

Wabula Village Woven Fabric Craftswomen Group: Utilisation of E-Commerce technology innovation to increase product marketability

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ABSTRACT

This community service activity was conducted in Wabula Village, Buton Regency, involving participants from the Wabula Village Weaving Women's Group. The group possesses significant economic potential; however, they have not yet fully optimised the marketing and sales of their woven fabric products. The primary objective of this initiative was to introduce the use of e-commerce platforms to transition traditional face-to-face transactions into a faster and more efficient online system. The method employed in this activity consisted of socialisation and hands-on mentoring. As a result, participants received essential information and practical assistance related to e-commerce utilisation. Furthermore, this initiative served as a motivational platform, encouraging the weaving group to expand their market reach by using their newly created e-commerce accounts and continuously innovating their products to enhance the growth and sustainability of their businesses.

Keywords: Community Empowerment; Digital Marketing; E-Commerce; Technological Innovation; Weaving Craftswomen.

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1. Introduction

Weaving is recognized as one of Indonesia's most valued cultural heritages, maintained through a process that is far from simple (Nuraini & Miftahul, 2022). It demands not only perseverance but also a strong commitment to preserving the nation's cultural identity (Hani, 2023). In many regions across Indonesia, weaving is traditionally practiced by women and serves as a vital source of livelihood, often passed down from one generation to the next (Mamuaya, Nova Ch., 2023). These intergenerational practices have ensured the continuity of weaving traditions in various local communities over time, as also reflected in the cultural roles of Batak Toba women (Nugroho et al., 2020), the symbolic significance of ulos weaving in North Sumatra (Simbolon et al., 2022), and the resilience of Tenun Kubang artisans in responding to modernity (Yanuarmi & Widdiyanti, 2016).

One such region is Wabula Village, which is well known for its potential as a centre of traditional weaving crafts. In this village, weaving is not a newly introduced profession but a long-standing practice that has been inherited through generations. Most villagers are engaged in weaving, highlighting its deep cultural and economic significance. Becoming a weaver requires not only technical skill but also patience and dedication to the detailed process involved in fabric production (Wafiroh, 2017). This craft is predominantly undertaken by adult

women and housewives, for whom weaving often constitutes their main occupation (Hasbullah et al., 2020). This highlights how weaving in Wabula Village has evolved into both a cultural expression and an economic pillar of the community.

Despite this rich tradition and established expertise, the Wabula Village Women's Weaving Group continues to face significant challenges, particularly in expanding the market reach of their products. Observations by the service team revealed that while the group has made attempts to market their woven products through collectors and by participating in exhibitions outside Buton Regency, the resulting sales remain minimal. This has hindered the full utilisation of their production capacity. Furthermore, limited access to marketing information has emerged as a core issue. During exhibitions, only a small number of local orders are placed directly with the artisans, resulting in suboptimal turnover. Nevertheless, the group remains persistent in their efforts, continuously striving to improve and expand their business operations. This resilience suggests that, with appropriate strategic support, the group has significant potential for sustainable growth.

To address these constraints, one strategic intervention involves leveraging digital technology to enhance product promotion and marketing. Currently, the Wabula Village Weaving Group lacks an effective platform to promote their products. E-Commerce technology offers a promising solution, enabling digital marketing strategies that can increase visibility and streamline product development, pricing, customer service, and promotional methods. This would allow the group to respond more effectively to market demand and ultimately generate higher profits. Thus, strengthening the group's digital capabilities through structured support services is essential.

The main objective of this community service initiative is to establish an E-Commerce system that facilitates buying and selling transactions via electronic media, primarily the internet. If the Wabula Village Women's Weaving Group can optimise the use of E-Commerce platforms such as social media in their business operations, their superior woven products will not only compete effectively in the local market but may also reach customers beyond regional and national borders. This transition will prepare the group for participation in a broader and more competitive digital marketplace.

Moreover, by optimising the use of E-Commerce technology in marketing, it is expected that the group will be able to effectively introduce their distinctive products to consumers. These platforms can highlight the unique product features and design innovations, while simultaneously providing data insights into consumer preferences. This enables the group to tailor their offerings to market needs and trends. Additionally, digital platforms provide the opportunity to build brand identity, ensuring that the products of the Wabula Village Weaving Group gain recognition and usage among a broader consumer base. When digital marketing is implemented effectively, the group's business is likely to experience sustained long-term growth. Strategic use of digital platforms is therefore essential for ensuring both competitiveness and sustainability.

Developing the Wabula Village Women's Weaving Group economy through the adoption of E-Commerce technology presents an opportunity to increase sales, broaden market reach, attract target consumers more efficiently, and enhance the group's professional image. In conclusion, empowering the weaving group through digital transformation is a necessary and strategic effort. It not only supports economic independence but also strengthens the preservation and global recognition of Indonesia's cultural heritage.

2. Context of the Study

Wabula Village is located in the Wabula Sub-district, Buton Regency, Southeast Sulawesi Province. The village is home to several tourist attractions, including natural, cultural, and creative tourism activities developed by the local community. One of the most unique natural sites in the village is Kali Topa, a bathing area situated approximately 150 metres from the shoreline, where freshwater and seawater meet—an unusual and distinctive phenomenon. Beyond its natural attractions, Wabula Village is widely recognised across Buton Island as a centre of customary and cultural heritage, particularly maintained and practiced by the Wabula Tribe community (Suherman et al., 2018; Hilman, Fachrurozi, & Armiyati, 2025). These features highlight Wabula Village as not only a tourist destination but also a vital area for cultural preservation.

Among the preserved cultural practices is traditional weaving, carried out by a local artisan group known as the Wabula Village Weaving Women's Group, which is a key partner in this community empowerment program. The business managed by this group is collective in nature, with capital contributed collectively and partly supported by the Wabula Village administration. However, the group's management remains relatively simple. Although there is an organizational structure in place, the leader also assumes the responsibilities of a manager. Currently, the group does not have a well-organised bookkeeping system, making it difficult to track profits and losses. Furthermore, they have yet to utilise digital technologies for promotion and marketing (Kusnanto, Runturambi, & Rofii, 2024; Wibowo, Hamdani, & Octavanny, 2024). The woven fabrics produced by the group are traditionally used to make sarongs, clothing, hats, scarves, bags, and various other items.



Figure 1. Wabula Village woven sarong

The prices of these traditional Buton woven fabrics range from IDR 100,000 to IDR 250,000, depending on the motifs and the raw materials used. The Wabula Village Weaving Women's Group produces woven fabrics based solely on incoming orders, as they have not yet been able to market their products to a wider audience. Product marketing is currently limited to individual orders, participation in exhibitions, and consignments to collectors. This passive approach to marketing significantly constrains the group's growth potential and limits the visibility of their products.

Despite these limitations, the group continues to make efforts to sustain and grow their business with the resources they have. They have worked to build positive relationships with external stakeholders, including the Buton Regency Department of Industry, Trade, and Cooperatives. However, the extent of this relationship is limited to receiving notifications about exhibition opportunities. The group has expressed a desire to collaborate with universities to receive assistance in the form of training, technology integration, management improvement, and the development of a more effective marketing system to enhance business productivity. This reflects the group's readiness to embrace innovation and structured support.

While the Wabula Village Weaving Women's Group demonstrates significant economic potential, the group has not yet optimally utilised opportunities to market their woven products. This community service initiative aims to address that issue by introducing the benefits of E-Commerce Technology, which enables a transition from traditional, face-to-face selling to faster and more efficient online transactions (Adiwihardja, 2018). The adoption of E-Commerce Technology is intended to improve the marketability of the group's products, allowing them to be promoted and sold beyond local boundaries. It is hoped that by leveraging E-Commerce platforms such as Shopee, Lazada, and Tokopedia—as well as through independently managed websites or online store applications (Marhawati et al., 2023)—the group can reach global consumers.

Technological innovation plays a critical role in economic transformation (Gamayanto, 2018). Along with increased income and improvements in economic structure, technological innovation drives shifts in economic performance toward a more technology-based, higher-value-added model (Hizbandyah et al., 2023; Ding et al., 2021). E-Commerce, which refers to the process of buying, selling, or exchanging goods, services, and information through computer networks including the Internet (Wijaya et al., 2022), has become increasingly relevant in the modern digital era. With smartphones and internet access now basic societal needs, even small-scale businesses have the opportunity to enter digital markets (Park & Choi, 2019; Sachitra & Chinthaka, 2022).

Smartphones simplify business transactions and daily activities, particularly sales, which are now predominantly conducted online. The Wabula Village Weaving Women's Group, known for its colourful and patterned woven fabrics, possesses a unique appeal that has the potential to attract broader markets. In order to support the group's development on a global scale, it is essential to apply digital technology and E-Commerce strategies to broaden market access. The group's products can then be promoted to audiences far beyond Buton Regency, while also receiving support for IT-based management practices to enhance product resource management capabilities.

The main issues prioritised in this programme include:

a. The absence of E-Commerce Technology Innovation to improve product competitiveness

Currently, the Wabula Village Weaving Women's Group lacks access to E-Commerce Technology Innovations that could enhance their product visibility and selling power. Integrating such technology would encourage the group to innovate in diversifying their product offerings and contribute to both economic development and community empowerment (Faldyna, Rusyn-Hrynyk, & Yavorskyi, 2021; Sutrisno, Widodo, & Ausat, 2025). Furthermore, it would facilitate broader and more strategic marketing outreach.

b. Limited human resources in managing E-Commerce Technology

Another significant issue is the group's limited capacity to manage E-Commerce Technology. This challenge can be addressed through structured training and capacity building. Developing human resources is crucial to improving the group's overall performance. As a community-based economic entity, the Wabula Village Weaving Women's Group plays an important role in local economic growth, innovation, and recovery. Enhancing their human capital is a vital step toward ensuring the group's long-term sustainability and success in the digital marketplace (Meylano et al., 2025; Ubaidillah, Shalah, & Yasin, 2024).

3. Method

This community service activity employed an active participatory approach, emphasizing continuous engagement and collaboration between the Community Service Program (PKM) team and the Wabula Village Women's Weaving Group. The method was chosen to ensure that the intervention process is not only top-down but also empowers partners to be involved in identifying problems, developing solutions, and adopting technological innovations based on their specific capacities and needs (Gao & Qiao, 2025; Li & Wang, 2024).

The implementation of the program consisted of several interrelated stages:

- a. Preliminary Survey and Needs Assessment:** The PKM team initiated the activity by conducting a field survey in Wabula Village to assess the readiness and specific needs of the Women's Weaving Group related to the implementation of E-Commerce Technology. This stage involved direct observation, informal interviews, and documentation of existing production, marketing, and technological usage conditions. The objective was to map out the group's baseline understanding of digital platforms and to identify infrastructure or skill gaps that could hinder the adoption of e-commerce.
- b. Data Analysis and Design of Intervention:** Based on the data collected during the initial survey, the team conducted a needs analysis to design a targeted intervention strategy. The analysis focused on several key areas, including digital literacy levels, availability of supporting devices (smartphones or computers), internet access, and familiarity with online marketplaces. This stage was essential to tailor the assistance so that it addressed real constraints experienced by the weaving group in embracing online marketing systems.
- c. Socialisation and Capacity-Building Workshops:** Following the analysis, a series of training sessions and technical assistance activities were held to introduce the concept of e-commerce to the participants. These activities included socialisation about the benefits and risks of digital marketing, as well as step-by-step practical guidance on how to register, create, and manage e-commerce accounts, specifically using the Shopee platform. The mentoring was designed to be inclusive and interactive, ensuring that all participants—regardless of prior digital experience—could follow and apply the materials (Sanbella, Versie, & Audiah, 2024).

Throughout the process, the PKM team maintained an open line of communication with local stakeholders, including the village authorities, to reinforce local support and sustainability of the program. The participatory method ensured that knowledge transfer was not only instructional but also contextual and responsive to feedback from the beneficiaries.

4. Result and Discussion

This Community Service Program (PKM) activity was conducted by lecturers from Universitas Muhammadiyah Buton. The implementation of this community service is not only a form of academic responsibility, but also a concrete realisation of the lecturers' role in fulfilling the Tri Dharma of higher education, which includes education, research, and community service. Such activities are carried out regularly each year as part of a broader effort to engage with and empower local communities. In doing so, this program is expected to broaden the perspectives and complement the skillsets of the community members, particularly the Wabula Village Weaving Women's Group.

To ensure the relevance and effectiveness of the program, the PKM activities were carried out in several systematic stages. These stages were designed to provide a clear framework for implementation, beginning with preliminary engagement and planning.

4.1 Survey and Determination of Partner Areas

The first stage involved conducting a field survey and determining the partner area. The PKM team carried out the survey collaboratively, working in groups to gather preliminary data and assess the actual conditions of the targeted location. During this stage, the PKM team identified the materials and resources required for the activity. In addition, the team held a series of coordination meetings and developed a comprehensive work plan. Communication and discussions were held with both the Head of Wabula Village and representatives of the Wabula Village Weaving Women's Group.

The objective of these preliminary engagements was to secure approval for the community service program and to align the planned activities with the needs of the village. These discussions helped determine the activity timeline and facilitated the socialisation of the planned program to the local weaving group. Importantly, the community was introduced to the main theme of the activity: "Utilisation of E-Commerce Technology Innovations to Increase Product Selling Power."

The general purpose of conducting this field survey was to directly observe the conditions of the partner area. On-site observations allowed the team to explore the context more thoroughly and collect essential data related to the proposed topic. This information was crucial in shaping the overall approach of the PKM and enhancing its relevance to the actual needs of the weaving group. Additionally, the observations contributed to the development of new insights and deeper understanding, which are essential for achieving long-term improvements in the group's capacity and marketing strategies.

Following the survey, the team entered the coordination and preparation stage. This involved finalising details for the implementation of community service activities, including setting schedules, preparing educational materials for socialisation, and outlining the technical steps of the program. These preparatory efforts were instrumental in ensuring that the PKM activities would be executed in a structured, efficient, and impactful manner.



Figure 3. PKM team coordination with the Head of Wabula Village and the Head of the Wabula Village Weaving Group

4.2 Socialisation and Mentoring

This community service activity was carried out on Wednesday, 12 February 2025, in Wabula Village, Buton Regency. A total of 25 participants, all members of the Wabula Village Weaving Group, were present and actively participated in the event. The session began with opening remarks from the Chief Executive of the PKM programme and the Head of Wabula Village, who officially inaugurated the activity. Following the formal opening, the agenda proceeded with the presentation of material by a guest speaker, aimed at introducing participants to new concepts relevant to the focus of the program. The implementation of this service activity consisted of three structured stages: 1) Initial Assessment; 2) Presentation of Material; 3) Mentoring and Assistance

As part of the initial stage, participants were asked to complete a pre-test survey to assess their existing knowledge of e-commerce and related digital tools. The results of this preliminary evaluation are summarised in Table 1 below:

Table 1. Results of Initial Assessment on Digital and E-Commerce Familiarity

No	Question	Answer
1	Have you ever heard of or used any e-commerce applications?	All 25 participants had never heard of or used e-commerce applications.
2	What online selling applications are you familiar with?	All 25 participants mentioned Shopee as the only known application.
3	Do you currently have an online selling account?	None of the participants had an online selling account.
4	Do you use any social media platforms?	All 25 participants reported having a Facebook account.

These findings reveal a limited understanding of e-commerce among participants, although some are familiar with specific applications through indirect exposure. This baseline information became the foundation for the subsequent educational intervention.

The first phase of material delivery involved a face-to-face socialisation session to introduce participants to the concept of e-commerce.



Figure 3. Delivery of E-Commerce Introduction Material

This session served as a platform to provide foundational knowledge to participants, specifically introducing them to the concept and purpose of e-commerce and its potential for expanding product marketability. Although many participants were initially unfamiliar with the term “e-commerce,” once the speaker provided concrete examples such as Shopee, Lazada, and Bukalapak, the participants began to make connections with platforms they had previously encountered. As a result, participants gained not only a clearer understanding of what e-commerce is, but also its potential benefits for their weaving business. Notably, many participants expressed interest in beginning to sell their products online. The second speaker delivered a practical session on how to create an e-commerce account, selecting Shopee as the platform of choice due to its high popularity and user base in Indonesia.



Figure 5. Delivery of Material on How to Create an E-Commerce Account

In this session, the speakers supported by the PKM team—guided the Wabula Village Weaving Group through the step-by-step process of creating and managing an online store account. This hands-on assistance was crucial, as it bridged the gap between theoretical knowledge and practical application. Participants were directly supported in setting up their accounts, thereby initiating their integration into the digital marketplace.

Through this mentoring process, the community members were not only introduced to a new form of commerce but also empowered with the tools and guidance necessary to implement it independently. The session marked a transformational moment in the group's journey toward digital empowerment and market expansion.

5. Conclusion

The community service initiative themed “Wabula Village Woven Fabric Craftswomen Group: Utilisation of E-Commerce Technology Innovation in Order to Increase Product Selling Power” has generated a demonstrably positive impact on the Wabula Village Weaving Group. The implementation of this PKM (Community Partnership Program) activity has opened new opportunities for the group by introducing them to digital tools and marketing channels that were previously unfamiliar to them.

Through the establishment of e-commerce accounts and the acquisition of basic digital literacy, the weaving group is now able to expand their market reach via online platforms. This advancement has not only increased product visibility but has also enabled the group to access a wider and more diverse customer base—both nationally and potentially internationally. These outcomes indicate a significant shift from traditional, localised sales practices to a more dynamic, borderless market approach.

The socialisation and hands-on mentoring provided during the activity have proven to be instrumental in fostering local economic empowerment. The Wabula Village Weaving Group, which previously operated through conventional and informal methods, is now equipped to transition toward a more modern and efficient digital business model.

By integrating e-commerce technology into their business processes, the group can now optimise production, streamline distribution, and implement more effective marketing strategies. These improvements contribute not only to increased productivity and income but also support broader goals of rural development. In the long term, such initiatives can help elevate community living standards and play a role in reducing economic disparities through inclusive digital transformation.

6. Acknowledgement

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