

## Ecoprint-Based Sustainable Innovation Strategies for MSMEs: A Case Study of Griya Anyar Dewata

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### ABSTRACT

This research aims to analyze the sustainable innovation strategies implemented by Griya Anyar Dewata MSMEs through the development of environmentally friendly ecoprint products. The research uses a descriptive qualitative approach with a case study method. Data were collected through observation, documentation studies, and reviews of relevant scientific literature. The results of the study show that sustainable innovation is applied in an integrated manner through product, process, organization, and business model innovation. These innovations have been proven to increase the competitiveness of MSMEs while providing social and environmental impacts through empowering local communities and reducing chemical waste. The SWOT analysis identifies the differentiation of natural dyes-based products and green market trends as key strengths and opportunities, while limited production capacity and competition from conventional products are major challenges. This research offers a model of sustainable innovation integration based on local potential that can be replicated by similar MSMEs.

## INTRODUCTION

Sustainable innovation is a strategic issue in modern business development, especially for Micro, Small, and Medium Enterprises (MSMEs). Increasing consumer awareness of environmental issues encourages business actors to integrate sustainability principles into business processes. Schumpeter (1934) emphasized that innovation is the main engine of economic growth, while sustainable innovation emphasizes the creation of economic value that is in line with social responsibility and environmental conservation.

The fashion and handicraft industry is among the sectors with significant contributions to environmental pollution due to the use of synthetic dyes and chemical waste. Fletcher (2014) states that conventional fashion practices have the potential to damage the ecosystem and human health. Therefore, green innovation is an important approach to minimize these negative impacts. Chen et al. (2006) define green innovation as the development of products, processes, or management systems that contribute to the reduction of environmental risks and the efficient use of resources.

In the context of MSMEs, the implementation of sustainable innovation often faces limited capital, human resource capacity, and market access. However, MSMEs have flexibility and proximity to the local community that allows the application of innovations based on local wisdom. Porter and van der Linde (1995) emphasized that strategically managed environmental innovations can increase efficiency as well as competitiveness. An empirical study by Zailani et al. (2020) on MSMEs shows that green innovation and environmental responsibility have a significant effect on improving green performance and company competitiveness. The findings strengthen the argument that sustainable innovation is not only ethically and environmentally relevant, but also contributes directly to the competitive performance of MSMEs

Griya Anyar Dewata is an MSME in Bali that produces eco-print products that are environmentally friendly by utilizing natural dyes from plants and organic waste. The ecoprint innovations applied are not only oriented to environmental aspects, but also to empower local communities. Although many studies on green innovation have been conducted, research examining the implementation of sustainable ecoprint innovation in an integrative manner in MSMEs is still limited. Therefore, this study aims to analyze the sustainable innovation strategies implemented by Griya Anyar Dewata MSMEs as a case study.

## THEORETICAL REVIEW

### *Innovation Theory (Innovation Theory-Schumpeter, 1934)*

Schumpeter (1934) stated that innovation is the main engine of economic growth and competitive advantage. Innovation includes not only the creation of new products, but also improvements to processes, organizations, and business models. In the context of MSMEs, innovation is a strategic tool to survive and compete in the midst of limited resources.

In Griya Anyar Dewata MSMEs, innovation is realized through the development of ecoprint products, innovation in environmentally friendly production processes, organizational innovation based on local community

empowerment, and sustainable business model innovation. These innovations are the main factors that increase product value and business competitiveness.

### ***Theory Green Innovation***

*Green innovation* is defined as the development of products, processes, and management systems that contribute to the reduction of environmental impact and efficient use of resources (Chen et al., 2006). Green innovation allows companies to create economic value while maintaining environmental sustainability.

Research by Zailani et al. (2020) shows that green innovation has a positive effect on the green performance and competitiveness of MSMEs. The implementation of ecoprint based on natural dyes at Griya Anyar Dewata is a tangible form of green innovation that strengthens product differentiation and environmentally friendly image

### ***Environment-Based Competitive Advantage Theory (Porter & van der Linde, 1995)***

Porter and van der Linde (1995) argue that green innovation does not necessarily increase costs, but can instead drive efficiency and competitive advantage. Companies that are able to strategically manage environmental innovation will gain added value compared to conventional competitors.

In this study, the differentiation of ecoprints, the efficiency of local raw materials, and the application of the circular economy strengthen the competitive position of MSMEs in the environmentally friendly product market.

### ***Sustainable Business Model Theory (Bocken et al., 2014)***

Bocken et al. (2014) explain that sustainable business models aim to create economic, social, and environmental value simultaneously. Product, process and organizational innovation must be integrated into the business model to generate sustainable impact.

Griya Anyar Dewata implements a sustainable business model through digital marketing, value-based pricing, and local community involvement, which has an impact on increasing the competitiveness of MSMEs.

### ***Hipotesis***

#### ***The Influence of Product Innovation on the Competitiveness of MSMEs***

Ecoprint product innovations produce unique motifs, high artistic value, and are environmentally friendly. This kind of product differentiation increases the perception of consumer value and strengthens the competitive position of MSMEs (Kotler & Keller, 2016).

H1: Product innovation has a positive effect on the competitiveness of MSMEs

#### ***The Influence of Process Innovation on the Competitiveness of MSMEs***

Process innovation through the use of natural dyes and circular economy principles improves resource efficiency and reduces environmental impact. Environmentally friendly processes have been proven to improve the

performance and competitive advantage of companies (Porter & van der Linde, 1995).

H2: Process innovation has a positive effect on the competitiveness of MSMEs

### *The Influence of Organizational Innovation on the Competitiveness of MSMEs*

Organizational innovation through local community empowerment and cross-stakeholder collaboration increases the flexibility, production capacity, and adaptability of MSMEs (OECD, 2018).

H3: Organizational innovation has a positive effect on the competitiveness of MSMEs

### *The Influence of Business Model Innovation on the Competitiveness of MSMEs*

The implementation of sustainable business models and digital marketing expands market reach and strengthens the image of a green brand. Zailani et al. (2020) prove that green innovation integrated in business models increases the competitiveness of MSMEs.

H4: Business model innovation has a positive effect on the competitiveness of MSMEs

### *The Influence of Sustainable Innovation on the Competitiveness of MSMEs*

Integrated product, process, organization, and business model innovations create economic, social, and environmental value simultaneously so as to strengthen the competitiveness of MSMEs in a sustainable manner.

H5: Sustainable innovation has a positive effect on the competitiveness of MSMEs.



Figure 1. Conceptual Framework

## METHODOLOGY

This study uses a descriptive qualitative approach with a case study method. The case study was chosen because it allows for an in-depth understanding of the phenomenon of sustainable innovation in a real-world context (Yin, 2014). The object of the research is the Griya Anyar Dewata MSME located in Jimbaran, Bali.

The data analysis in this study is a sustainable innovation strategy implemented by MSMEs. The research was conducted in the period of October 2024 to December 2024 with a focus on observation on the ecoprint production process, organizational management, and the implementation of sustainable business models.

The data source consists of primary and secondary data. Primary data was obtained through direct observation of production and organizational activities. Secondary data was obtained from internal documents of MSMEs, innovation project reports, and scientific literature in the form of relevant journals and books. The data analysis technique is carried out through the stages of data reduction, data presentation, and conclusion drawing as stated by Miles and Huberman. The validity of the data is maintained through source triangulation and theoretical triangulation.

## RESULTS

### *Challenges and Background of Innovation Implementation*

The implementation of sustainable innovation at Griya Anyar Dewata is motivated by changes in the business environment that increasingly demand ecological responsibility. The fashion and handicraft industry globally is faced with criticism of conventional production practices that use synthetic chemicals and produce hazardous waste. According to Nidumolu, Prahalad, and Rangaswami (2009), regulatory pressures, changing consumer preferences, and resource scarcity are the main drivers for companies to adopt sustainable innovation as a source of competitive advantage.

For MSMEs such as Griya Anyar Dewata, the main challenge lies in the limitation of resources, both in terms of capital, technology, and human resources. The ecoprint process requires a relatively longer production time and specialized expertise than synthetic dyeing techniques. Theoretically, these findings support Porter and van der Linde (1995) who stated that environmentally friendly innovations in the early stages are often perceived to increase production costs, although in the long run they can create efficiency and added value.

In addition to internal challenges, external pressures also come from competition with conventional products that are mass-produced at lower prices. Ecoprint products tend to target certain market segments that have higher environmental awareness. Rogers (2003) explained that the level of adoption of innovations is greatly influenced by market readiness and consumer understanding of the benefits of these innovations. Therefore, market education is an important part of the implementation of ecoprint innovation.

On the other hand, the background of innovation implementation at Griya Anyar Dewata is also driven by strategic opportunities in the form of increasing trends in the consumption of environmentally friendly products and support from various stakeholders. The government, educational institutions, and business partners provide a space for collaboration that strengthens the MSME innovation ecosystem. This is in line with the concept of *open innovation* which emphasizes the importance of cross-actor collaboration in accelerating the innovation process (Chesbrough, 2003).

### *Forms of Innovation Carried Out*

### 1) Product Innovation

Product innovation is at the core of Griya Anyar Dewata's innovation strategy. This innovation is realized through the development of fashion and handicraft products based on ecoprint techniques that use natural dyes from leaves, flowers, twigs, and plant organic waste. Each product produced has a unique motif and cannot be replicated identically, thus creating a strong differentiation of products in the market. This is in line with the view of Kotler and Keller (2016) who stated that product differentiation based on uniqueness and symbolic value can increase the perception of consumer value.

In addition, Griya Anyar Dewata diversifies its products from fabric media to other media such as leather, ceramics, and paper. This diversification expands the product line while minimizing the risk of dependence on one type of market. Product innovation also includes the service of customizing motifs according to consumer demand, which creates emotional value and product exclusivity. This approach strengthens the manufacturer-consumer relationship and increases customer loyalty.

### 2) Process Innovation

Process innovation is focused on transforming production methods towards more environmentally friendly and efficient processes. Griya Anyar Dewata replaces the use of synthetic dyes with natural dyes that have minimal waste and are safe for the environment. The ecoprint process is designed with the principle of resource efficiency, which is utilizing local raw materials and organic waste available around the production environment.

Furthermore, process innovation is also seen in the application of circular economy principles, where the rest of natural dyes can be reused or composted. According to Geissdoerfer et al. (2017), the implementation of a circular economy is able to increase production efficiency while reducing environmental impact. Although the ecoprint process takes longer than conventional processes, the ecological and artistic added value resulting is a significant competitive advantage.

### 3) Organizational Innovation

Organizational innovation is carried out through changes in the way of working and managing human resources that are more collaborative and participatory. Griya Anyar Dewata involves local communities, especially housewives, in the production process through an ecoprint training program. This approach not only increases production capacity, but also provides social impact in the form of job creation and community skill improvement.

The organizational structure implemented is flexible and small team-based, allowing for faster decision-making processes and adapting to market changes. In addition, the company collaborates with local designers, government agencies, educational institutions, and the MSME community. According to the OECD (2018), organizational innovation such as cross-sector collaboration can improve companies' ability to create and absorb new knowledge.

### 4) Business Innovation

Business innovation is reflected in the implementation of a sustainable business model that balances economic, social, and environmental values. The use of digital marketing and value-based pricing expands market reach while strengthening the green brand image. This finding is in line with Zailani et al. (2020) who emphasized that green innovation and environmental responsibility have a positive effect on the green performance and competitiveness of MSMEs. In the context of Griya Anyar Dewata, ecoprint innovation not only increases the perception of product value, but also strengthens the competitive position of the business through an environmentally friendly image and sustainable differentiation

In addition, Griya Anyar Dewata utilizes digital technology as part of business innovation, especially in marketing and distribution. The use of social media and digital platforms allows companies to reach a wider market at relatively low costs. This business model is in line with the concept of the sustainable business model proposed by Bocken et al. (2014), which is a business model that is able to create economic value while providing social and environmental benefits in a sustainable manner.

## DISCUSSION

The implementation of ecoprint innovation in Griya Anyar Dewata MSMEs is carried out through systematic innovation management stages, starting from the identification of problems and opportunities. The dominance of synthetic dye-based products that negatively impact the environment is a major problem, while increasing consumer awareness of eco-friendly products opens up significant market opportunities. This condition is in line with the views of Porter and van der Linde (1995) and Nidumolu et al. (2009) who stated that environmental pressures and changing market preferences can be strategic drivers of sustainable innovation. The idea initiation stage is focused on the development of ecoprint products based on natural dyes with unique motifs that cannot be replicated, as a form of differentiation and the creation of ecological and artistic added value.

In the *trial and error stage*, Griya Anyar Dewata conducted a series of trials on ecoprint techniques on various natural media and raw materials to obtain color quality standards and product durability. This process reflects the experimentation stage in the diffusion of innovation as stated by Rogers (2003), where the refinement of innovation is carried out repeatedly before it is widely adopted. The application stage is characterized by the full application of ecoprint techniques in the production process and its integration into MSME business models, including the involvement of local communities and the use of digital marketing. This approach is in line with the concept of integrated innovation that combines product, process, and organizational innovation as recommended in *the Oslo Manual* (OECD, 2018), so that innovation is not only technical, but also economically, socially, and environmentally sustainable.

Based on the implementation of the innovations that have been discussed, there is a study of strengths, weaknesses, opportunities and threats or SWOT analysis in this case as follows:

### 1) Strengths

The main strength of Griya Anyar Dewata lies in the differentiation of ecoprint products based on natural dyes that produce unique motifs with high artistic value. This uniqueness forms a *strong value proposition* and is in line with global *green product* and *circular economy trends*. The use of local raw materials supports the sustainability of the supply chain, while the empowerment of local communities and strategic partnerships with the government, educational institutions, Rumah BUMN, and IKEA Bali strengthen social legitimacy, market access, and external support of businesses.

## **2) Weaknesses**

The main drawback lies in the limited production capacity due to the manual and relatively long ecoprint process. Reliance on individual skills has the potential to lead to inconsistencies in product quality if not balanced with ongoing training. In addition, relatively higher production costs and limited business capital limit technology investment, process standardization, and business expansion.

## **3) Opportunities**

Strategic opportunities arise from increasing consumer awareness of eco-friendly products and sustainable fashion trends, which open up the market for premium ecoprint products. The support of the government, educational institutions, and corporations through green MSME programs, exhibitions, and financing strengthens business development opportunities. The use of digital technology and e-commerce allows for the expansion of domestic and international markets, supported by the diversification of customization products and services.

## **4) Threats**

The main threat comes from conventional products based on synthetic dyes that are cheaper and faster to produce, thus dominating the price-sensitive market. In addition, the increasing number of ecoprint players has the potential to tighten competition and reduce differentiation advantages. The low literacy of some consumers towards environmental values is also a challenge, so market education and sustainable innovation are the key to maintaining competitiveness.

Overall, the results of the SWOT analysis show that ecoprint-based sustainable innovation has strong strategic potential, but the most relevant strategy for Griya Anyar Dewata is the SO (Strength-Opportunity) strategy, which is utilizing ecoprint product differentiation and green ecosystem support to expand the market and increase business scale in a sustainable manner

## **CONCLUSIONS AND RECOMMENDATIONS**

This study concludes that Griya Anyar Dewata has successfully implemented an integrated sustainable innovation strategy through ecoprint-based product innovation, processes, organizations, and business models based on environmentally friendly ecoprints. This strategy increases the competitiveness of MSMEs while providing positive social and environmental impacts and provides policy implications that green MSME development programs need to be focused on strengthening integrated innovation, not just capital assistance or technical training

Theoretically, this study enriches the literature on sustainable innovation in MSMEs based on local potential. Practically, the results of the research can be a reference for MSME actors and policymakers in the development of green MSMEs. Research recommendations include strengthening human resource capacity through continuous training, digital marketing optimization, increasing collaboration with stakeholders, and further research related to the efficiency of the ecoprint process.

### **FURTHER STUDY**

Future research is recommended to expand the scope of ecoprint-based sustainable innovation strategies by involving a wider range of MSMEs across different regions and creative sectors, such as fashion, crafts, and home décor. Comparative studies between ecoprint-based MSMEs and conventional production-based enterprises would provide deeper insights into differences in cost efficiency, market competitiveness, environmental impact, and consumer perception. In addition, future studies could incorporate quantitative approaches or mixed methods to measure the long-term economic, social, and environmental benefits of ecoprint innovation, including its contribution to circular economy practices, green branding, and sustainable value creation for MSMEs.

Moreover, further studies may explore the role of digital transformation, marketing strategies, and policy support in strengthening the sustainability of ecoprint-based MSMEs. Examining how digital platforms, e-commerce, and social media influence market expansion and consumer awareness of eco-friendly products would be particularly valuable. Future research could also analyze the effectiveness of government programs, training, and collaborations with educational institutions or environmental organizations in scaling up ecoprint innovation. Such research would help formulate practical recommendations for enhancing the resilience and competitiveness of sustainable MSMEs in the creative economy.

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