Training on the Utilization of E-Commerce Technology and Product Design for Processed Mangrove Products at LKP Walidayna

Ridha Muldina Negara[1], Rohmat Tulloh[2], Sri Astuti[3]*, Ratna Mayasari[4], Pramitha Aulia[5], Nadya Moeliono[6]

[1,3,4]Faculty of Electrical Engineering, Telkom University, Bandung, 40257, Indonesia
[2]Faculty of Applied Sciences, Telkom University, Bandung, 40257, Indonesia
[5,6]Faculty of Communication and Business, Telkom University, Bandung, 40257, Indonesia

*Correspondence should be addressed to Sri Astuti; sriastuti@telkomuniversity.ac.id

Abstract

The coastal area of Medan Marelan District in Medan City, North Sumatra Province, has extensive mangrove forests that have not been fully utilized. LKP Walidayna supports the empowerment program for productive communities in the coastal areas of Medan City. Currently, LKP Walidayna has provided training on processing mangrove fruits to the community, turning them into various processed food products such as Mangrove Pudding, Mangrove Syrup, Mangrove Jam, and Mangrove Dodol. The vocational training institution (LKP) is one form of non-formal education that communities can utilize to enhance quality, skills, and productivity. However, LKP Walidayna faces limitations, including the lack of effective information media to market its products more widely. Therefore, the proposed solution is the creation of a website and e-commerce platform to promote LKP Walidayna's mangrove products using effective and attractive marketing techniques. The e-commerce platform would contain information about activities, especially the processing of mangrove products. Based on feedback from participants in the product design and marketing strategy training for processed mangrove products through the website, it is concluded that the conducted training activities align with the needs of LKP Walidayna. LKP Walidayna expressed satisfaction with the visually appealing and user-friendly website.

Keywords: e-commerce, mangrove, product design, vocational institution

Introduction

A vocational training institution (*Lembaga Kursus dan Pelatihan* or *LKP* in Indonesian) is an educational institution that provides learning programs with specific vocational orientations in a short period. The policy basis for *LKP* is Indonesian Law number 20 of 2003 concerning the National Education System, article 26, paragraph 5. Courses and training are conducted for the community that requires knowledge, skills, life skills, and attitudes to self-develop, enhance their profession, work, start a business, and/or continue education to a higher level. One of the challenges for *LKP* is to provide engaging and applicable learning. This way, *LKP* graduates can apply post-training learning and be competitive, with one example being expertise in the culinary field. *LKP* has the potential to empower communities in various ways (Lukman et al., 2021):

1. **Providing access to education and training**: *LKP* can offer access to education and training for those who cannot access formal education. Programs provided by *LKP*, such as basic literacy, life skills, vocational training, and entrepreneurship, can help people acquire the necessary skills to improve their quality of life and well-being.

2. **Enhancing self-reliance**: *LKP* programs can assist communities in gaining skills to become independent and not rely on external assistance. *LKP* can help people acquire entrepreneurial skills, enabling them to start their businesses and generate their income.

3. **Increasing community participation**: *LKP* can boost community involvement in various activities and programs. Participation in *LKP's* programs can enhance community engagement and ownership of these initiatives

4. **Raising social awareness**: *LKP* can help communities understand social and environmental issues, promoting higher social awareness. Programs provided by *LKP* can equip people with the skills and knowledge needed to become responsible and caring members of society

5. **Improving job opportunities**: *LKP* programs, such as vocational training, can help communities acquire the skills needed for employment. Additionally, *LKP* can assist people in obtaining certifications that enhance their job prospects.

All these community empowerment potentials have been implemented by *LKP Walidayna* (Rohmat Tulloh et al., 2023). *LKP Walidayna* in the city of Medan is one of the options for a culinary vocational training institution located at Jl. PLTGU No. 73A Komplek PLN Paya Pasir Lingk.33 Rengas Pulau, Medan Marelan District, Medan City, North Sumatra.

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LKP Walidayna supports the empowerment program for productive communities in the coastal areas of Medan City. The coastal areas in the Medan Marelan Subdistrict, Medan City, North Sumatra Province, have extensive mangrove forests that have not been fully utilized. This activity disseminates research results suitable for application in coastal communities, aiming to create outstanding products from mangroves.

One of the potential and benefits of mangroves that is not widely known as a food source is mangrove fruit such as *pidada*. The use of mangrove fruit which can be consumed is not as main food but for food diversification purposes. This type of *pidada* can be processed into syrup and candy. *Pidada* has an upright and branching stem with a diameter of up to 20 cm. Its oval or elongated leaves are approximately 10-20 cm long and 5-7 cm wide, dark green, and tend to be glossy (Salsabila et al., 2023).
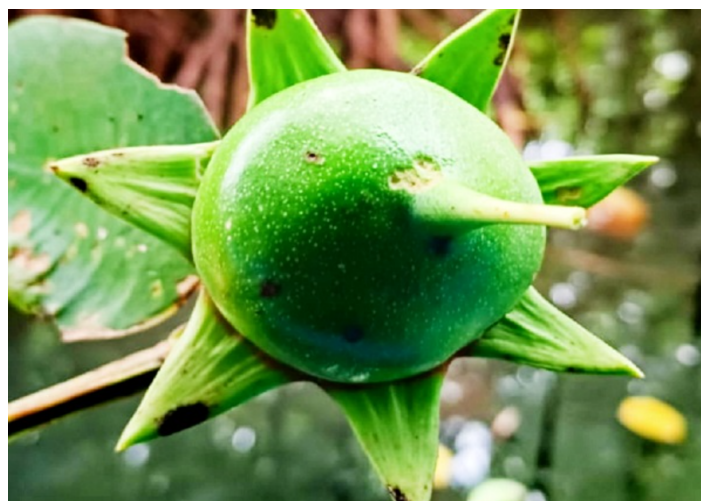

Fig. 1. *Pidada* mangrove fruit

Fig. 2. Examples of processed mangrove fruit products

Figure 1 shows the *pidada* mangrove fruit. Figure 2 shows the examples of processed mangrove fruit products. *LKP Walidayna* has provided training in processing mangrove fruits to the community, creating various processed food products such as mangrove pudding, mangrove syrup, mangrove jam, and mangrove *dodol*. The processed products need to be marketed by implementing an effective marketing strategy. Determining market segments and the right strategy for marketing products via the e-commerce system needs to be prepared (Solihin et al., 2021).

The development of electronic commerce (e-commerce) has brought many changes to the business activity sector that has been carried out in the real world. This change changes all marketing activities and also cuts operational costs for trading activities without having to come to the place and is defined as the process of buying, and selling products and information which is carried out electronically using a computer. Implementing an online sales application (e-commerce) using a Content Management System (CMS) makes it easier for customers to carry out transactions without time and place restrictions, and can help sellers increase sales and marketing of their products (Wulandari & Gata, 2020).

However, at present, *LKP Walidayna* faces resource limitations, including the lack of effective information media and product design to market its products more widely. Therefore, it is also important to learn marketing techniques so that product marketing is effective (Hayati et al., 2020).

Currently, the system for selling electronic products is developing very rapidly. Many business actors use and leverage this technology as a strategy in their efforts to market the products or services they offer. Sales of products and information are conducted electronically using computers (Dharmawan & Gata, 2020). There are many product promotions through social media. They use the online sales system as a promotional tool that is cheap, efficient, effective, and affordable. The products offered online are also very diverse (Dumilah et al., 2020). Therefore, the use of social media for product promotion needs to be studied and developed by the managers of *LKP*.

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Methods

The proposed method to address the main issues at *LKP Walidayna* includes planning Community Service Program (*Pengabdian kepada Masyarakat or PKM* in Indonesian) activities, training in creating attractive product designs, and effective product marketing strategies through e-commerce, as well as evaluation to enhance the effectiveness of the activities.

Fig. 3. Project methodology

Based on Figure 3 above, the community service team conducted an initial survey to find out partners' problems and ensure partner needs. From the survey results, we tried to formulate existing needs and determine activity scenarios. The activity implementation process is carried out by providing training regarding product design and effective product marketing techniques through e-commerce. The evaluation process is used to review implementation results and ensure that there are no problems that will become obstacles in the future.
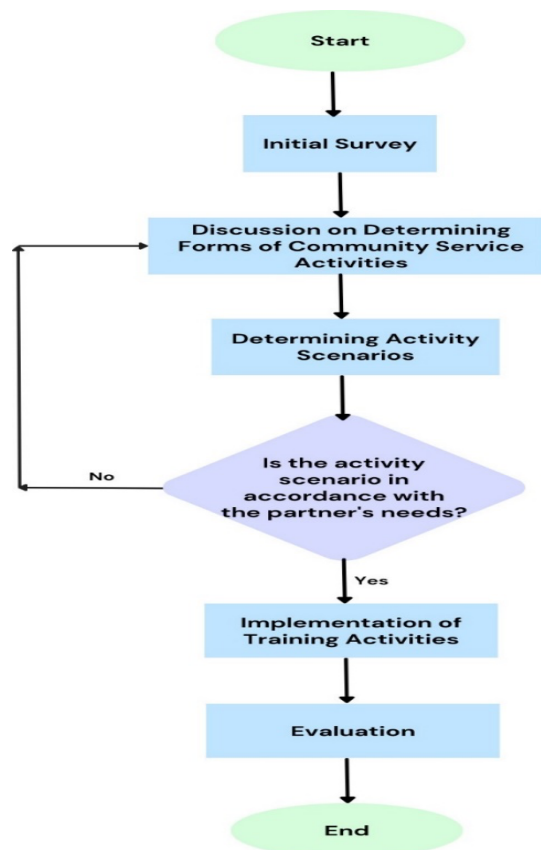

Fig. 4. Flow diagram of community service activities

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Figure 4 shows the flow diagram of community service activities. The steps of the conducted activities are as follows:

1. Planning Community Service Program Activities

   In the initial stage, several activities were undertaken, including initial discussions with the supervisor of *LKP Walidayna* and the creation of a training program plan tailored to the specific needs of *LKP Walidayna*.

2. Training in Product Design

   Implementation of training activities focused on creating designs for mangrove products with high market value. Introducing design software and providing information on presenting products in a compelling and effective manner.

3. Training in Effective Product Marketing Strategies through Website

   Creation of a website and e-commerce platform to promote *LKP Walidayna*'s mangrove products using effective and attractive marketing techniques. The e-commerce platform contains information about activities, especially the processing of mangrove products. The information is directed towards the general public, and online registration for training and other activities can be performed.

4. Activity Evaluation

   Evaluation of the activities is conducted in the form of feedback. This step aims to identify shortcomings and challenges in the implementation of the service activities.

Product marketing training from *LKP Walidayna* uses the website. The e-commerce system using a website can expand the reach of sales promotion (Gata & Luthfan, 2021). There are several ways to develop a website, including typing code manually, using a Content Management System (CMS), or utilizing a website builder. In this community service, a WordPress-based CMS is employed due to its considerations for ease of use and flexibility (Farisi et al., 2022).

Results and Discussions

The initial process was conducted through online discussions with the partners. From the results of the initial discussions, it can be concluded that various processed products from the *pidada* mangrove fruit have been produced by the culinary team *at LKP Walidayna*. However, there were still some issues with product design and effective marketing strategies. Therefore, the solution offered by the community service team was in the form of creating and providing

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training in product design and effective product marketing strategies through a website.

Product design training was conducted according to the type of processed product previously produced. Each processed product needs different and creative packaging and design to attract buyers. This is aimed at generating buyer interest. The marketing target for these processed products is all segments of the population, so the product design should be made more attractive.

Fig. 5. Processed product design results

Fig. 6. Mangrove syrup product design results

Fig. 7. Mangrove jam product design results

Fig. 8. Mangrove juice product design results

Figure 5 above shows the product design results for all processed products produced by *LKP Walidayna*. Figure 6 shows the mangrove syrup product design results. Figure 7 shows the mangrove jam product design results. Figure 8 shows the mangrove juice product design results.

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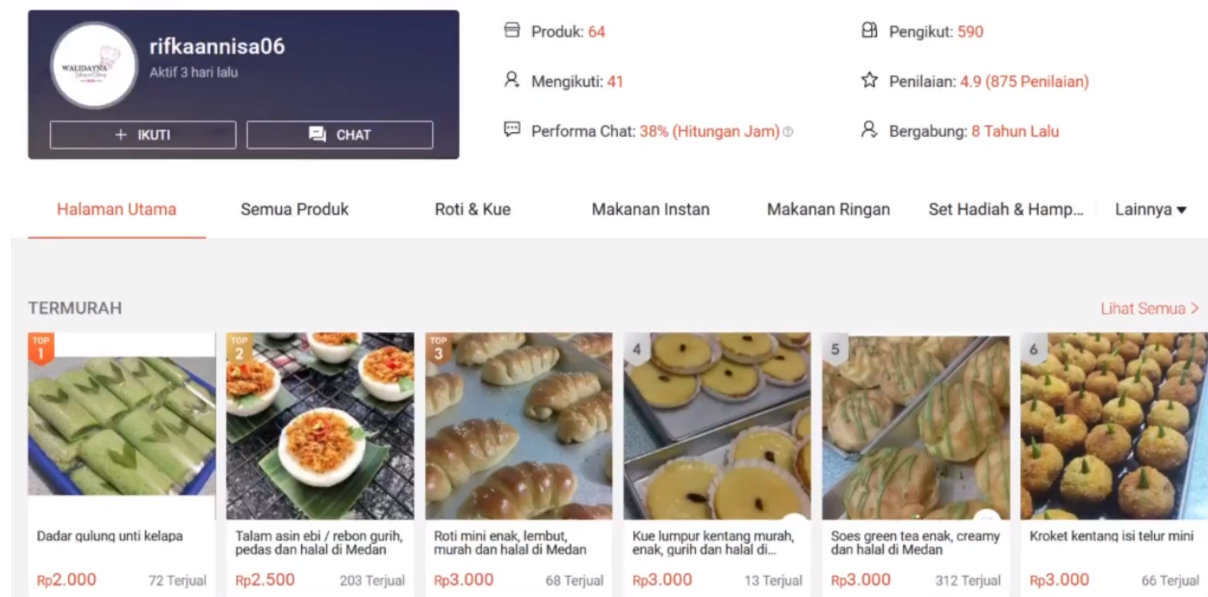at LKP Walidayna | Negara et al.

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Fig. 9. Results of product marketing display design via e-commerce

Figure 9 shows the results of product marketing display design via e-commerce. Figure 10 shows the results of the product marketing display design via the website. All products produced by *LKP Walidayna* will then be marketed through the website and other e-commerce.
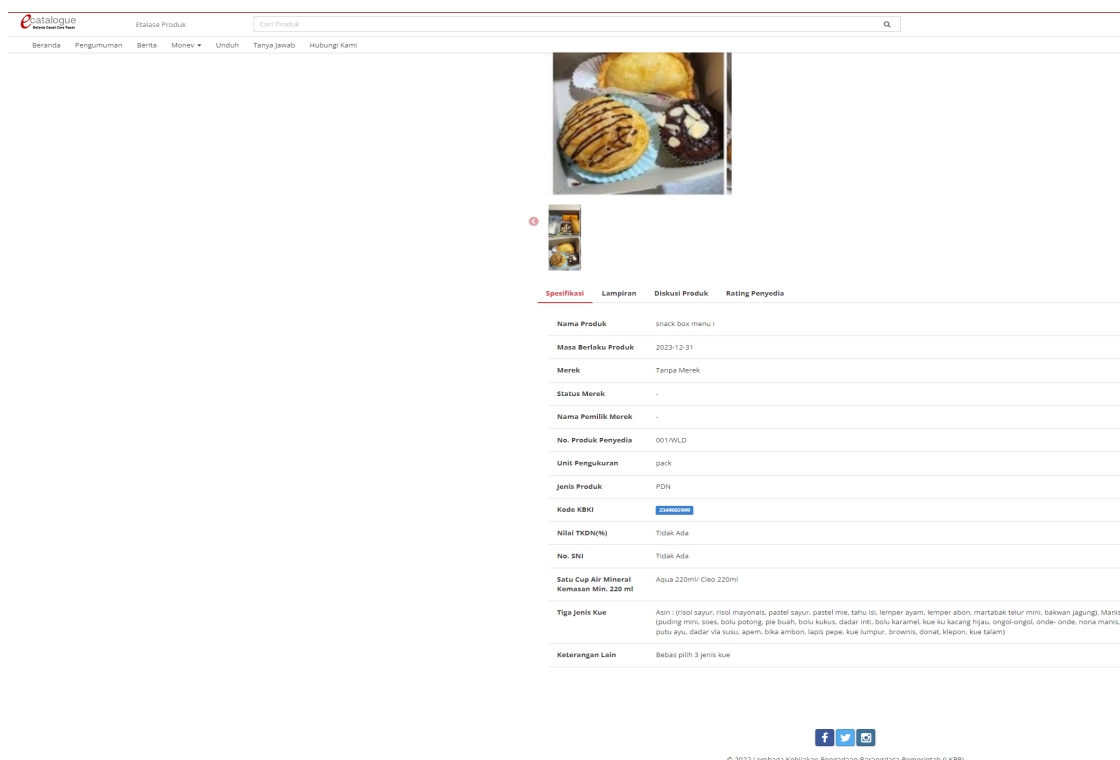

Fig. 10. Results of product marketing display design via the website

The implementation of this community service activity aims to provide training, evaluate the implementation of product design, marketing strategies for processed products through the website, offer improvement suggestions, and gather feedback from the target community.

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Evaluation was provided by the target community after the training activity was completed, with the goal of obtaining improvement suggestions and feedback. The evaluation took the form of a feedback form, which was included in the training activity.

For the sustainability of community service activities, feedback from previously implemented and conducted activities is necessary. The results of feedback and improvement suggestions from the target community would be collected and used as evaluation material for the implementation of community service in the upcoming semester or period. The feedback includes various questions related to the community's satisfaction with community service activities and the sustainability program.

Table 1. The recapitulation of training activity feedback

Evaluation Parameter	Answer Score 4*	Answer Score 5*
Activity material is in accordance with the needs of partners/participants	0%	100%
The implementation time of this activity is relatively suitable and sufficient	0%	100%
The material/activities presented are clear and easily understandable	0%	100%
The committee provides good service during the activity	20%	80%
The community receives and hopes that activities like this will continue in the future	0%	100%
The offered technology is very beneficial	10%	90%

*The scoring for each statement on a scale of 1 to 5 (where 1 = strongly disagree and 5 = strongly agree)

Table 1 shows the recapitulation of training activity feedback. From the 15 training participants who are managers of *LKP Walidayna* and have filled out the questionnaire, it is concluded that the implemented training on product design and marketing strategies for processed products through the website is in line with the needs of the managers. The managers expressed satisfaction with the activities, particularly regarding the appealing design and user-friendly website.

Conclusion

This community service activity aims to achieve effective marketing for processed mangrove products produced by *LKP Walidayna*. Based on initial activities in the form of discussions with the supervisor of *LKP Walidayna*, there were main issues in marketing processed

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mangrove products, namely the design of processed mangrove products and effective marketing strategies through the website. Therefore, the solution offered by the community service team was in the form of training in the design of processed mangrove products and effective marketing strategies through the website. Based on the feedback survey results, it is evident that continuous activities are highly anticipated by the target community. The activity materials align with the needs of the target community. Support from the target community was apparent from the early discussions conducted by the community service team and during the implementation of community service activities. This was demonstrated by the enthusiasm of the target community in participating in training activities, directly engaging in product design, and assisting in completing the administrative requirements needed by the community service team.

Acknowledgements

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