

Product Innovation of Batik Giriloyo MSMEs, Bantul Regency, Yogyakarta

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Abstract.

The Batik Production Center of Giriloyo, located in Bantul, Yogyakarta, faces several pressing challenges, including limited market access, low levels of product innovation, and minimal utilization of digital technology in the context of an increasingly globalized era. This community engagement program aims to enhance the competitiveness of Batik Giriloyo's micro, small, and medium enterprises (MSMEs) by providing training in design innovation, product diversification, the use of natural dyes, as well as strengthening digital marketing and establishing international partnership networks. The outcomes of this initiative indicate an increase in artisans' creativity in developing new motifs, the adoption of modern packaging, and an expansion of market reach through social media, online marketplaces, international webinars, and the development of reseller networks abroad. Product innovation and digitalization in marketing have proven effective in reinforcing the presence, sustainability, and cultural identity of Batik Giriloyo's MSMEs, and may serve as a source of inspiration for other batik centers across Indonesia.

Keywords: *Data mining; Design of experiment; Metaheuristic; Operation research; Simulation.*

I. INTRODUCTION

Batik, as one of the most significant elements of Indonesian culture, has been recognized by UNESCO as an Intangible Cultural Heritage of Humanity. One of the renowned centers that continues to uphold traditional hand-drawn batik practices is the Batik Giriloyo Center, located in the Imogiri Subdistrict, Bantul Regency, Special Region of Yogyakarta. This center is distinguished by its commitment to preserving hand-drawn batik that features classical Mataraman patterns and utilizes eco-friendly natural dyes.

According to Kotler and Keller (2012), product innovation is the result of a combination of various interrelated processes. Innovation is not merely about generating new ideas or discovering something entirely novel; it also encompasses the entire series of processes involved. In other words, product innovation can be understood as a sequence of mutually influencing steps aimed at creating and enhancing products that possess distinctive characteristics compared to existing goods, while simultaneously addressing existing shortcomings. In the field of entrepreneurship, innovation is generally categorized into two types: product innovation and process innovation, each of which contributes to the production of goods in different ways (Nizam et al., 2020).

According to the Business Dictionary (as cited in Dhewanto et al., 2015:105), product

innovation is not limited to the development of goods but may also involve the launch of new products and the revitalization of existing offerings to enhance the goods or services provided by a company. As stated by Dhewanto et al. (2015:106), innovation is not solely measured by the extent of changes made to a product, but also by the degree to which customer needs are fulfilled.

In the context of globalization and digital transformation, batik entrepreneurs in Giriloyo are confronted with a range of challenges, including limited market access, a lack of product innovation, and minimal engagement with digital technology. To adapt to the evolving preferences of contemporary consumers, both domestic and international, continuous innovation is required across various domains such as design, marketing, and collaborative business models.

One of the most essential qualities of an entrepreneur is their ability to create something new. Without innovative creation, a business cannot sustain itself in the long term. This is due to the constantly evolving needs, desires, and demands of consumers. Consumers do not always choose the same products repeatedly; instead, they seek alternatives from other companies that they perceive as better fulfilling their needs. Therefore, continuous innovation is necessary for businesses to progress and remain relevant in their respective industries. Innovation refers to products, services, or ideas that are perceived as new by individuals. Even if an idea has existed for some time, it can still be considered an innovation by someone encountering or experiencing it for the first time.

This community service initiative aims to support Batik Giriloyo's micro, small, and medium enterprises (MSMEs) by developing product innovation strategies and digital marketing through comprehensive training, establishing networks with international partners, and reinforcing local cultural values to enhance global competitiveness.

II. METHODS

This initiative began with a preliminary survey and an in-depth analysis of the various challenges faced by the Batik Giriloyo MSMEs in Bantul Regency, Special Region of Yogyakarta, in their efforts to expand marketing outreach to international markets. The complexity of these issues was systematically identified through structured interviews with business owners, direct observation at production sites, and an examination of historical sales data. The collected information was then evaluated and presented in the form of a problem analysis table, which comprehensively outlines the key obstacles hindering Batik Giriloyo MSMEs from accessing global markets. The development of this table was intended to provide an objective and quantifiable foundation for the design of intervention programs that are both contextually relevant and responsive to field-based realities.

Table 1. Problem Analysis

No	Location	Problem
1.	Batik Giriloyo Association, Bantul Regency, Yogyakarta	1. Limited Utilization of Digital Technology in Product Innovation and Marketing.
		2. Restricted Access to Design Innovation Training, Market Research, and Limited Capital for Product Diversification.

(Source: Processed Data, 2025)

In response to the challenges encountered in Batik Giriloyo, Bantul Regency, Yogyakarta, a series of well-formulated work programs have been developed to provide targeted assistance, viable solutions, and substantive contributions aimed at enhancing business capabilities. These initiatives are designed to encourage the adoption of digital technologies in product innovation and marketing processes, areas that have traditionally seen limited integration among MSME actors in Batik Giriloyo. Furthermore, the programs aim to broaden access to training in design innovation, facilitate market research activities, and support artisans in overcoming financial barriers that hinder experimentation with product variations. These efforts are expected to enhance the market positioning of Batik Giriloyo in the contemporary marketplace and to equip younger generations with the tools necessary to ensure the sustainability and continued innovation of batik craftsmanship.

Table 2. Program Design

No.	Program Name	Activity	Objective	Date	OutPut
1.	Batik Giriloyo Product Innovation and Digitalization Program	A series of training activities were organized, focusing on contemporary batik design innovation while maintaining traditional values. In addition, e-commerce and social media training sessions were held to promote digital marketing strategies, facilitated through a globally scaled	<ol style="list-style-type: none"> 1. The primary objective of this initiative was to enhance creativity and product innovation capacity among batik artisans, ensuring that their creations align with the demands of the modern market. 2. Another key goal was to broaden the market reach of Batik Giriloyo through the utilization of digital technologies and the overall 	May 20, 2025	Journal publication, documentation

		webinar titled <i>“Product Innovation of Batik Giriloyo MSMEs in Bantul, Yogyakarta.”</i>	strengthening of MSME capacities.		
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(Source: Processed Data, 2025)

III. RESULT AND DISCUSSION

The implementation of product innovation and digital marketing programs for Batik Giriloyo MSMEs in Bantul Regency, Yogyakarta, has made a meaningful contribution to both business development and the preservation of local culture. Findings from surveys, interviews, and direct observations reveal that prior to the intervention, Batik Giriloyo MSME actors faced several key challenges, including limited access to markets, a lack of product innovation, and minimal use of digital technologies in marketing activities.

Following the training and mentoring sessions, there has been a notable improvement in the MSME actors’ understanding and skills related to product innovation. Artisans have begun to explore traditional batik motifs infused with modern design elements, utilize environmentally friendly natural dyes, and enhance their product packaging to appear more appealing and contemporary. Moreover, they have started to diversify their product offerings by creating accessories and home décor items with batik themes, which has helped expand their target markets and increase the products’ added value.

In terms of marketing, Batik Giriloyo MSMEs have started to utilize social media platforms and online marketplaces to broaden their market exposure, reaching audiences at local, national, and international levels. This digital transformation has proven effective in increasing product appeal and reinforcing the image of Giriloyo batik as a cultural product rich in aesthetic and narrative value. Collaborations with various stakeholders, including educational institutions, local government bodies, and international partners, have further strengthened their business networks and opened new opportunities for market development.

Overall, product innovation and digital marketing have proven to be effective strategies in enhancing the competitiveness of Batik Giriloyo’s MSMEs. This program not only contributes to local economic growth but also reinforces cultural identity in the face of global developments. The success of this initiative is expected to serve as an inspiration for other batik centers to pursue innovation and marketing strategies that align with contemporary trends.

After conducting a comprehensive identification and analysis of the various issues hindering product innovation among Batik Giriloyo MSMEs in Bantul Regency, Yogyakarta, and formulating a targeted work program within the framework of community service initiatives, the next phase involved the implementation of this program through a series of systematically designed activities. The execution of the program was realized through a range of strategic initiatives, detailed in the subsequent activity table, representing a tangible effort to empower MSMEs by fostering creativity and innovation capacity.

Table 3. Program Implementation

Work Program	Activity	Date	OutPut
Batik Giriloyo Product Innovation and Digitalization Program	Organizing Training Activities on Contemporary Batik Design Innovation Without Abandoning Traditional Values, and E-Commerce and Social Media Training for Digital Marketing Through a Global Webinar Entitled “Product Innovation of Batik Giriloyo MSMEs in Bantul, Yogyakarta”	June 2, 2025	Journal publication, documentation

(Source: Processed Data, 2025)





Picture 1. Program Implementation

IV. CONCLUSION

The community engagement activities focusing on enhancing the products of Batik Giriloyo MSMEs in Bantul Regency, Yogyakarta, have had a positive impact on strengthening the competitiveness and sustainability of traditional batik enterprises in the modern era. Through training in innovative design, the development of derivative products, and the implementation of digital marketing technologies, Batik Giriloyo entrepreneurs have successfully enhanced their knowledge and skills. The outcomes of these initiatives demonstrate progress in creative efforts to produce new motifs rooted in local culture, the use of environmentally friendly natural dyes, and the adoption of more modern and appealing product packaging.

In addition, efforts to expand marketing networks through collaboration with international partners and the utilization of digital media have opened new opportunities for entering global markets. The organization of international webinars and the establishment of reseller networks abroad represent strategic initial steps in introducing Batik Giriloyo to an international audience. However, continued mentoring and regular evaluation are still needed to further extend market reach and enhance the autonomy of MSMEs.

Overall, product innovation and digitalization in marketing have proven to be effective

solutions in addressing challenges related to market access, enhancing product value, and strengthening the cultural identity of Giriloyo batik amidst international competition. The success of this program is expected to serve as a source of inspiration and a model for other batik centers in developing innovative and adaptive strategies aimed at preserving cultural heritage while simultaneously improving the welfare of MSME practitioners.

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