



Strengthening Digital Literacy for Community-Based Marine Tourism Development on Untung Jawa Island, Thousand Islands

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Received: October 27, 2025

Revised: November 28, 2025

Accepted: December 2, 2025

Published: December 31, 2025

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DOI: [10.29303/ujcs.v6i4.1279](https://doi.org/10.29303/ujcs.v6i4.1279)

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Abstract: Untung Jawa Island in the Thousand Islands has excellent potential for developing family-based marine tourism, including beaches, mangrove ecotourism, and fishing activities that are attractive to both local and international tourists. However, the low digital literacy of the community is a significant obstacle to optimizing tourism promotion and boosting the local economy. This condition leads to the community's dependence on external agents and limits the competitiveness of Untung Jawa Island as a tourist destination compared to other tourist islands in the Thousand Islands. Therefore, this Community Service activity aims to enhance the digital literacy capacity of tourism managers, fishermen, and local artisans through training on creating promotional content, utilizing social media, and managing sustainable family tourism packages. The implementation method uses a participatory approach, including coordination, training, mentoring, and evaluation stages. The activity intervention also includes the installation of eight fish aggregating devices (FADs) as family-friendly fishing spots and a means of restoring fish habitats degraded due to coral reef damage. The results of the activity show an improvement in participants' skills in creating digital content (photos, videos, and promotional narratives), the formation of a local creative group called Digital Ranger, and increased community involvement in online tourism promotion. In conclusion, the synergy between physical innovation through the development of marine tourism facilities and the strengthening of digital literacy can empower communities in managing tourism destinations. The novelty of this activity lies in the integration between the installation of artificial reefs as an ecotourism innovation and community-based digital literacy training, making Untung Jawa Island a model for developing competitive and sustainable coastal digital tourism villages.

Keywords: Community Development, Digital Literacy, Fish Aggregating Devices, Marine Tourism, Untung Jawa Island.

Introduction

Untung Jawa Island is one of the villages in the South Thousand Islands District, strategically located just 20–40 minutes from mainland Jakarta (Dewi, 2017;

Nursyahid et al., 2025). The island is home to approximately 3,000 people, with the main livelihoods in the tourism, fishing, and small and medium-sized enterprise sectors. Its geographical advantages and diverse natural potential make Untung Jawa Island a

How to Cite:

Zulfikri, Budiastri, A. A. K., Ichwan, Setyawan, D. B., Mudayat, & Syaikhu, A. (2025). Strengthening Digital Literacy for Community-Based Marine Tourism Development on Untung Jawa Island, Thousand Islands. *Unram Journal of Community Service*, 6(4), 879–884. <https://doi.org/10.29303/ujcs.v6i4.1279>

prime candidate for development as a leading marine tourism destination. The tourism potential includes the beauty of the beaches, mangrove tours, snorkeling, and community-based homestays, which can be an attraction for both local and foreign tourists (Saghita, 2011).

However, despite this potential, Untung Jawa Island still faces a number of challenges, particularly in terms of tourism promotion. The digital promotion being done is still less effective compared to other islands in the Thousand Islands area, such as Tidung Island and Pramuka Island. One of the contributing factors is the low digital literacy of the community, limited skills in creating creative content, and reliance on external agents to market tourism potential. In the era of Industry 4.0, mastering digital technology and communication skills through social media are important components in enhancing the competitiveness of tourist destinations (Atmaja, 2023; Marpaung et al., 2024; Rahmat & Deddy, 2020).

Various examples of successful community-based tourism development in other regions can serve as a reference in optimizing the potential of Untung Jawa Island. For example, Medewi Village, through its internationally renowned surf package innovation (Suwintari et al., 2023). In Karangsong, Indramayu, the development of mangrove ecotourism combined with community-based digital promotion has successfully attracted educational tourists (Anjani et al., 2023). Meanwhile, in Purwokerto, Central Java, the digital literacy of tourism stakeholders has proven to play an important role in increasing destination competitiveness through creative, low-cost, yet high-impact content (Rosyadi et al., 2025).

The lessons learned from these good practices show that the success of community-based tourism development depends not only on the physical potential of the area but also on the community's ability to effectively utilize digital technology. On Untung Jawa Island, innovations like installing fish aggregating devices (FADs) as a family fishing attraction need to be balanced with improving the community's ability to create digital content and manage social media. Strong digital literacy can be an instrument for empowering communities, enabling them to independently promote local potential without relying on external parties (Astna et al., 2025; Habeahan et al., 2025).

Nevertheless, efforts to develop digital-based tourism on Untung Jawa Island still face obstacles, such as unstable internet connectivity and the low purchasing power of digital devices among fishing communities. To address these issues, a collaborative strategy is needed that involves local governments, universities, and the private sector, such as tourism startups (e.g., Atourin and Jejak.in). This collaboration is expected to strengthen the digital tourism ecosystem, provide access

to technology, and enhance community capacity in managing sustainable and inclusive tourism promotion. Based on the existing problems and opportunities, this research or activity aims to improve the digital literacy of the people of Untung Jawa Island through training and mentoring in the use of digital devices as a means of tourism promotion. The specific objectives of this activity include (1) providing training on creating creative content based on social media, (2) improving the community's ability to manage tourism promotion media ethically and effectively, and (3) strengthening the community's role in community-based marine tourism development. By achieving these goals, it is hoped that the community of Untung Jawa Island will be able to become active participants in the development of an independent, competitive, and sustainable digital tourism village.

Method

This service activity is carried out in the form of training that emphasizes practice to produce output. The service activity was carried out through the stages of mentoring, forming a learning community, evaluating implementation, and planning for sustainability. This activity will be carried out from February to March-December 2024, located on Untung Jawa Island, with the implementation determined for the Untung Jawa Island area. The method used in this activity is participatory. The activities are divided into four stages: coordination, preparation, implementation, and evaluation (Eryanto, 2025; Hayati et al., 2023; Munambar et al., 2024; Wibowo et al., 2023).

1. Coordination Stage

This stage begins with obtaining a permit, coordinating with the village and RW heads, and then discussing the activity implementation with the farmer groups. At the coordination stage, interviews were conducted with the traditional leaders of the Untung Jawa Island community regarding the island's outstanding tourism potential. Utilizing various digital devices that can be used by the managers of Untung Jawa Island tourism and sampling the devices or media that have been used so far.

2. Preparation Stage

In this stage, the service implementer prepares the materials, tools, and ingredients that will be used during the activity. The training materials cover the content creation process using various easy-to-use applications. In this stage, preparation and selection of applications that can be easily used by the participants are carried out. The tools and materials used include a laptop, a mobile phone with high

camera resolution, a subscription multimedia application, a wireless router, a starter pack/internet, paper, and writing materials.

3. Implementation Phase

The implementation phase began with the installation of 8 fish shelters as "fish homes." These fish shelters also served as family fishing spots. The fish shelters functioned as "fish homes" and tourist attractions, considering the coral reef degradation in the Thousand Islands waters. The next step is digital literacy training with three main focuses:

- 1) Creating digital content such as photos, short videos, and promotional narratives;
- 2) Managing social media platforms like Instagram, TikTok, and Google My Business;
- 3) Tourism branding through local storytelling and digital ethics;
- 4) Performance demonstration, which involves practicing media content creation as a tool for tourism promotion on Untung Jawa Island. During the practical activities, participants were divided into groups of 4-5 members each. This training began with material delivery conducted in a classical manner, with the material presented using demonstration, discussion, and question-and-answer methods.

The next step is the formation of local creative groups ("Digital Rangers") from the younger generation to serve as the driving force for content creation and promotion. Guidance and evaluation through hands-on practice, satisfaction surveys, and monitoring of published content results.

4. Evaluation Stage

After completing all PKM activities, partners will be asked to fill out a satisfaction questionnaire to measure whether the PKM is effective or not and provide suggestions for future PKM activities. The final step in this phase is the creation of the report and the preparation of the promised deliverables. The program's sustainability plan involves partners to continuously develop and innovate in improving the efficiency and effectiveness of this media development.

Additionally, the main aspect of the sustainability of this program is the existence of a learning community for the residents there to utilize local potential/wisdom as a resource for developing tourism potential. The Open University will always contribute to improving the quality of education in Indonesia, especially on Untung Jawa Island, Thousand Islands, and in the DKI Jakarta Province. As an additional support for the sustainability of the PKM program, partners will be provided with a book on digital literacy utilizing local potential.

Result and Discussion

1. Improved Participant Skills in Creating Promotional Content

The digital literacy training conducted on Untung Jawa Island proved effective in enhancing participants' skills in creating promotional tourism content. This activity was attended by 30 participants from diverse backgrounds, including tourism managers, fishermen, housewives, and local youth. Before the training, most participants did not have sufficient knowledge regarding filming techniques, video editing, and the creation of effective promotional narratives. Through interactive training methods, participants are introduced to various digital applications such as Canva, CapCut, and VN Editor, which are easy for people with basic technological literacy to use.

After completing the training, participants' ability to process visual and narrative content significantly improved. The evaluation results show that 80% of the participants were able to produce short videos lasting 30-60 seconds that showcase the uniqueness of the Untung Jawa Island tourist destination, such as the beauty of the mangrove forest, fishing activities, and local craft products. Participants also learned to understand the importance of esthetics, lighting, and persuasive messaging in digital promotional content. This skill is becoming an important foundation for communities to independently market their local potential through social media.

The impact of this skill improvement is evident in the increased digital interaction on social media. Content created during the training and uploaded to Instagram and TikTok platforms received positive responses from netizens, with an increase in audience reach of up to 60% compared to before the training. This condition shows that empowering communities through digital literacy not only increases individual capacity but also collectively strengthens the image of the tourist destination. This finding aligns with the research results of Gantina et al., (2025), which confirms that increasing the digital capacity of local communities significantly impacts the success of community-based tourism promotion.

2. The Formation of a Local Creative Group as Content Creators

One of the significant outcomes of this service activity is the formation of a local creative group called "Digital Ranger Pulau Untung Jawa." This group consists of young people aged 17-25 who have an interest in technology and social media. The formation of groups was carried out as a follow-up to the training so that activities would not stop after the program ended. The members were trained to be key drivers of

digital content creation, manage social media accounts together, and collaborate with external parties to expand the reach of tourism promotion.

The Digital Ranger group fulfills its role as local content creators by producing various forms of content, such as destination photos, artisan profile videos, and short articles about ecotourism. They also serve as a link between the community, tourism managers, and potential tourists, providing information on activities, tour prices, and local event calendars. The existence of this group fosters a sense of ownership and responsibility among the younger generation toward their village's potential, while also creating a model for the regeneration of tourism actors that is adaptable to technology.

Additionally, the formation of this group serves as a concrete example of community-based digital empowerment. With the presence of an independent and creative group, the sustainability of the digital literacy program is more assured because promotion and publication activities can be carried out continuously without complete dependence on external parties. This result supports the findings of Havidotimisa & Rofaida (2025), who stated that the success of digital transformation in the local tourism sector is highly influenced by the community's ability to organize itself and collectively manage technological knowledge.

3. Availability of Family Fishing Spots at 8 Fish Aggregating Devices (FADs)

This community service activity also includes a physical development initiative involving the installation of eight FADs around the waters of Untung Jawa Island. FADs serve as gathering places for fish, thus also becoming a new tourist attraction in the form of family fishing spots. The installation process was carried out collaboratively by the service team and local residents, fostering a sense of ownership and environmental awareness among the coastal community. The installation of these fish aggregating devices is also expected to support the balance of the marine ecosystem and increase fishermen's catches.

After the installation of the fish shelters, family fishing tourism activities increased significantly, especially on weekends. Based on observation results, there are an average of four to five family tourist groups who utilize the artificial reef spot each week. Besides being a recreational spot, this location also creates new economic opportunities for residents, such as boat rentals, fishing gear provision, and the sale of snacks around the area. Thus, this program is not only oriented toward environmental conservation but also toward improving the well-being of the local community.

The success of developing this family fishing spot aligns with the concept of community-based ecotourism,

where the community serves as both the manager and the primary beneficiary. A similar model was previously implemented in Medewi Village with positive results (Suwintari et al., 2023), demonstrating that the integration of physical and social innovation can strengthen the appeal of coastal tourism. On Untung Jawa Island, the combination of digital promotion and diversification of tourist attractions through the construction of fish aggregating devices (FADs) has proven capable of increasing tourist interest while supporting marine resource conservation.

4. Publication of Activities in Mass Media and Community Channels

As part of the program results dissemination, this activity was published through various media channels, both online and local. Several media outlets, such as UT TV Online, Jakarta Tourism Network, and Kompasiana, featured news about community-based tourism development innovations on Untung Jawa Island. Additionally, documentation of training activities and the installation of fish aggregating devices (FADs) was uploaded to the Digital Ranger YouTube channel, which now serves as a digital education and promotion tool for the community.

This publication not only expands the reach of information but also strengthens the positive image of Untung Jawa Island as an environmentally friendly marine tourism destination. Based on digital monitoring data, local community accounts saw an increase in followers of up to 65% within two months of publication. Interaction with the audience also increased, as evidenced by a significant number of comments and reposts. This shows that community-based digital promotion can be an effective strategy for building a tourism destination's identity.

From a sustainability perspective, publication through digital media contributes to increasing public digital literacy because citizens learn to manage public communication channels professionally. Society is beginning to understand the importance of consistent uploads, message authenticity, and audience reach analysis. Thus, publication activities are not only a means of promotion but also a vehicle for continuous learning to strengthen the community's digital capacity. This approach aligns with the view of Andoni et al., (2025) that digital literacy focused on content production can increase citizen participation in the digital tourism ecosystem.

Conclusion

The Community Service (PkM) activity on Untung Jawa Island shows that strengthening digital literacy plays a strategic role in supporting the development of

community-based marine tourism. The synergy between utilizing digital technology and local tourism potential has proven capable of increasing community independence in promoting their destinations. Through training on digital content creation and the installation of fish aggregating devices (FADs) as a family fishing attraction, the community not only gains technical skills but also cultivates an awareness of the importance of self-promotion and collaboration. This program demonstrates that physical innovation combined with digital capacity building can make Untung Jawa Island a competitive, family-friendly, and sustainable coastal digital tourism village model.

For this program to be sustainable, cross-sectoral support is needed between local governments, universities, and the private sector to strengthen digital infrastructure and provide affordable access to technological devices for the community. Long-term mentoring is also needed in social media management and creative content production so that digital literacy doesn't just stop at training but develops into a consistent and professional culture of tourism promotion. Additionally, collaboration with digital tourism platforms such as Atourin or Jejak. This should expand the promotion network for Untung Jawa Island to both national and international tourism markets, while also strengthening the island's position as a premier destination in the Thousand Islands.

Acknowledgments

The Community Service (PkM) implementation team would like to express their gratitude to Universitas Terbuka for the support, guidance, and facilitation that enabled the digital literacy strengthening activities on Untung Jawa Island to take place. Appreciation is also extended to the village government and the community of Untung Jawa Island, especially the Tourism Management Group, for their cooperation and active participation throughout the activities. The support and enthusiasm of all parties are key to the success of this program in driving the development of competitive and sustainable community-based marine tourism.

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