Circular Economy in Samarinda's Creative Industry: Could Green Tourism Serve as Sustainability Strategy?

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Abstract. The shift towards green development requires Indonesia to shift from a linear economic pattern to a circular economy that emphasizes resource efficiency and sustainability. In this context, the creative industry has a strategic role as a driver of innovation that can balance economic growth with sustainability values, including in Samarinda as the provincial capital which is at the gate of the Ibu Kota Nusantara (IKN). Samarinda is experiencing a significant acceleration of development with economic complexity, thus placing the local creative industry developing at a crucial crossroads. The sector has great potential to 'leapfrog' and adopt a circular economy model early on, avoiding the trap of inheriting exploitative linear patterns. However, immature ecosystems and lack of awareness are challenges in the transition. One of the strategies that can be adopted by the creative industry is the concept of green tourism which combines economic, educational, and environmental preservation aspects. This research aims to explore the perception of creative industry business actors in Samarinda on the concept of the circular economy and the potential for the implementation of green tourism as a transformation strategy towards business sustainability. This study uses a qualitative method with an Interpretive Phenomenological Analysis (IPA) approach. Data was collected through in-depth interviews and observation analysis from three creative business owners in Samarinda City. The results of the study are expected to provide initial insights for strengthening sustainable business practices in the regional creative economy sector.

Keywords: *Circular Economy, Creative Industry, Green Tourism*

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1 Introduction

The city of Samarinda is one of the economic growth centers in East Kalimantan that is undergoing rapid development in line with the designation of this region as the main buffer for Ibu Kota Nusantara (IKN). Improvements in infrastructure, urbanization, and economic activity have ecological consequences in the form of increased waste, energy consumption, and resource use that is not yet fully sustainable [1]. These conditions indicate that environmental challenges in Samarinda cannot be addressed solely through technical waste management solutions, but also require the active involvement of innovative and adaptive economic sectors. In this context, the creative industry plays a crucial role. The creative industry can convert innovation into economic added value. With its emphasis on creativity, design, and added value from local resources, this sector can turn waste into economic opportunities while supporting the region's green development vision [2].

The potential of the creative industry to support sustainable economic transformation, however, is still constrained by several structural challenges at the local level. One of the most prominent barriers is the limited institutional support from the government, particularly in terms of policy direction, capacity-building programs, and access to resources needed to implement circular practices [3]. Many creative entrepreneurs in Samarinda operate independently without clear guidance, incentives, or integrated platforms that facilitate the adoption of circular production models. This situation creates a gap between the city's sustainability aspirations and the actual capabilities of creative businesses to transition toward more responsible use of materials, efficient waste management, and environmentally conscious design [4]. As a result, the shift toward a circular economy within the creative sector remains fragmented and underdeveloped, indicating the need for stronger collaboration and policy alignment to enable a more coherent and scalable transformation [5].

Amidst these limitations, several creative industry players in Samarinda continue to apply circular economy principles through independent initiatives that have developed their practical needs and ecological understanding. The process they carry out generally begins with the collection and sorting of waste materials, such as used paper, plastic, fabric scraps, wood waste, or other recyclable items, which are then reprocessed into products with economic value. The next stage involves design experimentation to ensure that recycled products are not only functional but also have aesthetic value that is acceptable to the market. Some actors also educate consumers, either through product narratives or workshops, to increase appreciation for environmentally friendly products. Creative industry players in Samarinda also utilize communities and collaboration as one of their strategies for surviving in the market. The independent efforts of these creative industry players show that circular economy practices not only serve as an alternative production strategy, but also as a mechanism to reduce waste and create new economic value from previously unused materials.

Theoretically, the circular economy and green tourism are closely related because both focus on the efficient use of resources and creating value through experience and education. The circular economy is considered a tourism strategy that can enhance customer experience while reducing environmental impact [6]. Education-based tourism has emerged as a result of public awareness of sustainable production processes, such as the use of local natural materials, the use of waste, and production practices that minimize waste.

In line with this, green tourism emphasizes environmental sustainability, local community participation, and tourist education [7]. According to recent research, the circular economy is increasingly seen as an important strategy for improving sustainability and resource efficiency in the tourism and hospitality industries [8]. The more extensively circular economy principles are implemented in tourism management, the stronger the tendency of the tourism sector to adopt sustainable green tourism practices. Accordingly, this study conceptualizes green tourism as a logical consequence of the application of circular economy principles adopted by the creative sector.

This approach aligns with Sustainable Development Goal (SDG) 12, which highlights the importance of responsible consumption and production through waste reduction, improved resource efficiency, and material reuse. SDG 12 positions changes in production behavior, such as those carried out by creative industry players in Samarinda, as a key step towards achieving environmental sustainability while strengthening regional economic resilience. In a broader framework, the SDGs also emphasize that sustainable development must respect human rights principles and maintain a balance between social, economic, and environmental dimensions. Thus, the application of the circular economy in the creative industry not only addresses local ecological challenges but also reflects a direct contribution to the global agenda of creating a more equitable, efficient, and sustainable production system.

Ten years after the adoption of the 2030 Agenda, the latest global report shows that progress towards achieving the Sustainable Development Goals (SDGs) is still far from adequate [9] The latest report states that only about 35% of targets are "on track or making moderate progress," while nearly

half of the targets are moving too slowly and 18% are even regressing [10]. One fundamental factor is that many SDG targets are interrelated and, in practice, achieving one goal can put pressure or compromise other goals (Filho et al., 2020).

For example, rapid economic growth (SDG 8) can increase consumption and waste, thereby undermining the target of sustainable production and consumption (SDG 12). In addition, major obstacles such as the lingering effects of the COVID-19 pandemic, geopolitical conflicts, global tensions, and the intensification of climate change have systematically hampered progress. Funding gaps and fiscal space constraints in many developing countries, inadequate monitoring and data systems, and an unadjusted global financial architecture have also contributed to the slowdown [12]. Thus, while the SDG framework is ambitious and comprehensive, reality shows that without accelerated action and greater integration between goals, the 2030 agenda risk not being achieved.

At the national level, Indonesia faces serious challenges due to increasing material consumption and linear economic practices that have not yet shifted to a circular system. Data from the Ministry of Environment and Forestry (KLHK) shows that national waste generation reaches more than 20 million tons per year, and most of it (around 60%) still ends up in landfills without going through a recycling process. Meanwhile, domestic material consumption increased by 36% in 2023 compared to a decade earlier, indicating an increasingly intensive pattern of consumption of natural resources [13]. This high dependence on the linear “take-make-dispose” economic model exacerbates pressure on the environment, accelerates the decline in ecosystem carrying capacity, and hinders the achievement of SDG 12 targets on sustainable consumption and production.

Research on the circular economy within micro, small, and medium enterprises has been explored across various contexts. The study by Cantú et al [5] examines the factors that lead SMEs to succeed or fail in adopting circular economy practices in an emerging economy, highlighting challenges such as limited financial resources, technological barriers, insufficient knowledge, weak recycling infrastructure, and inadequate regulatory support. According to Savandha [14] investigates circular economy practices within Indonesia’s creative industry, particularly in major cities on Java, emphasizing the use of recycled materials and the application of reduce, reuse, and recycle principles. Meanwhile, the tourism-sector circular economy according to Strippoli [6] provides a broader overview of effective CE strategies, such as waste reduction, eco-design, renewable energy adoption, and resource looping while also identifying gaps related to measurement frameworks, policy integration, and stakeholder coordination in achieving sustainable implementation.

A review of these studies indicates that previous research has not examined circular economy practices based on the utilization of local biological waste. None of the studies explore how creative industry actors in biodiversity-rich regions such as Kalimantan repurpose natural residues, including waste from ironwood (ulin) processing, secang by-products, sawdust, rattan, and other forest-based materials, as inputs for creative production. This gap is notable because Kalimantan is one of the world's richest biodiversity hotspots with high levels of diversity and endemicity. It is home to 10,000-15,000 species of flowering plants, 3,000 species of trees, 2,000 species of orchids, and 1,000 species of ferns. Despite this ecological richness, its connection to circular economy practices within the creative industry has not been adequately examined.

Based on these gaps, the present study aims to connect Kalimantan’s biological resources with the circular economy practices adopted by creative industry actors in Samarinda. This research focuses on identifying how local biological waste is transformed into economic value and on analyzing the opportunities and challenges associated with implementing circular practices using biological materials. In addition, the study separately explores creative entrepreneurs’ perspectives on the potential expansion of such practices toward the development of green tourism as an avenue for integrating local creativity and natural resources into sustainable tourism initiatives.

2 Literature Review

2.1 Circular Economy

The term circular economy was first explained by Pearce and Turner [15] where the concept of circular economy is an economic model that opposes the traditional linear economic system that produces excessive waste and pollution. They propose a circular economy based on the principle that "everything is an input to something else," which seeks to establish a closed cycle in the flow of materials to reduce the consumption of new natural resources and reduce waste and pollution. The circular economy is an economic system that moves in a "cycle", namely keeping products, materials, and resources utilized for as long as possible through activities such as reusing, renewing, maintaining, modifying, and recycling with the aim of reducing residual production, saving resources, and creating economic value without exploiting new materials from nature [8]. The Circular Economy is a system that provides the view that

economic activities are not only limited to production and selling, but there is a process of reuse in it to minimize waste and pollution for the environment.

2.2 Green Tourism

The problem of mass tourism according to Stahel [8] causes environmental damage and excessive resource consumption so that sensitive ecosystems are destroyed. Therefore, alternative tourism is encouraged to form tourism that is more environmentally friendly, community-based, and smaller-scale so that it can be managed locally. Green tourism is present as a form of alternative tourism where the focus is not only on the environment but also on social sustainability. Green tourism according to Stahel [8] is a form of sustainability tourism that prioritizes environmental sustainability and is community-based designed to reduce the negative impacts of mass tourism. Green tourism is a type of tourism that emphasizes sustainability in its operations and is not always centered on natural tourism. Green tourism focuses on waste reduction, the use of eco-friendly products, as well as sustainable business practices that involve local communities.

2.3 Creative Industries

The creative industry or also can be said to be the creative economy was first stated by Stahel [8] in his book which is defined as an economic action that originates from ideas and creativity and humans, where the idea is modified into a valuable product that can be sold and protected by copyright. The products produced in the imagination of these makers are what makes the creative industry very difficult to imitate because everyone has different thinking when it comes to making something. If the creative industry is combined with the circular economy, it will create an environmentally friendly product that can be developed with a more sustainable process [16]. Brave creative industry players will find that they not only earn money by selling goods, but also recognition as leaders in sustainability [17]. With this sustainability, consumers will be more aware of the importance of protecting the environment by reducing materials that can damage the environment to create a better future.

3 Methodology

The Interpretative Phenomenological Analysis (IPA) technique developed by Smith et al [18]. The approach used in this study is a qualitative approach with the Interpretative Phenomenological Analysis (IPA) method to find out how creative industry players in Samarinda interpret the circular economy and assess the potential for the implementation of green tourism as a sustainable business strategy. IPA was chosen because this method focuses on how creative industry players in Samarinda give meaning to their experiences in the process of transformation towards a circular economy, which includes an understanding of waste, innovation, raw materials, sustainability issues, and how green tourism can be applied as a sustainability strategy. This method makes it possible to understand what experience means from the point of view of the informant as well as to interpret the experience as a researcher.

This research was conducted in Samarinda City with informants were selected based on their direct involvement in applying circular economy principles to production processes, material management, and sustainability-based innovations with the potential to be developed into green tourism. Informants consisted of batik makers using wood waste dyes, craftspeople and bag makers using recycled materials with eco-print touches, and owners of tea and herbal medicine businesses based on local plants. The three informants represent circular economy practices and have experience in educational activities such as workshops and production demonstrations that involve direct interaction with visitors. This is in line with the research objective, which is not only to examine the application of the circular economy but also its role in encouraging the development of green tourism, so that the selection of informants is considered appropriate to the research focus and IPA approach.

Table 1. Participant Profile

Nu.	Name (Initial)	Gender	Business Name	Business Category	Product
1.	Ms. Erly (ER)	Female	DQriyaku	Fashion and Apparel	Batik-based clothing, outerwear, and scarves.
2.	Ms. Emi (EM)	Female	Moy Handmade	Crafts	Eco-print product, recycling product.
3.	Mr. Angga (AG)	Male	Osadha Nusantara	Food and Beverages	Tea, honey, organic soap.

Interviews with the three informants were conducted directly by visiting each informant's production site. The interview process was carried out in a span of one week with a duration of meetings with informants in a range of 80-120 minutes. The documentation process is carried out at the same time as the informant's production site visit, the documentation collected is in the form of production SOP documents, pictures of materials and waste used for production, to raw product images that are ready to be produced. All interviews were recorded and then transcribed verbatim.

The type of data used in the study is qualitative data. Qualitative data is data that is descriptive and not measured by numbers. Data were collected through semi-structured interviews and documentation. The interviews were conducted to explore the understanding of actors in the creative industry regarding production practices, material management, applied innovations, challenges faced in running a business, and their perceptions of sustainability, circular economy principles, and the application of green tourism. Meanwhile, documentation was carried out with the collected data analyzed using it. The analysis began by re-listening to interview recordings to understand the experiences of creative industry players in interpreting the circular economy and green tourism. We then noted the key points and compiled key themes, such as how they manage waste, use sustainable materials, material innovation, and their views on green tourism challenges and opportunities, which were then grouped and compared between informants to see the similarities and differences. This process is carried out repeatedly until the researcher gains a deep understanding of circular economy practices and how green tourism is seen as a sustainability strategy.

4 Results And Discussion

Table 2. Code-to-theme chain (Author, 2025)

Initial Code(s)	Sub-Theme	Final Theme
Reduce dependence on raw materials; High cost; Business adjustments. (EM)	Reduction of raw materials.	Transformation to a Circular Economy.
Use of natural materials; Zero waste production process. (AG)	Zero Waste Production.	
Waste utilization; Concern the environment. (ER).	Waste use.	
Use of natural materials; Concern the environment. (ER)	Using natural ingredients.	Innovation is the key to sustainability.
Business adjustment to changing eras; Using natural ingredients. (EM)	Eco-friendly handmade products.	
Product innovation; Products with natural ingredients. (AG)	Soap with organic ingredients.	
No more buying raw materials; Collect potential materials; Reduce waste. (EM)	The cost of raw materials is reduced.	Production cost efficiency.
Use of production waste; Zero waste production. (AG)	Efficiency of production waste management.	
Additional income for other industries; Cheap raw material prices; The raw materials can be used for a long period of time. (ER).	Waste utilization and production cost efficiency.	
The duration of the product work takes time; Production depends on the weather; Pricing. (ER),	Production process and weather influence.	Marketing, production, and administrative challenges.
Market appetites are uncertain; Consumers underestimate recycled products. (EM)	Market perceptions and uncertainties.	
There are no production constraints; Certification constraints; Production depends on the weather. (AG)	Conditional and administrative challenges.	
Collaboration with other parties; Opening a batik class; Providing education and experience to consumers. (ER).	Collaboration and education for consumers.	Workshops, Education, and Green Tourism.
New product innovation; No one in retail is ready to drink; Education at the exhibition provides a new experience for consumers. (AG)	Innovation and product introduction through consumer education.	The circular economy increases business branding.

Initial Code(s)	Sub-Theme	Final Theme
Opening workshops or classes; Providing new experiences for consumers; Forms of education to consumers; How to Survive. (EM) Limited models; Customer Satisfaction; Special products. (ER)	Consumer engagement through education and experience. The circular economy is an opportunity for product differentiation.	
Product presentation is the attraction of the business; The use of natural materials provides innovation. (AG)	The use of natural ingredients increases the attractiveness of the product.	
Handmade products become of their own pull; Products can adapt to consumer tastes; Limited Produced Products. (EM)	The uniqueness and exclusivity of the product is the branding of the business.	

The results of the study show that creative industry players in Samarinda have begun to apply circular economy principles using renewable natural materials and the utilization of waste as production materials. This step was taken in response to market changes, increased environmental awareness, and the need for cost efficiency. The three informants displayed similar patterns by reducing their dependence on new materials, maximizing leftover materials, and producing environmentally friendly products. Although they operate in different sub-sectors, they both prioritize material efficiency and waste utilization, thereby creating added value through products with unique material identities and production processes.

4.1 Business model transformation towards a circular economy

The three creatives enterpices have experienced a substantial shift from a linear economic approach toward a circular economy, driven by evolving consumer preferences and increasing demands for material efficiency. Each business recognizes the importance of adopting circular economy practices for distinct reasons.

This transition was highlighted by EM, the owner of Moy Handmade, who previously concentrated on conventional trading activities. However, following the pandemic and the growing emphasis on sustainability, a significant change in business orientation took place. EM stated:

> *"Then came the COVID era, followed by the shift toward circular and sustainable practices.... I adapted myself starting from natural printing and eco-printing, and now moving toward recycling."*

This change is not only about products, but also changes in raw materials, production strategies, and marketing. EM feels that creative industry players must follow trends but also adjust the vision inherent in the business from the outset.

Osadha Nusantara, built and developed by AG, has focused on natural ingredients from the outset, utilizing Kalimantan's unique medicinal plants and pure honey. However, by formulating zero waste production, AG is further emphasizing its transformation towards a circular economy.

> *"In tea production… there is essentially no waste. Even ginger residue is processed into other products. So, we truly operate with zero waste."*

This has made Osadha Nusantara one of the most innovative creative industries in the food and beverage sector that has fully adopted the concept of circularity thanks to this idea. However, the concept of zero waste production has not been fully adopted, mainly due to the difficulty of using environmentally friendly packaging. According to Harliyono and Priskila [19] packaging is very important for extending the shelf life of products and ensuring that materials that have reached the end of their useful life can be recycled or used in biodegradable packaging that returns nutrients to the soil.

ER, the face behind DQriyaku Batik, emphasizes the transformation from textile dyes to natural dyes due to environmental and cost considerations. Mrs. Erly believes that waste management using chemical dyes is more expensive and not environmentally friendly:

> *"Using textile dyes requires a sedimentation process, which is too costly. Therefore, I choose natural dyes, using wood waste from sawmills."*

Natural dyes are not only environmentally friendly but also reduce dependence on chemicals that are expensive to manage as waste. ER also emphasizes that doing business must involve other interests such as people and the environment in business decisions, not just self-interest.

The experiences of the three informants indicate a similar pattern of change, in which each business actor adopts a unique approach to integrating sustainability as the foundation of their operations. This finding suggests that the implementation of circular economy principles in the creative industry does not need to be uniform, but can evolve according to business context, available resources, and the creativity of the actors involved.

4.2 Environmentally Friendly Material Innovation as a Competitive Advantage Strategy

As a driver of the creative economy, innovation is the key to the sustainability of all three businesses. SMEs must give primary attention to strengthening their innovation capabilities through the development of entrepreneurial knowledge, the adoption of new technologies, and the enhancement of internal competencies as a strategy to safeguard their market position [20]. It takes strong desire and determination to continuously try and learn to keep business innovation alive.

EM continues to conduct independent research so that environmentally friendly products remain functional.

> *"I continue conducting research and development to identify market preferences and determine the durability and market feasibility of the products."*

These innovations include experiments with recycled materials, natural dyes, and unisex product designs. Starting with a business focused on handmade products using textile raw materials, EM has now expanded the Moy Handmade product range to include recycled cardboard and plastic waste products. This demonstrates a genuine spirit of R&D in order to continue adapting and maintaining innovation.

AG applies strict quality standards and aesthetic innovation to Osadha Nusantara herbal tea products.

"We have one variant where, when brewed, the water changes from blue to purple. Many people like it because of its aesthetic appeal*."*

This reinforces Osadha Nusantara's branding as a business with modern and innovative herbal products.

ER's innovation is particularly strong in the exploration of natural dyes, especially from ironwood, which he obtains waste from the table and chair manufacturing industry.

> *"I failed many times, but I reviewed the process repeatedly realizing, for example, that certain proportions might have been off. Eventually, I was able to understand the characteristics of ulin wood."*

This innovation produces unique patterns that cannot be replicated by mass-produced products. ER mentions the uniqueness of ironwood, which, despite being made from the same material, can produce different color levels with different color mixing techniques. In addition to ironwood and secang, ER is also exploring other natural colors.

Innovation is not only an effort to renew products, but also a foundation that maintains the sustainability of the informants' businesses. Each business actor develops its own approach, ranging from material exploration, quality improvement, to creating a unique experience for consumers, which ultimately results in strong differentiation in the market. Thus, innovation serves as a key strategy that enables businesses to remain relevant, competitive, and able to offer unique value that cannot be imitated by mass production.

4.3. Material Efficiency and Waste Reduction

Environmentally friendly businesses are often discussed when the topic of efficiency arises. This is because environmentally friendly practices for businesses are often associated with higher expenses, but they can also contribute significantly to production efficiency and capital savings.

At Moy Handmade, EM has not purchased any new fabric for almost a year.

> *"Over the past year, I have hardly bought any fabric; I have been using my own waste materials."*

This practice reduces excessive costs while preventing inventory buildup [21]. That way, EM can maximize profits and use the money that would have been spent on fabric for other things.

AG applies simplification in the processing of goods, resulting in minimal waste.

> *"There is no post production waste only leftover sticker paper."*

Every part of ginger, Dayak onion, and butterfly pea flower is fully utilized by AG.

DQriyaku uses other industrial wood waste as raw material for dyes in his business, ER said:

> *"For a 50 kilogram sack, I only pay seven thousand rupiah, and I process that waste into dye."*

Even the leftover dye is used as compost.

> *"The residues from the sawmill can be used as fertilizer, and I apply them to my plants."*

This efficiency is in line with the principle of regenerating natural systems in the circular economy.

The circular economy principle encourages material innovation and efficiency practices applied by the three informants in their businesses, demonstrating that the circular economy principle not only reduces production costs but also strengthens brand identity and product quality. According to the three informants, these efficiency practices do not reduce product quality or aesthetic value; rather, they strengthen branding through unique material characteristics and processes. Thus, material efficiency is not only a strategy for saving costs and protecting the environment, but also the foundation for innovation and long-term competitiveness.

4.4. Challenges in Implementing a Circular Economy

Despite being innovative, entrepreneurs face significant challenges. These challenges will certainly vary from one business to another [17]. However, as a similar type of business, the challenges are often the same, such as a small market potential and ineffective government involvement in business continuity.

Osadha Nusantara faces challenges in licensing regulations.

"The main obstacle is regulation without complete legal documentation, we cannot enter the retail market."

On one hand, legality is an opportunity for Osadha Nusantara. The more complete its legality is, the greater the opportunity for Osadha Nusantara to establish cooperation and expand its market [17]. However, licensing costs and time are obstacles to growth experienced by AG in the herbal business. This aligns with findings, which indicate that weak regulatory enforcement, limited monitoring capacity, and policymakers' tendency to prioritize short-term actions often driven by short political tenures can impede the successful implementation of circular economy initiatives.

EM said that the local market for eco printing is still small and not widely known.

"There is no market for it because the price is high, and in Samarinda only a few people are interested."

It is not uncommon for this challenge to arise in discussions about the creative industry. The price of an idea expressed by creative workers is sometimes not understood by consumers as a value that deserves a fair price [5].

EM also complained about the high cost of renting bazaar tents.

"Currently, bazaar fees are very expensive one day can cost up to Rp750,000."

DQriyaku, as a business producing handmade batik, depends on unpredictable weather. This causes production to be ineffective and inefficient due to the risk of longer production times. ER said:

"*Batik making depends on the weather completing one cloth can take several days."*

This challenge makes it difficult to increase DQriyaku's batik production capacity. Furthermore, there is the potential for human error, which means that production may have to be repeated from the beginning.

Innovation alone is not enough to ensure business sustainability. All three informants admitted that they still face obstacles such as complicated licensing regulations, limited local markets, weather-dependent production processes, and high marketing costs. These challenges can slow down expansion and require adaptive strategies so that innovative products can truly reach a wider market.

4.5. Workshops, Education, and Green Tourism

The three informants are not only engaged in buying and selling, but also expanding their business potential to interactive workshops, taking part in the concept of green tourism.

ER openly offers workshops to anyone at their own place of business. ER gives consumers who want to attend workshops the freedom to choose the date.

"I also conduct classes to educate others—this has become one of my ways to sustain the business."

Moy Handmade opened classes for Eco-Printing as a source of additional income and a strategy to sustain the business [22].

AG places greater emphasis on workshops conducted when Osadha Nusantara participates in an event.

"At events, we demonstrate how to make the tea, which attracts people because of its aesthetic appeal."

AG not only shows how to make tea but also invites potential customers to try making it themselves. He wants to highlight the aesthetic element of his innovation.

Similar to AG, ER also holds workshops at certain events. Unlike EM, who has his own workshop space, ER also accepts offers to be a batik instructor if there are institutions or companies that want to hold batik workshops.

"I teach natural dyeing at various events, such as at Mercure during Batik Day."

To continue organizing these workshops, ER underwent certification so that she could actively become a batik instructor.

Through circular economy practices, the three informants have indirectly contributed to green tourism, turning the creative process into an engaging educational experience for visitors. For the three informants, the workshop is not just an additional activity. Through classes, production demonstrations, and training, they not only strengthen the public's understanding about environmentally friendly processes but also created new sources of income that support business sustainability.

The findings show that the three informants gradually built value using simple but strategic resources. Through material innovation, zero waste practices, and ongoing research, each informant was able to transform materials that were considered worthless into high-quality products with strong characteristics. This process not only makes production more efficient but also strengthens their business position in the market. The impact is widespread because these sustainable practices encourage the growth of educational tourism, open up learning opportunities for the community, and strengthen collaboration within the creative community. Thus, the circular economy has become a new path for the creative industry to reduce waste while creating new economic value.

5 Conclusion

The results of the study show that creative industry business actors such as Moy Handmade, Osadha Nusantara, and DQriyaku have not fully implemented the principles of the circular economy. Practices are still in the early stages towards sustainability such as the use of natural ingredients, the use of certain residual materials, and the statement that this is an eco-friendly venture is an effort towards a sustainable economy. Although their implementation is still limited, they form an important foundation for the transformation towards a more comprehensive circular economy.

Material innovation is a key element in the sustainability practices implemented by informants. Moy Handmade with eco printing techniques and the use of recycled materials, Osadha Nusantara uses a zero-waste approach *in* the manufacture of herbal products, and DQriyaku uses natural dyes made from wood waste in its products. This innovation not only improves the quality of product appearance but also provides uniqueness and differentiation that is difficult for mass products to replicate. The use of natural materials and waste increases the cost efficiency of these business actors so that it is able to reduce expenses and increase business continuity by optimizing available materials and reducing dependence on new materials. Although the circular economy has not yet been implemented, this pattern makes a real contribution to resource efficiency.

However, these sustainability efforts face significant structural challenges, the main challenges including complex business legality processes, low local market response to eco-friendly products, high event participation costs, production process dependence on the weather, and lack of systemic support from local governments. This condition causes the development of sustainability practices to be slow and depends on the personal efforts of business actors.

In addition, education through workshops is an important finding in this study. All informants actively held workshops as a medium to share knowledge in introducing sustainable production processes and building interaction with the community. This activity not only increases environmental awareness but also opens up opportunities for the implementation of local green tourism and strengthens the position of creative industry players as sustainability-oriented pioneers.

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