
- [46] Sauer, P. C., Silva, M. E., & Schleper, M. C. (2022). Supply chains' sustainability trajectories and resilience: a learning perspective in turbulent environments. *International Journal of Operations and Production Management*, 42(8), 1109–1145. <https://doi.org/10.1108/IJOPM-12-2021-0759>

- [47] Setyaningrum, R. P., & Muafi, M. (2022). The effect of creativity and innovative behavior on competitive advantage in womenpreneur. *SA Journal of Human Resource Management*, 20, 9. <https://doi.org/10.4102/sajhrm.v20i0.2069>
- [48] Setyaningrum, R. P., Muafi, M., & Purnamasari, P. (2023). Driving Supply Chain Performance Through Digital HRM: The Mediating Role of Green Orientation and the Moderating Role of Green Innovation. *JIEM (Journal of Industrial Engineering and Management)*, 16(3), 569–586.
- [49] Shibuya, K., Hu, E., Kobayashi, N., & Suzuki, H. (2023). Visualizing the Project of Design for Environment to Improve the Feasibility for Corporate Social Responsibility. *Review of Integrative Business and Economics Research*, Vol. 12(1), 56-70.
- [50] Shin, S., & Cho, M. (2022). Green Supply Chain Management Implemented by Suppliers as Drivers for SMEs Environmental Growth with a Focus on the Restaurant Industry. *Sustainability (Switzerland)*, 14(6). <https://doi.org/10.3390/su14063515>
- [51] Siregar, D. H., & Pinagara, F. A. (2022). Analysis of The Relationship between Practices and Performance of Green Supply Chain Management in Indonesian Micro, Small, and Medium Enterprises (MSMEs). *The South East Asian Journal of Management*, 16(2), 118–138. <https://doi.org/10.21002/seam.v16i2.1169>
- [52] Tjahjadi, B., Soewarno, N., Hariyati, H., Nafidah, L. N., Kustiningsih, N., & Nadyaningrum, V. (2020). The role of green innovation between green market orientation and business performance: its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–18. <https://doi.org/10.3390/joitmc6040173>
- [53] Yang, Y., Chen, J., Lee, P. K. C., & Cheng, T. C. E. (2023). How to enhance the effects of the green supply chain management strategy in the organization: A diffusion process perspective. *Transportation Research Part E: Logistics and Transportation Review*, 175. <https://doi.org/10.1016/j.tre.2023.103148>
- [54] Zameer, H., Wang, Y., & Yasmeen, H. (2020). Reinforcing green competitive advantage through green production, creativity and green brand image: Implications for cleaner production in China. *Journal of Cleaner Production*, 247. <https://doi.org/10.1016/j.jclepro.2019.119119>