

Development of Nata de Coco Product Marketing Strategy through Digital Marketing Pocket Book for Women Farmers Group in Pekik Nyaring Village

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Abstract

Pekik Nyaring Village is a village with abundant agricultural potential, especially coconut cultivation and agro-industry. In this village, the Women Farmers Group (KWT) plays a significant role in supporting the household economy through the production of coconut-based processed products, one of which is Nata de Coco. However, the resulting production still faces problems with access and marketing strategies. This community service aims to provide an understanding of digital marketing to the KWT. The methods used in this activity are counseling and discussions targeting the women farmers group of Pekik Nyaring village. The digital marketing counseling activity for nata de coco products in the KWT of Pekik Nyaring village has had a positive impact, this condition is reflected in the enthusiasm of the KWT participants in implementing the activity. In addition, the results of the evaluation related to the understanding of the counseling material showed a 28% increase in knowledge and the KWT was able to create a digital platform as a digital marketing platform. This condition can be the foundation for the success of community service activities. Similar activities should continue to be carried out sustainably with several methods such as live demonstrations and mentoring. This is done to ensure sustainable change.

Keywords: Agro-industry Development, Community Service, Marketing Strategy, Nata de Coco, Women Farmers Group

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INTRODUCTION

Pekik Nyaring Village is located in a rural area with abundant agricultural and agro-industrial potential, becoming an example of an agrarian community in Indonesia that relies on local natural resources for its livelihood. In this village, the Women Farmers Group (KWT) plays a crucial role in supporting the household economy through the production of locally-based processed products, one of which is Nata de Coco. Nata de Coco, produced from fermented coconut water, is a cellulose-based processed product produced through a bacterial fermentation process from coconut water or other coconut extracts. This product originates from the Philippines and is popular in Southeast Asia as a food ingredient that is rich in fiber, low in calories, and has a chewy, transparent texture.

Coconut (*Cocos nucifera*) is the main raw material due to its high sugar content, such as glucose and fructose, which can be fermented by bacteria to produce extracellular cellulose (Khoo et al., 2017).

However, although the KWT (Family Welfare Movement) in Pekik Nyaring Village has consistently produced nata de coco, the main challenge is limited marketing strategies. Traditionally, marketing has been conducted through direct sales at local markets or village cooperatives, which are often hampered by geographical distance, harvest seasons, and competition from large-scale industrial products. Data from initial observations indicate that revenue from nata de coco sales remains low, with average monthly sales reaching only IDR 5-10 million per group, due to a lack of access to a wider market and limited knowledge of digital technology. In today's digital era, where e-commerce and social media dominate product distribution, this group still relies on conventional methods, so the potential for exports or online sales has not been optimally explored (Khrais & Gabori, 2023; Ma & Gu, 2024).

Improving digital marketing is crucial to addressing this issue, given that internet penetration in rural Indonesia has reached over 60% (Insi Nantika Jelita, 2023; Wiweko & Anggara, 2025), with platforms like Instagram, Facebook, and online marketplaces like Shopee and Tokopedia accessible through a simple smartphone. However, KWT members often face obstacles such as low digital literacy, a lack of simple and practical guidance materials, and limited access to formal training. This causes local products like Nata de Coco to lose out to commercial brands that are already proficient in digital marketing strategies, such as engaging visual content, SEO, or paid advertising.

Digital marketing refers to the use of digital platforms such as social media, websites, email, and e-commerce to promote products or services (Chaffey & Ellis-Chadwik, 2019; Yevseitseva et al., 2022). In the context of nata de coco, a coconut product popular as a healthy food and snack, digital marketing is an effective strategy to reach a wider consumer base, especially in the post-pandemic era where shopping behavior has shifted online. Research shows that this strategy is particularly effective for local food products because it emphasizes sustainability, health, and cultural uniqueness. For example, a study by (Dwivedi et al., 2021; Selvakumar, 2025) found that digital marketing increased brand awareness by up to 40% for organic food products through platforms like Instagram and TikTok, where visual content (such as recipe videos) predominates.

Several specific studies highlight the application of digital marketing to processed coconut products. For example, the use of e-commerce can increase online visibility, boost export sales, and improve the capacity of MSMEs to market coconuts (Suib et al., 2024; Jusoh et al., 2025). Meanwhile, research findings by (Ihwan et al., 2025) revealed that training and mentoring effectively improved digital marketing strategies and online sales of coconut products through e-commerce platforms, which contributed to improving the economy of rural communities.

This community service program, themed "Developing a Nata de Coco Product Marketing Strategy through a Digital Marketing Pocketbook for Women Farmers' Groups in Pekik Nyaring Village," is designed to fill this gap. Through the development of a digital-based pocketbook, this program aims to provide easy-to-understand, practical guidance, covering basic digital marketing steps such as creating an online account, product photography, content strategy, and sales analysis. This pocketbook will not only increase the capacity of KWT in marketing Nata

de Coco, but also contribute to women's economic empowerment, village poverty reduction, and the sustainability of the local agro-industry.

METHODS

Description of the Time and Study Area

This community service activity was held on October 20, 2025, in Pekik Nyaring Village, Pondok Kelapa District, Central Bengkulu Regency. The location was chosen purposively, considering that Pekik Nyaring Village is a coconut-producing area in Bengkulu City and is adjacent to the University of Bengkulu campus. This condition is expected to have a tangible impact on empowering areas near the campus.

Target Audience

The target of this community service is the community of Pekik Nyaring Village, Pondok Kelapa District, Central Bengkulu Regency. The community service program is carried out for women farmer groups with the following criteria: (1) Women farmers who are interested in gaining new knowledge; and (2) women farmers who are interested in digital marketing of nata de coco products. Based on these criteria, 30 KWT Pring Lestari Pekik Nyaring Village members were selected.

Tools and materials

The tools and materials that will be used in this activity are a pocket book with the theme "Marketing Strategy for Nata de Coco Products Through Digital Marketing", questionnaires and stationery.

Activity Description

The activities to be implemented in this community service activity are as follows:

1. Measuring the initial knowledge of women's farmer groups (KWT) regarding digital marketing of nata de coco products. This testing will be conducted using a pre-test. The media used in the pre-test by providing the same questionnaire before and after the activity.
2. Providing counseling on marketing strategies for nata de coco products through digital marketing. This activity is carried out directly to the counseling participants
3. Discussion and evaluation of the activity (measuring KWT knowledge after the counseling using a post-test).
The media used to conduct the post test was a questionnaire for the participants.

RESULTS AND DISCUSSION

This Community Service activity was carried out on October 22, 2025, targeting the Women Farmers Group (KWT) of Pekik Nyaring Village, Pondok Kelapa District, Central Bengkulu Regency. 33 KWT members attended the activity. The series of activities included: First, measuring the initial knowledge of the Women Farmers Group members regarding digital marketing strategies for nata de coco products. The pretest design was used to measure the basic knowledge of farmers before the demonstration was carried out. The results of the (Ayaz et al., 2022;

Lachaume, 2023) study showed that the pretest-posttest design provided a picture of a significant increase in knowledge. Second, counseling regarding digital marketing strategies for nata de coco products. In this second activity, participants received a digital marketing pocket book as additional information for participants' knowledge. Third, Discussion and evaluation of activities using post-tests.

Measuring KWT's Initial Knowledge of Digital Marketing

This activity began by distributing questionnaires to all 33 KWT members participating in the outreach program. The purpose of this activity was to measure the KWT members' initial knowledge of digital marketing of nata de coco products. Pretest scores have been shown to be sensitive in differentiating initial knowledge levels and serve as a valid basis for measuring knowledge increases (Hiremath, 2020). Six questions were asked:

1. Are you familiar with digital marketing?
2. Do you know the purpose of digital marketing?
3. Do you know how to market products through digital platforms?
4. Do you know the techniques for creating a digital platform for product marketing?
5. Do you know the benefits of digital product marketing?
6. Have you ever marketed a product through digital marketing?

The pretest results are shown in Table 1.

Table 1. Results of the pre-test of product digital marketing knowledge

Question	Don't Know at All	Don't Know	Know a Little	Know	Know a Lot
Question 1	6%	22%	22%	50%	0%
Question 2	0%	22%	17%	61%	0%
Question 3	0%	83%	6%	11%	0%
Question 4	6%	72%	17%	6%	0%
Question 5	0%	22%	22%	56%	0%
Question 6	0%	39%	22%	39%	0%

Pretest results showed that 50% of KWT members in Pekik Nyaring Village were familiar with digital marketing in general, indicating that digitalization has reached KWT. This indicates a wide opportunity to market nata de coco products, making it an appropriate marketing method. Mobile phone ownership and a stable internet connection in Pekik Nyaring Village contribute to this situation.

In the second question regarding digital marketing objectives, 61% of KWT members were familiar with the objectives of digital marketing. Most KWT members learned about digital marketing objectives through social media platforms like Facebook and TikTok. However, 22% of KWT members were still unaware of the objectives of digital marketing. This was influenced by age and limited access to digital marketing information. The results of the (Nunan & Di Domenico, 2019) study show that older age groups tend to differ in the adoption and use of digital marketing channels, while access to information will increase market penetration (Budi et al., 2025).

Understanding how to market products through digital platforms remains very low; 83% of KWT members still don't know how to market their products. Most of them market their products offline, selling directly to

consumers or through consignment systems at nearby stores. This situation results in very limited product reach, ultimately limiting revenue. Inadequate promotional efforts will hinder the attraction of potential consumers, resulting in low product reach and sales (Abraha & Gebre, 2025). There is a need for efforts to provide an understanding of the techniques or procedures for marketing products digitally.

This community service also introduced KWT to several social media platforms such as Facebook, Instagram, TikTok, and Shopee to promote their products. By understanding these various social media platforms, KWT members can sell digitally. This serves as a foundation for increasing their knowledge of digital marketing platform creation techniques. Promotion and interaction on digital media significantly increases brand equity and consumer purchase intention (Schivinski & Dabrowski, 2016).

KWT members have already gained an understanding of the benefits of digital marketing, as reflected in the pretest score for question 5 of 56%. However, they have not yet experienced tangible benefits because they often learn about these benefits by watching various videos on the benefits of selling online on Facebook or TikTok. Technical efforts are needed so that digital marketing can be implemented and real benefits can be directly felt by KWT members. As many as 39% of KWT members have marketed digital products, the results of the information obtained indicate that digital marketing is carried out by selling products on the Facebook platform.



Figure 1. Pretest Activity and Filling Instructions

Product Marketing Counseling Through the Digital Marketing Pocketbook

In this section, the community service team distributed pocket books to KWT members containing general information, the importance of digital marketing, procedures, and how to market nata de coco products digitally. The outreach is expected to have an impact on increasing knowledge about digital marketing of nata de coco products, including basic digital marketing steps such as creating a digital platform (Facebook, TikTok, Instagram, etc.), creating a business identity, creating attractive content and responding to visitors who inquire or purchase products. In addition, outreach activities also targeted the importance of digital marketing to increase revenue. The content in this section is directed at the benefits and advantages of marketing products digitally. Outreach is a

method that has been proven effective in increasing target knowledge, especially in community groups and communities (Zurimi et al., 2020; Yunita et al., 2021). The atmosphere of the socialization activities carried out can be seen in Figure 2.



Figure 2. Digital Marketing Counseling

A crucial aspect of digital marketing is establishing a business identity, which includes creating a trademark, designing a logo, and developing packaging. This activity is the first step for marketers to ensure consumers easily recognize their products. For example, a trademark that matches the product being marketed will create a brand image for consumers. Easily recognizable trademarks provide consumers with easy access to product choices. Furthermore, using the right digital marketing media is equally crucial. These media can include marketplaces like Shopee, Tokopedia, and Bukalapak, or social media platforms like Facebook, TikTok, and Instagram. Each marketing medium has its own advantages, so choosing the right media can impact marketing revenue.

In addition to these two factors, personal and emotional closeness in serving customers is key to sustainable marketing. Digital marketing requires responsiveness in responding to customer messages or questions. Polite and friendly language is key in this area, ultimately leading to continued customer purchases and strong customer engagement. The findings of several studies show that customer engagement has a positive impact on business performance and increases sales volume (Fauziah et al., 2022; Nurmilah & Djakasaputra, 2024).

Discussion and Evaluation

The discussion that occurred during this community service was related to the participants' responses to the socialization material. Various questions that arose from KWT members were responded to well by the presenter. The questions asked by KWT members were mostly related to technical aspects such as procedures for creating marketing media accounts and registering on marketplaces. This condition is indeed in accordance with the needs of the participants. After the discussion process was carried out, there was an evaluation of the community service activities. The evaluation was carried out using the Post Test method, the questions contained in the Post Test questionnaire were the same as the Pre Test, this was based on observing changes in knowledge

gained by KWT members before and after the socialization activity was carried out. This method is usually used to evaluate a program, such as that carried out by (Sari et al., 2025) which uses pre-test and post-test methods to measure the knowledge of MSME members regarding digital literacy. The results of the evaluation obtained results as shown in Figure 3.

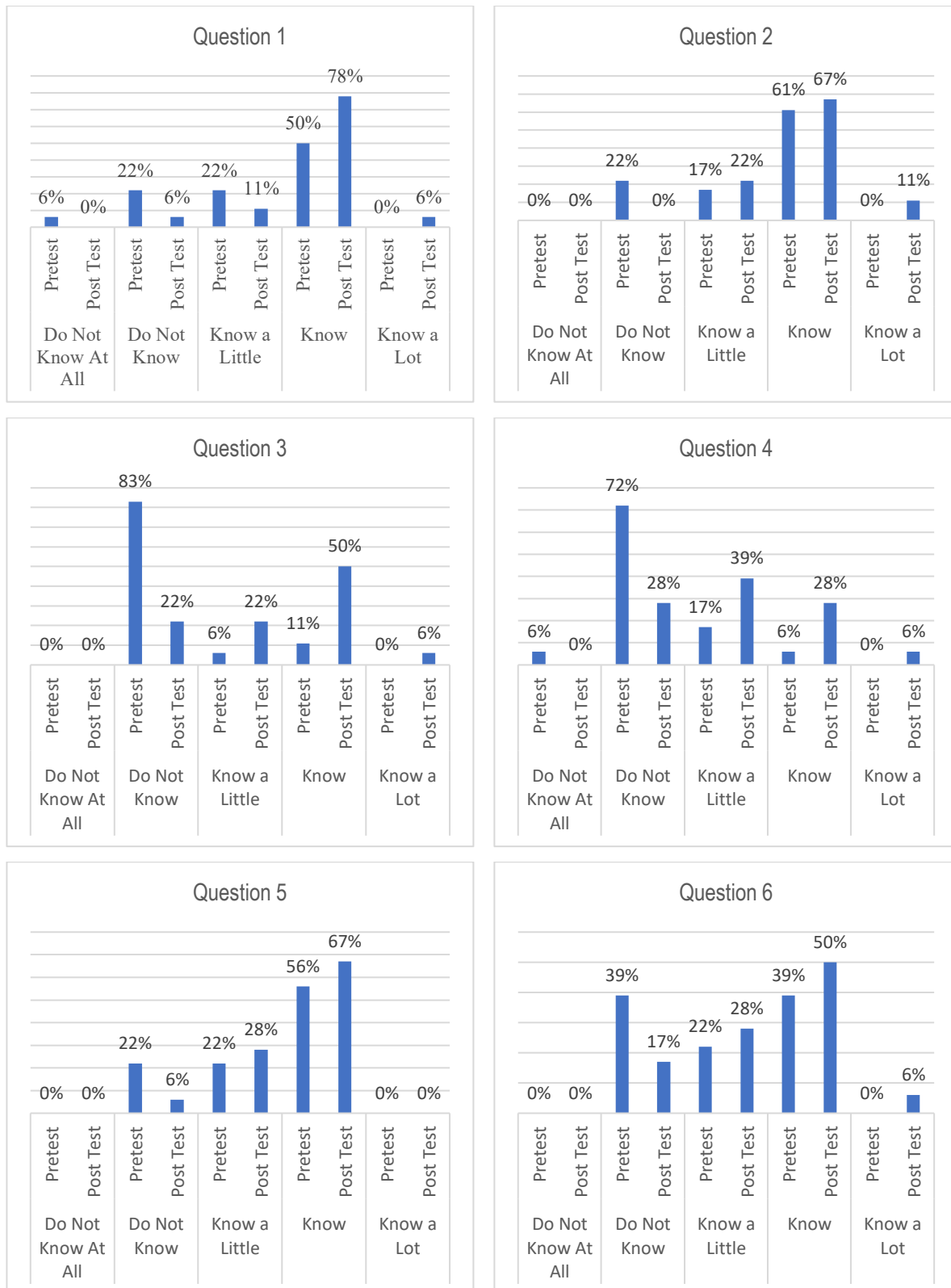


Figure 3. Results of the evaluation test of extension activities

The evaluation results using the post-test method showed that there was a significant change in knowledge before and after the socialization. KWT members' knowledge of digital marketing increased from 50% to 78%, an increase of 28%. In addition, understanding regarding the purpose of digital marketing increased by 17%, this is influenced by the fact that digital marketing is an important part of their activities, enthusiasm in listening to the socialization led to a significant increase in knowledge. Regarding the procedures for creating a platform and how to market products digitally, there was an increase of 45% and 28%, respectively. Meanwhile, the benefits of digital marketing increased by 11% and the experience of selling digital marketing products increased knowledge by 17%.

Overall, digital product marketing socialization activities have had a significant impact on the knowledge and understanding of KWT members. Research by (Nurdin, 2014; Nurmilah & Djakasaputra, 2024; Sari et al., 2025) explains that extension or socialization methods influence the level of knowledge of a group. Extension using discussion methods is effective for highly educated farmers, such as those in urban or suburban areas, while demonstration methods are effective for farmers with lower education, such as those in rural areas.

CONCLUSION

The digital marketing outreach program for nata de coco products in the Pekik Nyaring Village Women's Group (KWT) had a positive impact, as shown by the participants' enthusiasm for the program. Additionally, the evaluation results indicated that KWT members increased their understanding of digital marketing overall by 84%, grasped the objectives of digital marketing by 78%, learned how to market products digitally by 56%, understood techniques for creating digital platforms by 34%, recognized the benefits of digital marketing by 67%, and gained experience in marketing products digitally by 56%, thereby laying a foundation for successful community service activities. Similar activities should be continued using various methods, such as live demonstrations and mentoring, to ensure sustainable change.

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Author Contribution : BAS: Conceptualization, Writing - Original Draft, Editing, and Visualization;
MAF: Formal analysis; and Methodology;
SW: Writing - Review & Editing;

AA: Manuscript Translator; Validation and Supervision;

FFZ: Project administration

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