

## Integrating Sustainability in Resource-Constrained Environments: A Qualitative Study of Indonesian MSMEs.

Novani Erika Saputri<sup>1</sup>

<sup>1</sup> Institut Agama Islam At-Taqwa Bondowoso

Email: [novanielikasaputri00@gmail.com](mailto:novanielikasaputri00@gmail.com)<sup>1</sup>

DOI:

Received: November 2024

Revised: December 2024

Accepted: January 2025

### Abstract:

Sustainability has become an important issue in business development, including within Micro, Small, and Medium Enterprises (MSMEs) operating in resource-constrained environments. Despite their significant contribution to economic growth and employment, many MSMEs face limitations in financial resources, technology, and access to sustainability-related knowledge. This study aims to explore how MSMEs integrate sustainability practices within resource-constrained environments, focusing on MSMEs in Palembang, Indonesia. Using a qualitative case study approach, data were collected through in-depth interviews, observations, and documentation involving several MSME actors from different business sectors. Data were analyzed using an interactive model consisting of data condensation, data display, and conclusion drawing and verification. The findings reveal that sustainability integration among MSMEs often emerges through adaptive and practical strategies rather than formal sustainability frameworks. MSME actors tend to implement sustainability through efficient use of local resources, waste reduction, reuse of materials, and energy-saving practices in daily business operations. These practices are primarily driven by economic efficiency and business survival rather than regulatory pressure or environmental awareness alone. The study highlights that sustainability in resource-constrained MSMEs develops through contextual and experience-based strategies that align economic needs with environmentally responsible practices. The findings contribute to the literature on sustainable entrepreneurship by providing empirical insights into grassroots sustainability practices among small enterprises in developing economies. Practically, the study suggests that policymakers should design more context-sensitive sustainability programs that support MSMEs through capacity building, access to knowledge, and resource-efficient business practices.

**Keywords:** *isustainability integration, MSMEs, resource-constrained environments, sustainable entrepreneurship*

### Abstrak:

Keberlanjutan telah menjadi isu penting dalam pengembangan bisnis, termasuk di dalam Usaha Mikro, Kecil, dan Menengah (UMKM) yang beroperasi di lingkungan dengan keterbatasan sumber daya. Meskipun memberikan kontribusi signifikan terhadap pertumbuhan ekonomi dan lapangan kerja, banyak UMKM menghadapi keterbatasan sumber daya keuangan, teknologi, dan akses terhadap pengetahuan terkait keberlanjutan. Studi ini bertujuan untuk mengeksplorasi bagaimana UMKM mengintegrasikan praktik keberlanjutan dalam lingkungan dengan keterbatasan sumber daya, dengan fokus pada UMKM di Palembang, Indonesia. Dengan

menggunakan pendekatan studi kasus kualitatif, data dikumpulkan melalui wawancara mendalam, observasi, dan dokumentasi yang melibatkan beberapa pelaku UMKM dari berbagai sektor bisnis. Data dianalisis menggunakan model interaktif yang terdiri dari kondensasi data, tampilan data, dan penarikan kesimpulan serta verifikasi. Temuan menunjukkan bahwa integrasi keberlanjutan di antara UMKM sering muncul melalui strategi adaptif dan praktis daripada kerangka keberlanjutan formal. Pelaku UMKM cenderung menerapkan keberlanjutan melalui penggunaan sumber daya lokal yang efisien, pengurangan limbah, penggunaan kembali material, dan praktik penghematan energi dalam operasi bisnis sehari-hari. Praktik-praktik ini terutama didorong oleh efisiensi ekonomi dan kelangsungan bisnis daripada tekanan regulasi atau kesadaran lingkungan semata. Studi ini menyoroti bahwa keberlanjutan di UMKM yang memiliki keterbatasan sumber daya berkembang melalui strategi berbasis konteks dan pengalaman yang menyelaraskan kebutuhan ekonomi dengan praktik yang bertanggung jawab terhadap lingkungan. Temuan ini berkontribusi pada literatur tentang kewirausahaan berkelanjutan dengan memberikan wawasan empiris tentang praktik keberlanjutan tingkat akar rumput di antara usaha kecil di negara berkembang. Secara praktis, studi ini menyarankan agar para pembuat kebijakan merancang program keberlanjutan yang lebih peka terhadap konteks yang mendukung UMKM melalui peningkatan kapasitas, akses terhadap pengetahuan, dan praktik bisnis yang efisien dalam penggunaan sumber daya.

**Kata Kunci:** *integrasi keberlanjutan, UMKM, lingkungan dengan keterbatasan sumber daya, kewirausahaan berkelanjutan*

## INTRODUCTION

Sustainability has become a crucial issue for modern society as environmental degradation, climate change, and resource scarcity increasingly threaten economic and social stability (Omer., 2008). Businesses are expected not only to generate profit but also to contribute to environmental preservation and social welfare (Athwal, et al., 2019). This expectation is particularly important in developing countries where economic growth often relies heavily on natural resources and small-scale enterprises (Özdil, & Konuralp., 2025). Micro, Small, and Medium Enterprises (MSMEs) play a significant role in national economies, including Indonesia, where they account for the majority of business units and employment opportunities (Williams, & Ponsford, 2009). However, integrating sustainability practices within MSMEs remains challenging, especially in environments with limited resources, technology, and institutional support (Perez-Canto, & Doblaz-Florida., 2026). Evidence from global sustainability discussions indicates that sustainable business practices can enhance resilience, competitiveness, and long-term economic growth (Akenji., 2014). Therefore, understanding how MSMEs adopt and integrate sustainability principles becomes essential for policymakers, researchers, and society (Iacovidou, et al., 2021). Consequently, studying sustainability integration within Indonesian MSMEs is important to support sustainable development and ensure long-term socio-economic stability (Agostini, et al., 2024).

Despite the growing awareness of sustainability, many MSMEs still face substantial barriers in adopting sustainable business practices (Wennberg, et al., 2026). Limited financial resources, lack of technological capability, insufficient knowledge about sustainability, and minimal access to institutional support

often hinder small businesses from implementing environmentally responsible practices (Bertola, & Colombi., 2024). In many developing regions, MSMEs prioritize short-term survival and profitability over long-term sustainability due to intense competition and unstable market conditions (Curwell, & Cooper., 1998). Additionally, regulatory frameworks and sustainability incentives often focus on large corporations, leaving smaller enterprises with limited guidance and support (Handmer, & Dovers., 1996). This situation creates a gap between sustainability expectations and the actual capacity of MSMEs to implement such practices (Tawiah, et al., 2025). As a result, many MSMEs continue operating using conventional production methods that may contribute to environmental degradation and inefficient resource utilization (Vezzoli, et al., 2015). Therefore, understanding the challenges faced by MSMEs in integrating sustainability is essential to develop practical strategies and policies that can support sustainable business practices among small enterprises (Liu., 2003).

In the Indonesian context, particularly in the city of Palembang, MSMEs represent a vital pillar of the local economy. The city hosts numerous small businesses in sectors such as food processing, traditional crafts, retail, and services (Pedersen, et al., 2018). These enterprises provide employment opportunities and contribute significantly to regional economic development (Astorgano., 2023). However, observations in the field reveal that many MSMEs still rely on conventional production systems that often overlook environmental considerations such as waste management, energy efficiency, and sustainable sourcing of raw materials (Aguilar, et al., 2019). For example, some food-based MSMEs generate significant amounts of packaging and organic waste without proper management systems (Payne., 2019). At the same time, business owners frequently operate under limited capital, minimal training opportunities, and restricted access to sustainability-related information (Schübeler, et al., 1996). Despite these limitations, some MSMEs demonstrate adaptive strategies by utilizing local resources efficiently or adopting informal sustainable practices (Munir, & Mohan., 2022). These diverse conditions highlight the need to understand how MSMEs in Palembang interpret and implement sustainability within their resource constraints.

Previous studies have widely explored the relationship between sustainability and small business development (Labadi, et al., 2021). Researchers have found that MSMEs can contribute significantly to sustainable development through responsible resource management, community engagement, and environmentally friendly production processes (Olwoch, et al., 2023). Several studies highlight that sustainability adoption among MSMEs can improve operational efficiency, enhance business reputation, and strengthen long-term competitiveness (Fischer, & Pascucci., 2017). Furthermore, research in developing economies suggests that sustainability practices among MSMEs are often influenced by external factors such as government policies, stakeholder pressure, and access to financial support (Sharma, & Vredenburg., 1998). Some scholars have also emphasized the role of entrepreneurial values and leadership in encouraging sustainable business behavior (Carr, & Gibson., 2016). However, much of the existing literature tends to focus on quantitative analyses or policy-

level discussions rather than deeply exploring the lived experiences and perspectives of MSME actors (Goodland, & Daly., 1996). As a result, there is still limited understanding of how sustainability is interpreted, negotiated, and practiced by small business owners in their everyday business activities (Kumari, et al., 2026).

Moreover, previous research often examines sustainability adoption within relatively resource-rich contexts or within larger firms that possess stronger institutional capacity and financial stability (Ek Styvén, & Mariani., 2020). Studies focusing specifically on MSMEs in resource-constrained environments remain relatively limited, particularly in the Indonesian context (Beta, & Gezahegn., 2025). While some research has discussed sustainability initiatives among Indonesian MSMEs, many of these studies concentrate on technological innovation, green marketing, or policy implementation without thoroughly examining the socio-economic realities faced by small business actors (Woldesenbet, & Gezahegn., 2025). Consequently, there is a lack of qualitative insights that capture how MSME owners perceive sustainability and how they adapt sustainability practices under limited resources (Adi, et al., 2026). This gap becomes even more significant in local contexts such as Palembang, where cultural, economic, and institutional factors may shape sustainability practices differently from other regions (Andayani, et al., 2026). Therefore, further research is needed to explore the lived experiences of MSME actors and to better understand the strategies they use to integrate sustainability in challenging operational environments (Alexandro., 2025).

This study offers a novel contribution by examining sustainability integration among MSMEs operating in resource-constrained environments using a qualitative approach. Unlike many previous studies that emphasize policy analysis or quantitative measurement of sustainability practices, this research focuses on the experiences, perceptions, and adaptive strategies of MSME actors themselves (Riyanti, et al., 2026). By exploring how entrepreneurs interpret sustainability and how they negotiate environmental and economic priorities within limited resources, the study provides deeper contextual insights into sustainable business practices at the grassroots level (Sudirjo, et al., 2025). Furthermore, focusing on MSMEs in Palembang allows this research to capture local socio-economic dynamics that may influence sustainability implementation. The study aims to reveal how informal knowledge, community networks, and local resource management practices shape sustainability adoption among small enterprises. Therefore, the findings of this research are expected to enrich the academic discourse on sustainable entrepreneurship while also offering practical implications for policymakers and development practitioners.

Based on the issues and gaps identified above, this research seeks to answer the following central question: how do MSMEs in Palembang integrate sustainability practices within resource-constrained environments? This study argues that despite facing significant limitations in financial resources, technological capability, and institutional support, MSMEs are still able to develop adaptive and context-specific sustainability practices. These practices

may not always align with formal sustainability frameworks but can still contribute to responsible resource use and local economic resilience. By employing a qualitative research approach, this study aims to capture the perspectives and experiences of MSME actors in navigating sustainability challenges. The findings are expected to provide a more nuanced understanding of sustainability integration within small enterprises and highlight the importance of contextual and grassroots-level strategies. Ultimately, this research contributes to the development of more inclusive sustainability policies that consider the realities faced by MSMEs in developing economies.

## RESEARCH METHOD

This research uses a qualitative approach with a case study design to understand in depth how Micro, Small, and Medium Enterprises (MSMEs) in Palembang City integrate sustainability principles in a business environment with limited resources (Setiawan, et al., 2025). The qualitative approach was chosen because this research aims to explore the experiences, perceptions, and adaptive strategies of MSMEs in implementing sustainability practices in their daily business activities (Kartini, et al., 2025). This approach allows researchers to gain a comprehensive understanding of complex social phenomena that cannot be explained quantitatively (Chong, et al., 2026). The case study design was chosen because this research focuses on a specific phenomenon that occurs in a particular context, namely the practice of sustainability integration in MSMEs in Palembang City. Palembang City was chosen as the research location because it is one of the centers of economic activity in South Sumatra with a large and diverse number of MSMEs, such as culinary, craft, trade, and service sectors (Susanty, et al., 2025). In addition, most MSMEs in this city still operate with limited resources such as capital, technology, and access to information related to sustainable business practices, thus providing a relevant context for examining how sustainability practices are implemented in these conditions (Augustie, et al., 2025).

Data collection techniques in this study were conducted through in-depth interviews, observation, and documentation to obtain comprehensive information (Munaf, & Hanan., 2025). In-depth interviews were conducted with MSMEs as key informants to explore their experiences, understanding, and strategies in implementing sustainable practices in their businesses (Masudin, et al., 2025). The interviews were conducted semi-structured so that researchers could obtain in-depth data while remaining flexible in following developments in the field (Nyamboga., 2026). Furthermore, observations were conducted to directly observe MSMEs' operational activities, including resource use, waste management, and business practices related to sustainability aspects (Wolor, et al., 2025). This technique helped researchers obtain a realistic picture of conditions in the field (Febriani, et al., 2025). Furthermore, documentation was used to collect supporting data such as photographs of production activities, business records, and other documents relevant to the sustainability practices carried out by MSMEs (Theresia, et al., 2025).

The data analysis in this study uses the interactive analysis model from Miles, Huberman, and Saldaña, which includes the stages of data condensation, data reduction, data presentation (data display), and drawing and verifying conclusions. Data condensation was carried out by selecting and focusing the raw data obtained from interviews, observations, and documentation (Mustofa, et al., 2026). Next, data reduction was carried out by grouping information based on certain themes related to the research focus (Ramli, et al., 2026). The reduced data was then presented in a descriptive narrative to facilitate researchers in understanding patterns and relationships between data (Hidayati, et al., 2025). The final stage was drawing and verifying conclusions, which were carried out continuously by comparing various data sources (Abid, et al., 2024). To ensure data validity, this study used several validation techniques such as source triangulation, method triangulation, member checking, peer debriefing, and audit trails, so that the data obtained could be ensured to be valid, consistent, and scientifically accountable (Lee, et al., 2025).

To ensure the validity of research data, researchers use several qualitative data validation techniques as follows:

**Table 1: Data Validity Check**

<b>Data Validity Techniques</b>	<b>Objective</b>	<b>How to Implement</b>
<b>Source Triangulation</b>	Ensuring consistency of information from various sources	Comparing data obtained from MSME actors, observation results, and supporting documents
<b>Triangulation Method</b>	Testing the accuracy of data using various data collection methods	Using interviews, observations, and documentation simultaneously
<b>Member Check</b>	Ensuring the conformity of the researcher's interpretation results with the informant's	The researcher reconfirmed the interview results with the informant.
<b>Peer Debriefing</b>	Reducing researcher subjectivity bias	Discuss research findings with fellow researchers or academics
<b>Audit Trail</b>	Ensuring transparency of the research process	Keep all research records such as interview transcripts, field notes, and data analysis documents.

## FINDINGS AND DISCUSSION

### Findings

In this study, the integration of sustainability in a business environment with limited resources among MSMEs in Palembang City is operationally defined as various adaptive strategies undertaken by business actors to carry out business activities more efficiently, environmentally friendly, and sustainably despite limitations in capital, technology, and access to information. Sustainability practices found in the field are not always in the form of formal policies, but often appear in the form of simple practices such as the use of local raw materials, reduction of production waste, reuse of packaging materials, and energy savings in the production process. For most MSMEs, sustainability practices are not always understood as academic concepts, but as practical

strategies to maintain business continuity. In other words, the integration of sustainability in MSMEs in a resource-limited environment is more influenced by the need for efficiency and adaptation to business conditions than by the pressure of regulations or formal environmental standards.

The following table presents several excerpts from interviews with informants that describe how MSME actors practice sustainability integration in their business activities.

**Table 2: Interview Excerpts**

<b>Interview Excerpt</b>	<b>Indicator</b>	<b>Informant</b>
“We usually use raw materials from local markets to keep costs lower and avoid having to ship from outside the city.”	Utilization of local resources	Informant 1
“We usually reuse the remaining production materials for other products so they are not wasted.”	Reduction of production waste	Informant 2
“We try to use reusable packaging because it is more cost effective.”	Reuse of materials	Informant 3
“We use only the necessary lights and production equipment so that electricity consumption is not too high.”	Energy efficiency	Informant 4
“If there are materials that can still be used again, we save them for the next production.”	Efficient use of raw materials	Informant 5

Based on the data in the table above, it appears that most MSMEs integrate sustainability practices through strategies oriented toward resource efficiency. Utilizing local raw materials is one of the most frequently employed strategies because it not only reduces production costs but also reduces dependence on longer supply chains. This strategy demonstrates that sustainability in MSMEs often emerges as a consequence of efforts to reduce operational costs. In this context, sustainability practices are not always understood as part of a global environmental agenda, but rather as a pragmatic business strategy.

Furthermore, practices such as reusing production materials and reusing packaging demonstrate a practical awareness of waste reduction. Although some MSMEs do not use the term "sustainability," their actions indirectly reflect the principles of a circular economy on a small scale. This indicates that the integration of sustainability in MSMEs in resource-constrained environments is more adaptive and contextual, with businesses adapting their business practices to economic conditions and available resources.

Field observations corroborate these findings. Researchers found that several MSMEs consistently conserve raw materials and reuse production waste. For example, in some culinary businesses, leftover food ingredients that are still usable are reprocessed into other products that still have sales value. Furthermore, researchers observed that most MSMEs use production equipment efficiently by minimizing electricity and fuel consumption. These findings suggest that sustainable practices often emerge spontaneously through business efficiency strategies, rather than through formal policies or structured sustainability programs.

Based on these findings, it is clear that sustainability integration in MSMEs in Palembang City does not always involve complex or high-tech practices. Instead, sustainability practices often emerge as simple strategies focused on efficient resource use, waste reduction, and the utilization of local raw materials. This suggests that sustainability in the MSME context is more practical and oriented toward long-term business continuity.

**Table 3: Ideal Influence on Sustainability Integration in MSMEs**

<b>Informant's Position</b>	<b>Interview Excerpt</b>	<b>Indicators</b>
Culinary MSME Owner	“We try to use locally available materials to keep the business running without incurring large costs.”	Resource efficiency strategies
Craft MSME Owners	“If the remaining materials can still be used, we make other products.”	Reuse of production materials
Retail MSME Manager	“We try to reduce plastic use to save money and create less waste.”	Waste reduction
Traditional Food MSME Owners	“We try to use packaging that can be reused by customers.”	Use of sustainable packaging
MSME Service Manager	“We save electricity and water to reduce operational costs.”	Energy and resource efficiency

Interpretation of the table above shows that sustainability practices in MSMEs are heavily influenced by the role of the business owner as the primary decision-maker in business operations. Business owners have significant influence in determining how resources are used and how efficiency strategies are implemented in daily business activities. This demonstrates that sustainability integration in MSMEs depends not only on external factors such as government policies but is also heavily influenced by the values, awareness, and experience of the business owners themselves.

Furthermore, the data also shows that sustainability practices more often emerge through operational efficiency strategies than through normative environmental motivations. MSMEs tend to adopt sustainability practices because they provide direct economic benefits, such as reduced production costs or increased raw material efficiency. Thus, sustainability in the context of MSMEs in resource-constrained environments is understood more as a strategy to maintain business stability than as a commitment to the global environmental agenda.

The data pattern description shows a consistent relationship between economic efficiency and sustainability practices among MSMEs. Businesses seeking to reduce operational costs also indirectly implement practices aligned with sustainability principles, such as waste reduction, reuse of production materials, and energy efficiency. This pattern suggests that sustainability among MSMEs in resource-constrained environments develops through practical and contextual economic adaptation mechanisms.

## Discussion

The results of this study indicate that sustainability integration in MSMEs in Palembang City tends to emerge through resource-efficient practices, such as the use of local raw materials, waste reduction, material reuse, and energy savings in production processes. This finding aligns with a growing body of literature suggesting that sustainability practices in small businesses often develop through operational efficiency strategies rather than through formal policies or regulatory pressures (Hanifah, et al., 2025). Previous studies have shown that MSMEs in developing countries typically adopt sustainability practices informally in response to resource constraints and the need to maintain business continuity (Nurlatifah, et al., 2025). Therefore, the results of this study reinforce the view that sustainability in MSMEs often stems not from explicit environmental awareness, but from economic needs that drive efficient resource use.

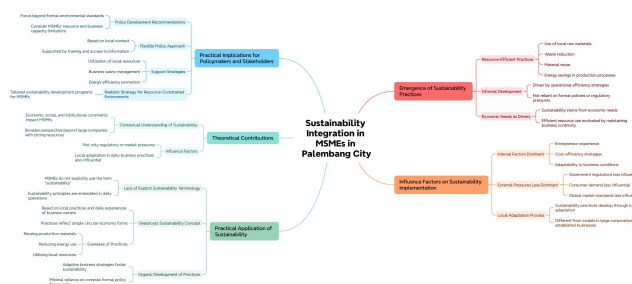


Figure 1 : Sustainability Integration in MSMEs in Palembang City

However, this study also differs from the literature, which emphasizes that sustainability implementation in MSMEs is generally influenced by external pressures such as government regulations, consumer demand, or global market standards (Maryanti, et al., 2026). In the context of MSMEs in Palembang City, these external pressures are relatively less dominant than internal factors such as entrepreneur experience, cost-efficiency strategies, and adaptability to business conditions. This suggests that sustainability practices in resource-constrained environments are more contextual and develop through a process of local adaptation (Vivekanantharasa, et al., 2025). In other words, sustainability in the context of MSMEs does not always follow the model developed in large corporations or more established business environments.

The findings of this study also show that MSMEs often do not use the term "sustainability" explicitly in their business activities, but have practically implemented several sustainability principles in their operations (Bose, & Sengupta., 2025). This indicates a congruence with the literature on the concept of grassroots sustainability, or sustainability based on local practices that develop from the daily experiences of business owners (Tahir, et al., 2025). In this context, practices such as reusing production materials, reducing energy use, and utilizing local resources reflect a simple form of the circular economy at the small business scale (Ngatindriatun, et al., 2026). Thus, this study adds empirical evidence that sustainability practices can develop organically through adaptive business strategies without having to rely on complex formal policy frameworks.

Theoretically, this study contributes to the growing literature on sustainable entrepreneurship and sustainability in small businesses in resource-constrained environments (Fawaid, et al., 2026). It demonstrates that the concept of sustainability in MSMEs needs to be understood more contextually, taking into account the economic, social, and institutional constraints faced by business owners. These findings broaden the theoretical perspective, which has previously focused on sustainability practices in large companies with relatively stronger resources. Thus, this study confirms that sustainability in MSMEs is influenced not only by regulatory factors or market pressures, but also by local adaptation strategies that develop in daily business practices.

Practically, the results of this study provide important implications for policymakers and stakeholders seeking to promote sustainability practices in the MSME sector. Sustainability development programs should not only focus on the implementation of formal environmental standards but also consider the real conditions faced by MSMEs, including resource and business capacity limitations. A more flexible policy approach, based on the local context, supported by training and access to information, can help MSMEs develop sustainability practices more effectively. Furthermore, support for the utilization of local resources, business waste management, and energy efficiency can be a realistic strategy for promoting sustainability in the MSME sector in resource-constrained environments.

## CONCLUSION

This study aims to understand how MSMEs in Palembang City integrate sustainability practices in a resource-constrained business environment. The results indicate that sustainability integration in MSMEs is not always implemented through formal policies or structured sustainability frameworks, but rather develops through adaptive strategies oriented towards efficient use of resources. Practices such as utilizing local raw materials, reducing production waste, reusing materials, and saving energy are concrete examples of sustainability integration in daily business operations. These findings suggest that sustainability practices in MSMEs are driven more by economic needs and efforts to maintain business continuity than by regulatory pressures or global market demands. Thus, sustainability in the context of MSMEs in resource-constrained environments develops contextually through pragmatic business practices based on the experiences of entrepreneurs.

Theoretically, this study contributes to the growing literature on sustainable entrepreneurship by demonstrating that sustainability integration in MSMEs in developing countries can emerge through local efficiency and adaptation strategies. Practically, these findings emphasize the importance of a more contextual policy approach in promoting sustainability practices in the MSME sector. MSME development programs need to consider the resource constraints faced by business actors and provide support in the form of capacity building, access to information, and strengthening efficient resource management practices. This study still has limitations because it focuses on a specific geographic context and uses a contextual, qualitative approach.

Therefore, further research is recommended to examine sustainability practices in MSMEs in other regions or use different methodological approaches to gain a more comprehensive understanding of the dynamics of sustainability in the small business sector.

## REFERENCES

- Abid, N., Ceci, F., & Aftab, J. (2024). Attaining sustainable business performance under resource constraints: Insights from an emerging economy. *Sustainable Development*, 32(3), 2031-2048. <https://doi.org/10.1002/sd.2763>
- Adi, R. K., Rahayu, E. S., Kusnandar, & Marwanti, S. (2026). Determinants of Agribusiness MSME Cluster Performance in Central Java, Indonesia. *Sustainability*, 18(6), 2716. <https://doi.org/10.3390/su18062716>
- Agostini, A., Chastin, C., Gonzalez, L., & Coste-Maniere, I. (2024). "Corporate Social Responsibility in Textiles and Fashion": The Strategic Shift from Circular to Insular Economy. In *Corporate Social Responsibility in Textiles and Fashion* (pp. 223-242). Cham: Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-61099-8\\_11](https://doi.org/10.1007/978-3-031-61099-8_11)
- Aguilar, A., Twardowski, T., & Wohlgemuth, R. (2019). Bioeconomy for sustainable development. *Biotechnology Journal*, 14(8), 1800638. <https://doi.org/10.1002/biot.201800638>
- Omer, A. M. (2008). Green energies and the environment. *Renewable and sustainable energy reviews*, 12(7), 1789-1821. <https://doi.org/10.1016/j.rser.2006.05.009>
- Akenji, L. (2014). Consumer scapegoatism and limits to green consumerism. *Journal of Cleaner Production*, 63, 13-23. <https://doi.org/10.1016/j.jclepro.2013.05.022>
- Alexandro, R. (2025). Strategic human resource management in the digital economy era: an empirical study of challenges and opportunities among MSMEs and startups in Indonesia. *Cogent Business & Management*, 12(1), 2528436. <https://doi.org/10.1080/23311975.2025.2528436>
- Andayani, W., Adib, N., Arif, M. E., Indrayani, Wahyuni, S., Murdianingrum, S. L., & Widiastutik, R. (2026). The adoption of cloud accounting in Indonesian Small and Medium Enterprises (SMEs): exploring drivers, challenges and implications for performance. *Cogent Business & Management*, 13(1), 2603023. <https://doi.org/10.1080/23311975.2025.2603023>
- Astorgano, M. (2023). Sustainability And International Trade In The Fashion Industry: A Cross-Cultural Analysis Of The Sustainable Fashion Practices.
- Athwal, N., Wells, V. K., Carrigan, M., & Henninger, C. E. (2019). Sustainable luxury marketing: A synthesis and research agenda. *International Journal of Management Reviews*, 21(4), 405-426. <https://doi.org/10.1111/ijmr.12195>
- Augustie, C., Bengana, I., Mili, K., & Benmoussa, M. S. (2025). Leveraging network competence and market knowledge for export resilience: A resource-based perspective on Indonesian SMEs in global markets. *International Journal*, 8(2), 2091-2104. <https://doi.org/10.53894/ijriss.v8i2.5638>
- Bertola, P., & Colombi, C. (2024). Sustainable redesign of the global fashion system. *Sustainability: Science, Practice, & Policy*.
- Beta, K. W., & Gezahegn, M. (2025). Entrepreneurial leadership and MSME performance in resource-constrained uncertain contexts: insights from Ethiopia. *Cogent Business & Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2573189>
- Bose, U., & Sengupta, A. (2025). Impact of innovation effort on exports from emerging market firms: limitations arising from complementary resource constraints. *Multinational Business Review*, 33(3), 462-494. <https://doi.org/10.1108/MBR-02-2024-0027>
- Carley, M., Smith, H., & Jenkins, P. (2013). Urban development and civil society: The role of communities in sustainable cities. Routledge. <https://doi.org/10.4324/9781315071725>
- Carr, C., & Gibson, C. (2016). Geographies of making: Rethinking materials and skills for volatile futures. *Progress in human geography*, 40(3), 297-315. <https://doi.org/10.1177/0309132515578775>
- Chong, N., Nguyen, T., Tong, A., & Zainol, Z. (2026). Emerging Technology Adoption in

- Southeast Asia (SEA)'s Micro, Small and Medium Enterprises (MSMEs): A Systematic Review-Based Conceptual Framework. *Emerging Technologies and Business Development in the Tropics*, 3-20. <https://doi.org/10.4324/9781003586043-2>
- Curwell, S., & Cooper, I. (1998). The implications of urban sustainability. *Building Research & Information*, 26(1), 17-28. <https://doi.org/10.1080/096132198370074>
- Ek Styvén, M., & Mariani, M. M. (2020). Understanding the intention to buy secondhand clothing on sharing economy platforms: The influence of sustainability, distance from the consumption system, and economic motivations. *Psychology & Marketing*, 37(5), 724-739. <https://doi.org/10.1002/mar.21334>
- Fawaid, A., Makruf, M., Sayyid, S., Fatmawati, S. W., & Dewi, I. O. (2026). Theoretical model of green entrepreneurship and digital transformation in enhancing the sustainability of batik MSMEs with business innovation as a mediating variable. *Cleaner Production Letters*, 100135. <https://doi.org/10.1016/j.clpl.2026.100135>
- Febriani, A., Sopha, B. M., & Wibisono, M. A. (2025). Dynamic capabilities for omnichannel transformation in MSMEs: A comparative case study of fashion and furniture sectors. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(1), 100498. <https://doi.org/10.1016/j.joitmc.2025.100498>
- Fischer, A., & Pascucci, S. (2017). Institutional incentives in circular economy transition: The case of material use in the Dutch textile industry. *Journal of cleaner production*, 155, 17-32. <https://doi.org/10.1016/j.jclepro.2016.12.038>
- Goodland, R., & Daly, H. (1996). Environmental sustainability: universal and non-negotiable. *Ecological applications*, 6(4), 1002-1017. <https://doi.org/10.2307/2269583>
- Handmer, J. W., & Dovers, S. R. (1996). A typology of resilience: rethinking institutions for sustainable development. *Industrial & Environmental Crisis Quarterly*, 9(4), 482-511. <https://doi.org/10.1177/108602669600900403>
- Hanifah, H., Lee, Y. X., & Abdul, H. (2025). Revitalizing SMEs' performance: unleashing the dynamics of Technology-Organization-Environment factors for M-Commerce adoption. *Journal of Science and Technology Policy Management*. <https://doi.org/10.1108/JSTPM-02-2024-0067>
- Hidayati, H. A., Siti Astuti, E., Kusumawati, A., & Iqbal, M. (2025). The nexus between entrepreneurial and market orientation on digital marketing capabilities and marketing performance of SMEs in emerging markets. *Cogent Business & Management*, 12(1), 2526150. <https://doi.org/10.1080/23311975.2025.2526150>
- Iacovidou, E., Hahladakis, J. N., & Purnell, P. (2021). A systems thinking approach to understanding the challenges of achieving the circular economy. *Environmental Science and Pollution Research*, 28(19), 24785-24806. <https://doi.org/10.1007/s11356-020-11725-9>
- Kartini, T., Silaningsih, E., Sudarjati, S., Suryani, D., & Anwar, S. (2025). Enhancing MSME performance: The strategic role of entrepreneurial orientation, motivation, and organizational commitment. *Journal of the International Council for Small Business*, 1-34. <https://doi.org/10.1080/26437015.2025.2601683>
- Kumari, T., Saini, G., Srivastava, S., & Suresh, A. (2026). The environmental footprints of fast fashion: a survey-based study exploring consumer awareness and attitudes. *International Journal of Environmental Studies*, 1-27. <https://doi.org/10.1080/00207233.2025.2610952>
- Labadi, S., Giliberto, F., Rosetti, I., Shetabi, L., & Yildirim, E. (2021). Heritage and the sustainable development goals: Policy guidance for heritage and development actors. *International Journal of Heritage Studies*.
- Lee, C., Abdullah, T., Hallak, R., & Kallmuenzer, A. (2025). Hospitality on the streets: A mixed-method study of Indonesian street food micro-enterprises. *International journal of hospitality management*, 130, 104236. <https://doi.org/10.1016/j.ijhm.2025.104236>
- Liu, Z. (2003). Sustainable tourism development: A critique. *Journal of sustainable tourism*, 11(6), 459-475. <https://doi.org/10.1080/09669580308667216>
- Maryanti, Mediaty, Arifin, A. H., & Mas' ud, A. A. (2026). Digital Accounting and Financial Performance of MSMEs in Indonesia: The Mediating Role of Digital Innovation. *International Journal of Financial Studies*, 14(3), 66.

- <https://doi.org/10.3390/ijfs14030066>
- Masudin, I., Lestari, I. D., Khoidir, A., & Restuputri, D. P. (2025). Sustainable Procurement Barriers in Indonesian Food Manufacturing SMEs: An ISM-Fuzzy MICMAC Analysis. *Logistics*, 9(4), 175. <https://doi.org/10.3390/logistics9040175>
- Munaf, E. B. A., & Hanan, S. A. (2025). The Role of Research and Development in Enhancing Export Performance: An Empirical Study of Indonesian Furniture SMEs. *PaperASIA*, 41(6b), 28-41. <https://doi.org/10.59953/paperasia.v41i6b.608>
- Munir, S., & Mohan, V. (2022). Consumer perceptions of greenwashing: lessons learned from the fashion sector in the UAE. *Asian Journal of Business Ethics*, 11(1), 1-44. <https://doi.org/10.1007/s13520-021-00140-z>
- Mustofa, M. S., Mulyono, K. B., & Fatimah, N. (2026). Decoding innovation configurations for agribusiness performance: Indonesian evidence. *Cogent Business & Management*, 13(1), 2619666. <https://doi.org/10.1080/23311975.2026.2619666>
- Ngatindriatun, N., Alfarizi, M., Butarbutar, D. J. A., Aini, N., Udin, N., Sriwidadi, T., & Ni'mah, F. (2026). Driving sustainable business performance in Indonesian traditional ethnic fashion: the roles of sustainability-oriented innovation, organisational readiness and firm size. *Research Journal of Textile and Apparel*, 1-30. <https://doi.org/10.1108/RJTA-10-2025-0244>
- Nurlatifah, H., Arsyad, A. T., & Zarkasi, I. R. (2025). Sustainable growth of women-owned MSEs: The intersection of leadership, digital competence, and policy interventions. *Journal of the International Council for Small Business*, 1-22. <https://doi.org/10.1080/26437015.2025.2568917>
- Nyamboga, T. O. (2026). Strategic Decisions and the Entrepreneurial Mindset in Sustaining Agribusiness SMEs in Emerging Economies: Unlocking Pathways to Resilience-A Narrative Review. *F1000Research*, 15, 277. <https://doi.org/10.12688/f1000research.177782.1>
- Olwoch, M. A., Sonnenberg, N. C., Reis, T. L., & Taljaard-Swart, H. (2023). Consumers' sustainable clothing consumption practices: Adopting the principles of voluntary simplicity. In *Consumer awareness and textile sustainability* (pp. 15-31). Cham: Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-43879-0\\_2](https://doi.org/10.1007/978-3-031-43879-0_2)
- Özdil, M. A., & Konuralp, E. (2025). Dressing the future: The bibliometric interplay between sustainability and fashion studies amidst the neoliberal era. *Fashion Practice*, 17(1), 156-191. <https://doi.org/10.1080/17569370.2024.2405485>
- Payne, A. (2019). Fashion futuring in the Anthropocene: Sustainable fashion as "taming" and "rewilding". *Fashion Theory*, 23(1), 5-23. <https://doi.org/10.1080/1362704X.2017.1374097>
- Pedersen, E. R. G., Gwozdz, W., & Hvass, K. K. (2018). Exploring the relationship between business model innovation, corporate sustainability, and organisational values within the fashion industry. *Journal of business ethics*, 149(2), 267-284. <https://doi.org/10.1007/s10551-016-3044-7>
- Perez-Canto, S., & Doblaz-Florido, M. A. (2026). A situational analysis and an action strategy for the circular economy in the textile industry. *Sustainable Development*, 34(1), 785-807. <https://doi.org/10.1002/sd.70290>
- Ramli, A., Tawe, A., Rauf, A., Sahabuddin, R., Sangkala, M., & Dunakhir, S. (2026). Determinants Of Entrepreneurial Performance Of Micro, Small And Medium Enterprises. *Advances in Consumer Research*, 3(1).
- Riyanti, L. S., Dellyana, D., Wahyuni, S., Kartika, K., & Basori, A. (2026). Selective Openness as a Sustainable Strategy: How Culinary MSMEs Organize Collaboration Across the Value Chain in an Emerging Economy. *Sustainability*, 18(5), 2572. <https://doi.org/10.3390/su18052572>
- Schübeler, P., Christen, J., & Wehrle, K. (1996). Conceptual framework for municipal solid waste management in low-income countries (Vol. 9, pp. 9-55). St. Gallen: SKAT (Swiss Center for Development Cooperation).
- Setiawan, B., Pamungkas, B., Mekaniwati, A., & Kusuma, P. M. (2025). The strategic role of digital transformation, dynamic and agile capabilities for the performance of micro, small, and medium enterprises (MSMEs). *The Bottom Line*.

- <https://doi.org/10.1108/BL-08-2024-0120>
- Sharma, S., & Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic management journal*, 19(8), 729-753. [https://doi.org/10.1002/\(SICI\)1097-0266\(199808\)19:8<729::AID-SMJ967>3.0.CO;2-4](https://doi.org/10.1002/(SICI)1097-0266(199808)19:8<729::AID-SMJ967>3.0.CO;2-4)
- Sudirjo, F., Zaini, M., Rahmanto, B. T., & Juminawati, S. (2025). The Influence of Managerial Competence, Innovation, and Market Orientation on the Performance of Micro, Small and Medium Enterprises (MSMEs). *West Science Journal Economic and Entrepreneurship*, 3(02). <https://doi.org/10.58812/wsjee.v3i02.1898>
- Susanty, A., Puspitasari, N. B., Junaidi, S. E., & Wicaksono, H. (2025). Mapping barriers to digital adoption in Batik MSMEs: insights from DEMATEL-ISM integration. *International Journal of Information Technology*, 1-26. <https://doi.org/10.1007/s41870-025-02839-9>
- Tahir, T., Hasan, M., Thamrin Tahir, M. I., Ampa, A. T., To Tadampali, A. C., Suharto, R., & Ahmad, M. I. S. (2025). From Gendered Entrepreneurial Cognition to Sustainable Performance: The Power of Women's Entrepreneurial Capital in Emerging Economies. *Administrative Sciences*, 15(11), 433. <https://doi.org/10.3390/admsci15110433>
- Tawiah, B., Ofori, E. A., Seidu, R. K., & Fei, B. (2025). Lifecycle Assessment: Measuring Sustainability in Textiles and Fashion Production. In *Advances in Textile Materials and Processing Techniques for Sustainability* (pp. 327-376). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-95-0469-5\\_12](https://doi.org/10.1007/978-981-95-0469-5_12)
- Theresia, S., Sihombing, S. O., & Antonio, F. (2025). From effectuation to empowerment: Unveiling the impact of women entrepreneurs on small and medium enterprises' performance-Evidence from Indonesia. *Administrative Sciences*, 15(6), 198. <https://doi.org/10.3390/admsci15060198>
- Vezzoli, C., Ceschin, F., Diehl, J. C., & Kohtala, C. (2015). New design challenges to widely implement 'Sustainable Product-Service Systems'. *Journal of Cleaner Production*, 97, 1-12. <https://doi.org/10.1016/j.jclepro.2015.02.061>
- Vivekanantharasa, R., Nugraheni, K. S., Abdullayev, K., Gul, N., & Setiawan, N. D. (2025). Navigating Change Management in the Green Digital Age: Leveraging AI to Enhance Sustainable Human Resource Performance in Small and Medium Enterprises (SMEs).
- Wennberg, M., Ostberg, J., & Molander, S. (2026). From Entangled Threads to New Weaves: Rethinking Fashion for Sustainability. *Journal of Macromarketing*, 46(1), 52-68. <https://doi.org/10.1177/02761467251408359>
- Williams, P. W., & Ponsford, I. F. (2009). Confronting tourism's environmental paradox: Transitioning for sustainable tourism. *Futures*, 41(6), 396-404. <https://doi.org/10.1016/j.futures.2008.11.019>
- Woldesenbet Beta, K., & Gezahegn, M. (2025). Entrepreneurial leadership and MSME performance in resource-constrained uncertain contexts: insights from Ethiopia. *Cogent Business & Management*, 12(1), 2573189. <https://doi.org/10.1080/23311975.2025.2573189>
- Wolor, C. W., Hadi, S., Herwanto, H. W., Musyaffi, A. M., Hoo, W. C., & Rababah, M. A. (2025). Understanding green work behavior among employees in environmentally conscious culinary micro and small enterprises in Indonesia. *Discover Sustainability*, 6(1), 1458. <https://doi.org/10.1007/s43621-025-02362-8>