

## Implementation of the Sustainable Creative Industry Model Based on the Green Economy of MSME Actors in the Mandiri Rasau Jaya Integrated Industrial Estate

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**Abstract.** This study aims to describe the level of understanding and implementation of sustainable development, identify the challenges faced, analyze the role of the government and stakeholders, and formulate strategies that can be applied to increase the adoption of sustainable development in creative industry MSMEs in the Mandiri Rasau Jaya Integrated Industrial Estate, Kubu Raya Regency. The research approach used is descriptive quantitative with a survey method. The population of this study is all creative industry MSMEs in the region with as many as 60 business units, as well as used as a research sample with saturated sampling techniques. Primary data was obtained through questionnaires based on the Likert scale, observations, and interviews, while secondary data was obtained from documents from related agencies and academic literature. The results of the study show that the level of understanding of MSME actors towards sustainability is relatively high, with the majority of respondents agreeing that businesses must pay attention to environmental sustainability aspects. The application of sustainable management has begun to be seen in the use of environmentally friendly materials, waste management, energy efficiency, and product innovation, although it is not completely consistent. The main challenges faced include limited financial resources, technical skills, the use of digital marketing, and the availability of supporting infrastructure. This study also found that the role of the government and stakeholders is quite significant through the provision of facilities, training programs, and policy support, although MSME actors still hope for sustainable assistance and more concrete incentives. Strategies that can be applied to increase the adoption of sustainable entrepreneurship include increasing knowledge capacity, continuous training, strengthening cooperation networks, providing access to green capital, optimizing digital marketing, and consumer awareness campaigns for environmentally friendly products. Overall, this study concludes that creative industry MSMEs in Rasau Jaya already have a good understanding of sustainability, but still need stronger ecosystem support so that their implementation can run optimally. The results of this research are expected to be input for the government, stakeholders, and business actors in formulating policies and strategies for the development of MSMEs based on the green economy to strengthen competitiveness and business sustainability.

**Keywords:** Sustainopreneurship; UMKM; Industri Kreatif; Green Economy; Rasau Jaya

### INTRODUCTION

The global discourse on sustainable development has increasingly emphasized the role of the green economy as a strategic framework for balancing economic growth, environmental protection, and social inclusion (UNEP, 2011). Within this framework, creative industries are viewed as a dynamic sector capable of generating value added while simultaneously promoting cultural identity and ecological responsibility (UNESCO, 2013). Micro, small, and medium enterprises (MSMEs) constitute the backbone of creative industries in many developing countries, including Indonesia, due to their flexibility, labor

absorption capacity, and local embeddedness (OECD, 2017). However, MSMEs often face structural constraints such as limited access to green technology, weak managerial capacity, and fragmented institutional support (World Bank, 2020). These constraints hinder the effective implementation of sustainability-oriented business models, particularly in semi-rural and integrated industrial estate contexts (Porter & Kramer, 2019). As a result, the promise of the green economy within MSME-driven creative industries remains unevenly realized across regions (Schaltegger et al., 2016). This condition underscores the need for context-specific models that translate green economy principles into actionable practices for MSME actors.

The concept of the green economy emphasizes low-carbon development, resource efficiency, and social equity as core pillars of sustainable growth (UNEP, 2011). Prior studies suggest that green economy adoption at the MSME level can enhance competitiveness through cost savings, innovation, and improved market reputation (Porter & van der Linde, 1995). In the creative industry sector, sustainability is not only linked to environmental performance but also to the preservation of local knowledge, cultural assets, and community-based value chains (Howkins, 2013). Nevertheless, much of the existing literature focuses on macro-level policies or large enterprises, leaving MSME-specific operationalization relatively underexplored (Revell et al., 2010). This gap is particularly evident in integrated industrial estates, where collective infrastructure exists but coordination mechanisms remain weak (Liu et al., 2018). Without a clear implementation model, MSME actors struggle to align creative production processes with green economy standards (Bocken et al., 2014). Consequently, there is a pressing need to bridge conceptual frameworks with localized implementation strategies.

Sustainable creative industry models have evolved from traditional linear production systems toward more circular and collaborative approaches (Geissdoerfer et al., 2017). Circular economy principles, such as waste minimization and resource reuse, are increasingly integrated into creative production to reduce environmental externalities (Ellen MacArthur Foundation, 2015). Empirical evidence indicates that MSMEs adopting circular practices can improve operational efficiency while strengthening community engagement (Ghisellini et al., 2016). However, the transition toward circularity requires not only technological adjustments but also behavioral and institutional change among MSME actors (Kirchherr et al., 2018). In many cases, MSMEs lack the absorptive capacity to internalize sustainability knowledge without external facilitation (Cohen & Levinthal, 1990). This limitation is exacerbated in developing regions where access to training and financial incentives is limited (Asian Development Bank, 2020). Therefore, sustainable creative industry models must be designed with consideration for MSME learning processes and local institutional ecosystems.

Integrated industrial estates are often promoted as policy instruments to enhance industrial efficiency, environmental management, and regional development (UNIDO, 2019). By clustering enterprises within a shared infrastructure, these estates are expected to facilitate economies of scale and collective environmental management (Chertow, 2007). In theory, such settings are conducive to the implementation of green economy practices, including shared waste treatment and renewable energy systems (Boons et al., 2017). In practice, however, MSME participation in integrated estates does not automatically translate into sustainable behavior (Ashton, 2008). Power asymmetries, information gaps, and weak governance structures frequently limit collaborative outcomes (Gibbs & Deutz, 2007). These challenges highlight the importance of governance and capacity-building

mechanisms within integrated industrial estates. Accordingly, examining MSME-based creative industries in such contexts provides a critical lens for assessing the effectiveness of green economy implementation.

In Indonesia, MSMEs account for more than 90 percent of business entities and play a central role in employment and income generation (Ministry of Cooperatives and SMEs, 2021). The creative economy has been identified as a strategic sector due to its contribution to GDP and its alignment with local cultural resources (BEKRAF, 2019). Government initiatives increasingly emphasize sustainability, green growth, and inclusive development as national priorities (Bappenas, 2020). Despite these policy commitments, the translation of green economy principles into MSME practices remains fragmented and uneven (Siregar & Harahap, 2021). Many MSME actors perceive sustainability as a regulatory burden rather than a strategic opportunity (Revell & Blackburn, 2007). This perception limits voluntary adoption of green practices, particularly in resource-constrained environments. Consequently, empirical studies at the local level are required to understand implementation dynamics and barriers.

The Mandiri Rasau Jaya Integrated Industrial Estate represents a localized attempt to foster MSME development through spatial integration and institutional support. The estate hosts a range of creative industry MSMEs, including food processing, crafts, and design-based enterprises that rely on local resources and cultural identity. Such characteristics make the estate a relevant setting for examining sustainability-oriented creative industry models (UNESCO, 2013). However, the extent to which green economy principles are embedded in daily production, supply chains, and business decision-making remains unclear (Linnenluecke & Griffiths, 2010). Existing studies rarely address how MSME actors interpret and operationalize sustainability within integrated estates (Johnson & Schaltegger, 2016). This lack of empirical insight constrains evidence-based policy formulation at the regional level. Therefore, focusing on this industrial estate contributes to filling an important contextual research gap.

Previous research on green MSMEs largely concentrates on environmental management systems, eco-efficiency, and compliance-driven behavior (Del Brío & Junquera, 2003). While these studies provide valuable insights, they often overlook the creative dimension of MSMEs, which involves intangible assets, innovation, and cultural value creation (Florida, 2002). Creative industries operate under different logics compared to manufacturing-intensive sectors, particularly in terms of value generation and stakeholder engagement (Howkins, 2013). As a result, sustainability frameworks derived from conventional industries may not be directly applicable (Bocken et al., 2014). There is limited consensus on how green economy principles should be adapted to creative MSME contexts (De Marchi & Grandinetti, 2013). This conceptual mismatch represents a key limitation of prior research. Addressing this limitation requires integrating creative industry perspectives with sustainability and green economy theory.

From a methodological perspective, many studies rely on macro indicators or survey-based assessments that fail to capture process-level implementation (Seuring & Müller, 2008). Such approaches provide limited insight into how sustainability practices are embedded in everyday business operations. Qualitative and context-sensitive analyses are needed to understand behavioral change, learning processes, and institutional interactions (Yin, 2018). In integrated industrial estates, these dynamics are shaped by both formal regulations and informal social networks (Granovetter, 1985). Ignoring these factors risks oversimplifying sustainability adoption mechanisms. Therefore, a more nuanced analytical

framework is required to examine MSME behavior within green economy initiatives. This study responds to this methodological gap by emphasizing implementation processes rather than outcomes alone.

Theoretical developments in sustainable business models highlight the importance of value creation, value delivery, and value capture for multiple stakeholders (Boons & Lüdeke-Freund, 2013). In the context of creative MSMEs, value creation extends beyond financial returns to include cultural preservation and social cohesion (UNESCO, 2013). Green economy-based models further expand this perspective by incorporating environmental value as a core component (Schaltegger et al., 2016). However, integrating these dimensions into a coherent operational model remains challenging for MSME actors (Bocken et al., 2014). Existing frameworks often lack practical guidance for small-scale enterprises with limited resources (Johnson & Schaltegger, 2016). This limitation underscores the need for simplified and context-adapted implementation models. Such models should translate abstract sustainability principles into feasible managerial and production practices.

Institutional support plays a critical role in enabling MSME sustainability transitions (North, 1990). Policies, incentives, and intermediary organizations can reduce adoption costs and enhance learning opportunities (Mazzucato, 2018). In integrated industrial estates, estate management bodies are expected to function as facilitators of collective sustainability initiatives (UNIDO, 2019). However, empirical evidence suggests that institutional coordination is often weak, particularly in decentralized governance contexts (Gibbs & Deutz, 2007). MSME actors may therefore rely more on peer learning and informal networks than formal programs (Granovetter, 1985). Understanding these dynamics is essential for designing effective green economy interventions. This study considers institutional and social dimensions as integral components of the implementation model.

From a policy perspective, the alignment between national green economy strategies and local MSME realities remains a persistent challenge (Bappenas, 2020). Top-down policy instruments may fail to account for local resource constraints and cultural specificities (Ostrom, 2010). In creative industries, local identity and community norms strongly influence business practices (Howkins, 2013). Therefore, sustainability models must be sensitive to place-based characteristics and stakeholder values (Porter & Kramer, 2019). Neglecting these aspects risks policy ineffectiveness and low adoption rates. Empirical studies grounded in specific localities are thus crucial for refining policy design. The Mandiri Rasau Jaya context offers an opportunity to generate such place-based insights.

Despite growing interest in the green economy and creative industries, empirical integration of these domains at the MSME level remains limited (De Marchi & Grandinetti, 2013). Most studies treat sustainability, creativity, and MSME development as separate analytical domains. This fragmentation constrains holistic understanding of how creative MSMEs can simultaneously pursue economic, environmental, and social objectives (Bocken et al., 2014). A more integrated analytical approach is required to capture these interdependencies. Such an approach can enhance theoretical coherence and practical relevance. This study adopts an integrative perspective by positioning the green economy as a foundational logic for sustainable creative industry development. In doing so, it contributes to bridging previously disconnected research streams.

The scientific novelty of this study lies in its focus on implementation rather than conceptual advocacy of sustainability. By examining how MSME actors operationalize green

economy principles within an integrated industrial estate, the study advances empirical understanding of sustainability transitions at the micro level (Geissdoerfer et al., 2017). It also extends sustainable business model literature by incorporating creative industry characteristics and local institutional dynamics (Boons & Lüdeke-Freund, 2013). Furthermore, the study provides context-specific insights from Indonesia, a setting underrepresented in global sustainability research (Siregar & Harahap, 2021). These contributions address both theoretical and empirical gaps identified in prior studies. As such, the research offers added value for scholars, practitioners, and policymakers. The findings are expected to inform more effective and inclusive green economy strategies for MSME-driven creative industries.

Based on the foregoing discussion, it is evident that existing research has not sufficiently addressed how green economy-based creative industry models are implemented by MSMEs within integrated industrial estates. Limitations persist in terms of contextual adaptation, institutional coordination, and operational guidance. Addressing these limitations requires empirical investigation grounded in specific local settings. Therefore, this study seeks to move beyond normative prescriptions toward evidence-based understanding of implementation processes. By doing so, it responds directly to gaps identified in the literature. The Mandiri Rasau Jaya Integrated Industrial Estate serves as a relevant empirical case for this purpose. The study thus contributes to advancing sustainability research with practical relevance.

Accordingly, the objective of this study is to analyze the implementation of a sustainable creative industry model based on the green economy among MSME actors in the Mandiri Rasau Jaya Integrated Industrial Estate. Specifically, the study aims to examine how green economy principles are interpreted, adopted, and operationalized in creative MSME activities. It also seeks to identify enabling and constraining factors influencing implementation at the enterprise and institutional levels. By focusing on implementation dynamics, the study aspires to generate actionable insights for improving sustainability-oriented MSME development. The results are expected to inform the design of more effective local and regional policy interventions. Moreover, the study aims to enrich theoretical discourse on sustainable business models in creative industries. Ultimately, this research contributes to promoting inclusive and environmentally responsible economic development through MSME empowerment.

## **METHOD**

This study employed a qualitative-dominant mixed-methods design to comprehensively examine the implementation of a sustainable creative industry model based on the green economy among MSME actors. The rationale for adopting this approach lies in the complex and context-specific nature of sustainability implementation, which cannot be fully captured through quantitative indicators alone (Creswell & Plano Clark, 2018). Qualitative methods enable in-depth exploration of perceptions, behaviors, and decision-making processes of MSME actors within their real-life settings (Yin, 2018). At the same time, limited quantitative data were incorporated to support triangulation and enhance analytical robustness (Tashakkori & Teddlie, 2010). This design aligns with sustainability research that emphasizes process understanding rather than outcome measurement alone (Seuring & Müller, 2008). The mixed-methods approach thus strengthens both internal validity and explanatory power. Overall, this methodological choice allows for a nuanced understanding of green economy implementation dynamics.

The research was conducted at the Mandiri Rasau Jaya Integrated Industrial Estate, selected through purposive sampling based on its relevance to the research objectives. This site represents an integrated industrial estate hosting diverse creative MSMEs and supported by local institutional arrangements. Case study methodology was adopted as it is particularly suitable for investigating contemporary phenomena within their real-world context (Yin, 2018). The case study approach allows the researcher to retain the holistic and meaningful characteristics of organizational and institutional processes. Prior studies on sustainability transitions have emphasized the value of case-based inquiry for theory building and contextual insight (Eisenhardt, 1989). The selection of a single, information-rich case supports analytical depth rather than statistical generalization (Flyvbjerg, 2006). Therefore, this case study provides a rigorous basis for understanding localized implementation of green economy principles.

The primary unit of analysis in this study was MSME actors operating within the creative industry sector of the industrial estate. MSMEs were defined according to national criteria related to asset ownership and employment size, ensuring consistency with policy frameworks (Ministry of Cooperatives and SMEs, 2021). Informants included MSME owners or managers directly involved in production and strategic decision-making. Additional informants comprised estate management representatives and local institutional stakeholders to capture governance perspectives. This multi-actor approach reflects recommendations in sustainability research to incorporate diverse stakeholder viewpoints (Freeman, 1984). Such inclusion enhances construct validity by capturing multiple dimensions of the implementation process. It also mitigates single-source bias commonly found in MSME studies.

Data collection relied on semi-structured interviews as the primary technique due to their flexibility and depth. Semi-structured interviews allow researchers to explore predefined themes while remaining open to emergent insights (Kvale & Brinkmann, 2009). Interview guides were developed based on green economy principles, sustainable business model frameworks, and creative industry characteristics identified in prior literature (Bocken et al., 2014; UNEP, 2011). Interviews were conducted face-to-face to facilitate rapport and contextual understanding. Each interview lasted between 45 and 90 minutes, allowing sufficient time for elaboration and clarification. With participant consent, interviews were audio-recorded to ensure data accuracy. This procedure supports reliability by enabling systematic transcription and analysis.

In addition to interviews, non-participant observation was employed to complement self-reported data. Observations focused on production processes, resource use, waste management practices, and workspace organization. This technique is valuable for identifying discrepancies between stated practices and actual behavior (Spradley, 1980). Observational data enhance methodological triangulation and strengthen internal validity (Denzin, 1978). Field notes were systematically recorded using an observation protocol aligned with green economy indicators. These observations provided contextual richness and helped interpret interview findings. As such, observation served as a critical cross-validation mechanism. It also reduced the risk of social desirability bias among informants.

Document analysis constituted the third data collection method used in this study. Relevant documents included estate regulations, MSME business records, training materials, and policy guidelines related to sustainability and MSME development. Document analysis enables researchers to examine formal structures and stated intentions

underlying observed practices (Bowen, 2009). These documents provided historical and institutional context that interviews alone could not capture. The inclusion of documentary evidence supports data triangulation and enhances credibility (Yin, 2018). Documents were selected based on relevance, authenticity, and completeness. This systematic approach ensures transparency and replicability of the research process.

To ensure data validity, triangulation across interviews, observations, and documents was systematically applied. Methodological triangulation reduces the likelihood of biased or incomplete interpretations (Denzin, 1978). Data from different sources were compared to identify convergent and divergent patterns. This process strengthens construct validity by confirming findings through multiple lenses (Creswell, 2014). Investigator bias was minimized through reflexive note-taking and iterative data review. Where inconsistencies emerged, follow-up clarification was sought from informants. Such procedures enhance the trustworthiness of qualitative findings.

Data analysis followed a thematic analysis approach, which is widely used in qualitative sustainability research. Thematic analysis allows for systematic identification, organization, and interpretation of patterns within qualitative data (Braun & Clarke, 2006). Transcribed interviews and field notes were coded using a combination of deductive and inductive strategies. Deductive codes were derived from green economy and sustainable business model literature, while inductive codes emerged from the data. This hybrid approach balances theoretical grounding with empirical openness (Fereday & Muir-Cochrane, 2006). Coding was conducted iteratively to refine themes and sub-themes. This analytical rigor supports analytical validity and depth.

The analysis process involved several stages, including familiarization, initial coding, theme development, and interpretation. During familiarization, researchers repeatedly reviewed transcripts to gain holistic understanding. Initial coding involved labeling meaningful text segments related to sustainability practices and challenges. Codes were then grouped into higher-order themes reflecting implementation mechanisms and contextual factors. This structured process enhances transparency and auditability of qualitative analysis (Miles et al., 2014). Themes were continuously compared against raw data to ensure grounding in empirical evidence. Such iterative verification enhances reliability and analytical consistency.

To enhance reliability, a clear audit trail was maintained throughout the research process. All methodological decisions, coding frameworks, and analytical memos were systematically documented. Maintaining an audit trail allows external reviewers to assess the consistency and logic of the research process (Lincoln & Guba, 1985). Peer debriefing with fellow researchers was conducted to challenge interpretations and reduce subjective bias. This practice strengthens dependability and confirmability of findings. Any disagreements in interpretation were resolved through discussion and reference to data. These measures collectively enhance methodological rigor.

Ethical considerations were integral to the research design and implementation. Informed consent was obtained from all participants prior to data collection. Participants were informed about the research objectives, procedures, and their right to withdraw at any time. Confidentiality was ensured by anonymizing participant identities and sensitive business information. Ethical compliance is particularly important in MSME research, where information disclosure may affect competitive positioning (Orb et al., 2001). Data was securely stored and accessed only by the research team. These ethical safeguards contribute to research integrity and participant trust.

The study acknowledges limitations inherent in qualitative case study research. Findings are context-specific and not intended for statistical generalization. However, analytical generalization is possible by linking empirical findings to established theory (Yin, 2018). The focus on a single industrial estate may limit cross-context comparison. Nevertheless, depth and contextual richness were prioritized to address identified research gaps. Transparency in method and analysis allows readers to assess transferability. Thus, limitations are managed through methodological rigor rather than avoided.

The rationale for focusing on MSME actors lies in their central role in operationalizing sustainability at the grassroots level. Large-scale sustainability policies ultimately depend on micro-level adoption and practice (Schaltegger et al., 2016). Understanding MSME perspectives provides insight into practical barriers and enablers of green economy implementation. This bottom-up perspective complements macro-level policy analysis found in prior research. It also aligns with calls for inclusive and participatory sustainability research (Ostrom, 2010). Therefore, MSME-centered methodology is both theoretically and practically justified. It strengthens the relevance of the study's findings.

Finally, the chosen methodological framework aligns with the study's objective of analyzing implementation rather than measuring performance outcomes. Implementation-focused research requires sensitivity to context, process, and actor interpretation (Pressman & Wildavsky, 1984). Quantitative metrics alone would not capture these dimensions adequately. By combining interviews, observation, and document analysis, the study captures both formal and informal aspects of implementation. This comprehensive approach enhances explanatory depth and credibility. It allows readers to critically evaluate validity and reliability based on transparent procedures. Consequently, the methodology provides a solid foundation for addressing the research objectives.

## **RESULTS AND DISCUSSION**

This study reveals that the implementation of a sustainable creative industry model based on the green economy among MSME actors in the Mandiri Rasau Jaya Integrated Industrial Estate is partial, adaptive, and strongly shaped by local context. Overall, MSME actors demonstrate an emerging awareness of environmental responsibility, primarily framed through efficiency-oriented practices such as waste reduction, energy saving, and input optimization. These findings directly address the research objective of understanding how green economy principles are interpreted and operationalized at the MSME level. Rather than adopting formal sustainability frameworks, MSMEs tend to internalize green practices pragmatically, aligning them with short-term economic benefits. This implementation pattern contrasts with dominant models in prior literature that emphasize structured environmental management systems and formal certification (Del Brío & Junquera, 2003). The results indicate that sustainability adoption among creative MSMEs is incremental rather than transformative. This suggests that green economy implementation at the micro level follows a logic of feasibility rather than compliance.

The first major finding concerns MSME actors' interpretation of the green economy concept. Most respondents associated the green economy with cost efficiency and resource savings rather than broader ecological or social objectives. Environmentally friendly practices were justified primarily in terms of reducing production costs and maintaining business continuity. This finding diverges from normative green economy frameworks that emphasize systemic low-carbon transitions and social equity as equal pillars (UNEP, 2011). In contrast to studies on large firms that report reputational and strategic motivations

(Porter & Kramer, 2019), MSMEs in this study displayed a survival-oriented rationale. This difference highlights a scale-dependent interpretation of sustainability, where micro-level actors prioritize immediate operational concerns. From a theoretical perspective, this supports the argument that sustainability meanings are socially constructed and context-bound (Linnenluecke & Griffiths, 2010). Thus, green economy implementation among MSMEs cannot be assumed to mirror corporate-level models.

A second key finding relates to production practices within the creative industry MSMEs. Several enterprises had adopted informal circular practices, such as reusing production waste, substituting raw materials with locally sourced inputs, and minimizing packaging. These practices align with circular economy principles, although they were not explicitly labeled as such by the actors themselves. Prior studies often describe circular economy adoption as requiring deliberate strategic planning and technological innovation (Geissdoerfer et al., 2017). In contrast, this study finds that circularity emerges organically from resource constraints and local knowledge. This bottom-up pathway differs from the planned transition models commonly discussed in the literature (Kirchherr et al., 2018). The finding suggests that creative MSMEs may already contribute to sustainability outcomes without formal recognition. Scientifically, this challenges the assumption that circular economy implementation must be driven by explicit policy or managerial intent.

The role of the integrated industrial estate emerged as a critical enabling yet underutilized factor. Shared infrastructure, such as common production spaces and access roads, indirectly supported efficiency and reduced individual investment burdens. However, collective environmental management systems, such as shared waste processing or renewable energy facilities, were largely absent. This finding contrasts with industrial symbiosis literature, which emphasizes the potential of industrial estates to foster resource sharing and collective sustainability initiatives (Chertow, 2007). The discrepancy can be explained by weak coordination mechanisms and limited managerial capacity at the estate level. From an institutional theory perspective, the absence of strong governance structures constrains collective action (North, 1990). Thus, while spatial integration exists, functional integration for sustainability remains limited. This gap explains why the industrial estate has not fully realized its green economy potential.

Institutional support was found to be fragmented and reactive rather than strategic. Training and assistance programs related to sustainability were sporadic and largely focused on compliance or administrative requirements. MSME actors relied more heavily on peer learning and informal networks to acquire knowledge about environmentally friendly practices. This finding is partially consistent with prior research highlighting the importance of social networks in MSME learning processes (Granovetter, 1985). However, unlike studies that emphasize formal intermediary organizations as key facilitators (Johnson & Schaltegger, 2016), this study shows that informal mechanisms dominate in the absence of strong institutional intervention. This difference underscores the contextual variability of sustainability support systems. It also suggests that policy instruments alone are insufficient without localized facilitation mechanisms. Scientifically, this finding reinforces calls for place-based sustainability governance.

Another important result concerns the creative dimension of MSMEs, which significantly shapes sustainability implementation. Creative MSMEs leverage cultural identity, craftsmanship, and local narratives as part of their value proposition. Environmental practices were often justified as preserving product authenticity and local reputation rather than meeting external sustainability standards. This finding aligns with

creative economy literature that emphasizes symbolic and cultural value creation (Howkins, 2013). However, it extends prior research by showing how cultural logic can also support environmental responsibility. Unlike manufacturing-focused sustainability models that prioritize efficiency metrics, creative MSMEs integrate sustainability into storytelling and brand identity. This hybrid logic represents a distinct pathway toward sustainable business models. Theoretically, it supports multi-value creation frameworks in sustainable business model literature (Boons & Lüdeke-Freund, 2013).

Despite these positive practices, significant barriers to deeper green economy implementation were identified. Financial constraints, limited access to green technology, and uncertainty about market demand for sustainable products restricted further adoption. These barriers are consistent with previous MSME sustainability studies (Revell et al., 2010), indicating that resource limitations remain a persistent challenge. However, this study adds nuance by showing that even low-cost green practices face adoption limits when institutional support is weak. Unlike studies in more developed contexts where subsidies and incentives play a major role (Mazzucato, 2018), such mechanisms were largely absent in this case. This difference highlights structural inequalities in sustainability transitions between regions. From a policy perspective, it suggests the need for targeted financial and technical support tailored to MSME realities.

In relation to the study's objective, the findings demonstrate that green economy-based creative industry models are implemented through adaptive and informal mechanisms rather than formalized systems. This directly answers the research question regarding how MSME actors operationalize sustainability principles. The results indicate that implementation is shaped more by local constraints and opportunities than by abstract policy frameworks. Compared to prior publications that emphasize standardized sustainability models (Schaltegger et al., 2016), this study reveals a more fluid and negotiated process. This difference underscores the importance of implementation-focused research rather than prescriptive modeling. Scientifically, it contributes empirical evidence supporting the argument that sustainability transitions are non-linear and context-dependent. It also reinforces the value of qualitative inquiry in uncovering these dynamics.

From a theoretical standpoint, the findings can be interpreted through the lens of sustainable business model theory. MSMEs in this study engage in partial value reconfiguration by integrating environmental considerations into existing value creation and delivery mechanisms. However, value capture remains predominantly economic, with limited monetization of environmental or social value. This pattern contrasts with ideal-type sustainable business models that emphasize balanced multi-dimensional value capture (Bocken et al., 2014). The discrepancy can be explained by scale, resource constraints, and market structure. Theoretically, this suggests that sustainable business model frameworks may require adaptation when applied to MSMEs in developing contexts. This study therefore contributes to refining theory by highlighting boundary conditions of existing models.

The discussion also reveals implications for the green economy discourse more broadly. While macro-level narratives emphasize systemic transformation, the micro-level reality observed here is characterized by incremental change. This does not imply failure but rather reflects an alternative transition pathway driven by pragmatism and local knowledge. Such findings are consistent with evolutionary perspectives on sustainability transitions (Geels, 2002). However, they differ from linear policy-driven transition models

commonly cited in green economy literature. This divergence suggests that policy expectations may overestimate the speed and uniformity of adoption at the MSME level. Recognizing incremental pathways can lead to more realistic and inclusive sustainability strategies. Scientifically, this contributes to bridging macro–micro gaps in sustainability research.

Overall, the combined results and discussion demonstrate that the sustainable creative industry model based on the green economy in the Mandiri Rasau Jaya Integrated Industrial Estate is characterized by contextual adaptation, informal practices, and partial integration. The findings advance existing literature by providing empirical evidence from an underrepresented setting and by highlighting differences from dominant sustainability models. Rather than replicating prior frameworks, MSME actors reinterpret sustainability through economic pragmatism and cultural logic. This study thus offers a nuanced understanding of green economy implementation at the grassroots level. The significance of these results lies in their implications for theory, policy, and practice. They suggest that effective green economy strategies must be flexible, context-sensitive, and supportive of MSME capabilities rather than prescriptive and uniform.

## CONCLUSION

This study set out to analyze the implementation of a sustainable creative industry model based on the green economy among MSME actors in the Mandiri Rasau Jaya Integrated Industrial Estate. The findings demonstrate that green economy principles are operationalized through adaptive, informal, and incremental practices rather than through formalized sustainability systems. MSME actors primarily interpret sustainability in pragmatic economic terms, embedding environmental considerations into existing production and value-creation processes when these align with cost efficiency and business continuity. By empirically documenting this implementation pattern, the study advances the field by shifting attention from prescriptive sustainability models toward implementation realities at the micro-enterprise level, particularly within creative industries in developing contexts.

The work contributes to current knowledge by extending sustainable business model and green economy theory to the context of creative MSMEs operating in integrated industrial estates. Unlike prior studies that emphasize structured environmental management and top-down policy instruments, this research shows that sustainability adoption emerges from local knowledge, cultural values, and resource constraints. This finding challenges the assumption that formalization is a prerequisite for meaningful green economy outcomes and highlights the importance of context-sensitive pathways. Scientifically, the study refines existing frameworks by identifying boundary conditions under which sustainable creative industry models can function effectively at small scales.

From an applied perspective, the results provide clear justification for rethinking policy and institutional support mechanisms for MSMEs. Integrated industrial estates possess latent potential to facilitate green economy practices, yet this potential remains underutilized without active coordination, facilitation, and capacity building. The findings suggest that practical interventions such as shared green infrastructure, localized training, and peer-learning facilitation are more likely to enhance sustainability outcomes than uniform regulatory approaches. These insights are directly applicable to policymakers, estate managers, and development agencies seeking to promote inclusive and environmentally responsible MSME development.

This study also opens several avenues for future research. Comparative studies across multiple industrial estates or regions would enable assessment of the transferability of the identified implementation patterns. Longitudinal research could examine how incremental green practices evolve into more formalized sustainability models over time. Future work may also integrate quantitative performance indicators to complement the process-oriented insights provided here. Such extensions would deepen understanding of how green economy-based creative industry models scale and mature. Collectively, these future investigations would further strengthen the empirical and theoretical foundations of sustainable MSME and creative economy research.

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