MOVE: Journal of Community Service and Engagement
Vol. 5, No.6, July 2026
Page : 201 - 209 E-ISSN: 2808-2990
DOI : 10.54408/move.v5i6.704 P-ISSN: 2828-4941

Increasing BanaGurt Competitiveness through Integrated E-Commerce and Digital Marketing for Women Entrepreneurs in Bumiaji

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Abstrak

Kelompok perempuan wirausaha di Bumiaji menghadapi keterbatasan akses pasar, kemampuan pemasaran digital, dan pemanfaatan e-commerce yang berdampak pada daya saing produk BanaGurt. Program pengabdian ini bertujuan meningkatkan daya saing produk melalui integrasi e-commerce dan pemasaran digital. Kegiatan melibatkan 30 perempuan wirausaha melalui lima tahap, yaitu asesmen awal, pelatihan pemasaran digital, implementasi e-commerce, pendampingan, dan evaluasi. Materi mencakup pengembangan katalog produk, pembuatan konten promosi, optimalisasi media sosial, transaksi daring, dan pengelolaan marketplace. Evaluasi menggunakan kuesioner pre-test dan post-test serta indikator kinerja usaha. Hasil menunjukkan peningkatan kemampuan pemasaran digital dari 60,5% menjadi 82,7%, pemanfaatan e-commerce dari 48,3% menjadi 81,6%, dan kemampuan membuat konten promosi dari 55,8% menjadi 84,2%. Visibilitas produk daring meningkat dari 10% menjadi 73%, sementara kontribusi penjualan daring terhadap penjualan bulanan naik dari 4,6% menjadi 18,9%. Program ini berpotensi memperluas akses pasar, meningkatkan efektivitas promosi, dan memperkuat daya saing BanaGurt serta keberlanjutan usaha perempuan berbasis komunitas.

Kata kunci: ***BanaGurt, Daya Saing, E-Commerce, Pemasaran Digital, Wirausaha Perempuan.***

Abstract

Women entrepreneurs in Bumiaji face limited market access, suboptimal digital marketing skills, and low e-commerce utilization, restricting the competitiveness of BanaGurt products. This community service program aimed to enhance product competitiveness through e-commerce integration and digital marketing. The program involved 30 women entrepreneurs and consisted of five stages: initial assessment, digital marketing training, e-commerce implementation, mentoring, and evaluation. Activities covered product catalog development, promotional content creation, social media optimization, online transactions, and marketplace management. Evaluation employed pre-test and post-test questionnaires and business performance indicators. The results showed improvements in digital marketing skills from 60.5% to 82.7%, e-commerce utilization from 48.3% to 81.6%, and promotional content creation skills from 55.8% to 84.2%. Online product

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visibility increased from 10% to 73%, while the average contribution of online sales to monthly sales rose from 4.6% to 18.9%. These findings demonstrate the potential of integrated e-commerce and digital marketing to expand market access, improve promotional effectiveness, strengthen product competitiveness, and support sustainable community-based women's entrepreneurship.

Keywords*: *BanaGurt, Competitiveness, Digital Marketing, E-Commerce, Women Entrepreneurs.

Introduction

It is true that digital technology has completely changed the way small businesses promote their products, communicate with their customers, and enter the market, and for local entrepreneurs, digitalization has meant a reduction in geographical limitations and less dependence on local shops. However, the availability of digital technology does not automatically lead to better business performance, and if the entrepreneur may still has a hard time coming up with interesting content (Nasar et al., 2022). If the information about their product is a problem, or the digital channel does not suit the seller, this can be a particular problem for women, who usually do business in small amounts and in a small way (Buteau, 2021; Chaker & Zouaoui, 2023).

E-commerce and digital marketing are the most powerful tools for improving the marketing power of micro-and small enterprises, and have been identified as essential means of increasing the market access and commercialization of small and medium-sized enterprises (Yacob et al., 2021; Hossain et al., 2026). E-business allows trade far beyond the limits of physical space, while digital marketing gives them a way to communicate their products' value to the world through social media, digital content, and online advertising (Dieguez et al., 2021; Rathore et al., 2023). Earlier studies have proven that the access of small and micro-enterprises to digital platforms is not limited only to the number of platforms accessed, but also depends on their capacity to operate the platforms, on the quality of the publicity content, and the ability to link up different digital channels to business operations (Gusenbauer et al., 2025; Abdul Latip et al., 2026). The community development of the digital transformation of its economy requires a combination of education, implementation, and continuous mentoring (Marx et al., 2021).

Product innovation is also a major factor that will boost the competitiveness of community-based entrepreneurs (Jundahuadong et al., 2026). Appropriate processing and marketing strategies can also turn waste and by-products from the surrounding agricultural industry into more valuable products (Karthikeyan et al., 2026). For example, banana peel yogurt is a product that combines food innovation with local agricultural resources, which is hoped to bring in added value to the women entrepreneurs of Bumiaji, East Java. But innovation alone is not enough to guarantee the success of a business. Without strong branding, digital promotion, and access to online marketplaces, innovative products will reach only local consumers, making it difficult to compete in a wider market (Islami et al., 2023).

BanaGurt was selected as the focal product because it represents a locally developed food innovation that transforms banana peel, an agricultural by-product, into a value-added yogurt product. This approach offers two main advantages: it creates an opportunity to utilize locally available resources that might otherwise be discarded, and it differentiates the product through its waste-reduction and circular-economy value proposition. Previous research has also reported that banana peel

ingredients can contribute dietary fibre and phenolic compounds to yogurt formulations, with potential effects on product characteristics and consumer acceptability (Kabir et al., 2021; Senaratne et al., 2025). Nevertheless, BanaGurt also faces several product-related challenges. As a yogurt-based food, it requires appropriate hygienic processing, quality consistency, refrigerated storage, and careful distribution. Consumer acceptance may also depend on taste, texture, appearance, and familiarity with the use of banana peel as an ingredient. These considerations indicate that product innovation alone is insufficient; BanaGurt needs effective product communication, branding, and access to broader markets. In the initial assessment, the participating entrepreneurs' digital marketing capability averaged 60.5%, e-commerce utilization was 48.3%, and only 10% of products were actively promoted online. This indicated a gap between product development and commercialization, requiring an integrated intervention that connects product value with digital promotion and online selling.

The aim of this paper is to fill this gap by applying an integrated e-business and e-marketing program to women entrepreneurs of Banagurt, which will combine practical training, digital advertising content creation, social media optimization, digital product cataloguing, marketplace utilization, and mentoring. Unlike approaches that focus solely on introducing digital platforms, this study emphasizes integrating digital skills with actual product commercialization. The goal is to improve the digital capacity of the entrepreneur, as well as increase the visibility and marketability of the products.

In this context, the purpose of this study was to examine the effectiveness of integrating e-commerce and digital marketing in improving the competitiveness of BanaGurt products among women entrepreneurs in Bumiaji, East Java. This study aimed to answer the following questions: (1) How does the intervention improve the digital marketing ability of women entrepreneurs? (2) How does integrated e-commerce implementation affect online product visibility and sales contribution? (3) How does integration of digital marketing and e-commerce contribute to the market competitiveness strength of the Banagurt product? The findings are expected to offer a practical model for community-based digital commercialization that can be adapted to other local innovative food products and women-led micro-enterprises.

Implementation Method

Research Design

This study employed a participatory community engagement approach to examine the effectiveness of integrating e-commerce and digital marketing in improving the competitiveness of BanaGurt products. E-commerce was selected not because it is universally the most advanced marketing method, but because it directly addresses the main constraints identified among the participating entrepreneurs: limited market reach, low online visibility, and restricted access to customers beyond the local area. Compared with relying exclusively on physical sales, e-commerce enables product information to be displayed continuously, supports online ordering and transactions, and provides opportunities to reach geographically dispersed consumers. Evidence from Indonesian SMEs indicates that e-commerce adoption is associated with benefits such as wider market reach, increased sales, improved company image, and more efficient business processes. E-commerce adoption significantly affects the sustainability of MSME business performance in Indonesia. However, e-commerce is not a stand-alone or universally superior solution: its effectiveness depends on digital literacy, product readiness, logistics, platform costs,

and the ability to maintain customer trust. Therefore, this program combined e-commerce with digital marketing, practical training, and mentoring rather than treating platform adoption as the sole intervention. The methodology followed five sequential stages: initial assessment, digital marketing training, e-commerce implementation, mentoring, and evaluation. A pre-test and post-test design was used to identify changes in participants' digital capabilities. In addition to questionnaire-based measurements, business indicators were observed to capture changes in online product visibility and the contribution of online sales.

Participants and Materials

The 30 women entrepreneurs who were involved in the production and marketing of BanaGurt were from Bumiaji, East Java. They took an active part in the whole intervention, from the initial assessment to the final evaluation. Materials utilized throughout the program included: (1) pre-test and post-test questionnaires, (2) digital marketing training resources, (3) BanaGurt product details and specifications, (4) digital product catalog templates, (5) promotional content templates, and (6) e-commerce and social media platforms used for commercializing the product. The questionnaire covered three capability dimensions: digital marketing capability, e-commerce utilization, and promotional content capability. Business performance observations evaluated the availability of online product promotion, online product visibility, and the contribution of online sales to monthly sales.

Measurement and Data Analysis

The results of the survey were calculated in percentages for each dimension of the questionnaire. Then the average percentage scores were compared for the pre-test with the average scores for the post-test. The capacity indicators were: the digital marketing capacity, the use of the e-commerce platform, and the content of the promotion. The business indicators were the proportion of Banagurts with active promotion and the average proportion of monthly sales from e-commerce. The difference between the before and after conditions was described using descriptive statistics. A survey of the participants during training and coaching was supplemented by a study of the implementation of the results. The quantitative results obtained were interpreted in the light of the observed implementation of digital marketing and e-commerce activities.

Methodological Alignment

This methodological approach was conceived as a system of training and technical implementation, rather than as e-commerce per se. First of all, the diagnostic survey revealed the participants' potential. Then came training to build up the missing skills. The eCom implementation phase provided a practical setting in which to practice these skills, while coaching and support aimed at securing their ongoing application. And finally, evaluation measured both the capacity-building aspects and the business results. This sequence allows the intervention to be easily replicated in other neo-ethnic contexts of small business because each of the steps is clearly defined and each output can be measured (Jameson, 2024). This sequence is also coherent with the overall objective of the project, which is to connect digital capacity with digital implementation and visibility, which leads to sales and competition.

The Implementation Method contains the following: (1) Place and time (location of activities and time of implementation accompanied by a map or location drawing); (2) Advice audience/Activity Partners (who and how to determine them); (3) Service Methods (preparation, counseling, training, mentoring, demonstration, etc.); (4) Success Indicators; and (5) Evaluation Method (evaluation technique to measure the achievement of success indicators).

Result and Discussion

Changes in Digital Capabilities

It was found in the preliminary assessment that the participants were still developing their digital skills, with an average score of 60.5% for digital marketing, 48.3% for e-commerce, and 55.8% for content marketing.

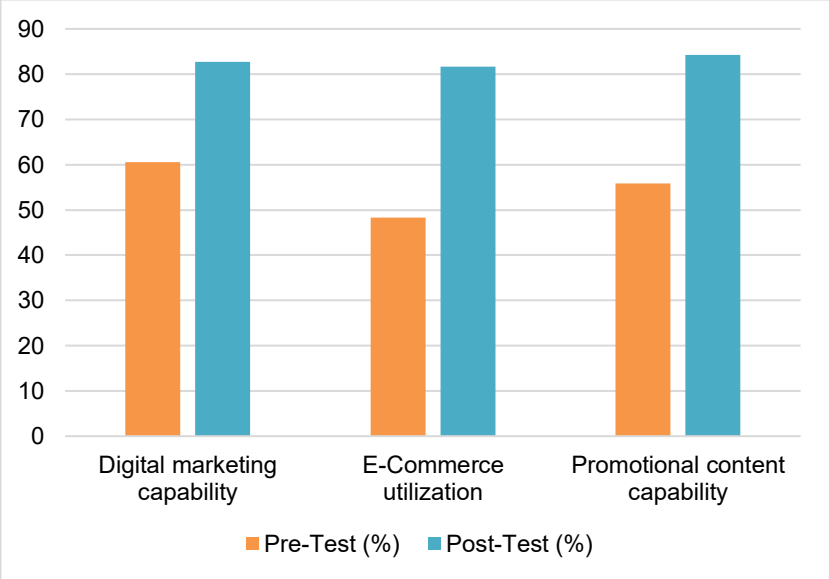


Figure 1. Pre-test and post-test comparison of digital capabilities

Following the initial assessment, the digital marketing and e-commerce training program was conducted in three sessions at the Bumiaji Village Hall, Batu City, East Java, involving 30 women entrepreneurs engaged in BanaGurt production and marketing. The first session focused on digital marketing fundamentals and social media optimization. The second session covered promotional content creation, including product photography, caption writing, and digital product catalogue development. The third session provided practical guidance on marketplace registration, product uploading, order management, and online transactions. Throughout the training, BanaGurt was used as the case product to provide participants with hands-on experience in preparing promotional materials, presenting products online, and conducting digital sales. Following the training, participants received mentoring to support the practical application of these skills in their respective BanaGurt businesses.

The intervention covered four main areas: (1) preparing product information and developing digital product catalogues; (2) creating promotional content, including product photographs and captions; (3) optimizing social media accounts for product promotion; and (4) utilizing e-commerce marketplaces for product registration, online display, order management, and transactions. Following the training, e-commerce implementation, and mentoring stages, improvements were observed across all three

capability indicators. The post-test results showed that digital marketing capability increased to 82.7%, e-commerce utilization reached 81.6%, and promotional content creation capability increased to 84.2%.

Improvement in Online Product Visibility and Sales Contribution

As the initial assessment revealed, the participants' digital skills were still in the development stage, with an average digital marketing capability of 60.5%, digital marketing for selling products was 48.3%, and digital marketing capabilities for creating content were 55.8%.

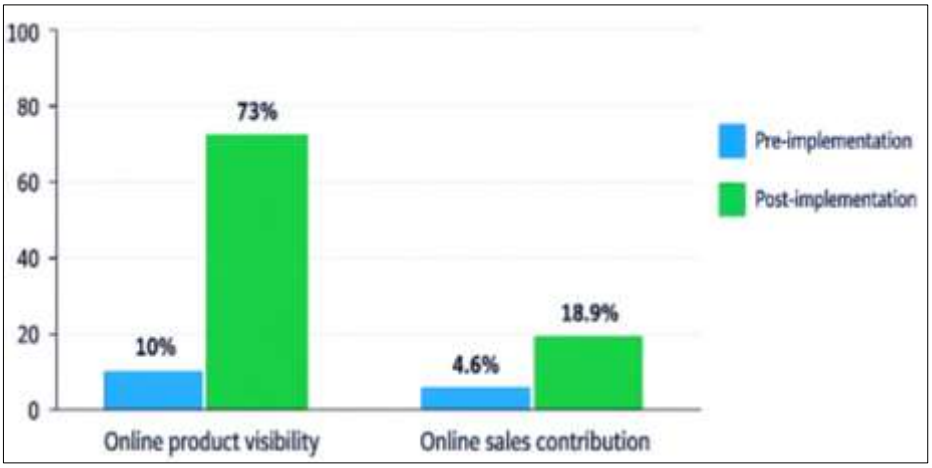


Figure 2. Changes in online product visibility and online sales contribution

After the training, implementation, and follow-up supervision, the digital skills of the participants increased, with the results of the post-test indicating that their digital marketing skills rose to 82.7% on average, their digital skills for selling on the Internet rose to 81.6 per cent, and their knowledge of producing marketing materials rose to 84.2 per cent. Figure 3 summarizes the change in the digital marketing skills of the participants before and after the intervention.

Integrated Digital Commercialization of BanaGurt

The implementation process included several elements that had previously been treated separately: the information about the products was organized in digital catalogs, advertising material was developed for the digital channel, and e-commerce platforms were used to present and sell the products.



Figure 3. Changes in online product visibility and online sales contribution

The mentors helped the participants apply these activities to their own activities. The result of the implementation is that the introduction of digital tools did not appear to be limited to digital tools, but created a process in which digital skills become practical skills, practical skills become online activities, and the digital activities become sales results.

Implications for BanaGurt Competitiveness

In its implementation, the process embraced some activities which hitherto had been considered separately: product information was organized into digital catalogs, digital communication materials were developed for digital channels, and e-commerce platforms were used to showcase and sell products.



Figure 4. The relationship among digital capability and business outcomes

Mentoring subsequently supported participants in applying these activities to their ongoing business operations (Ollerenshaw et al., 2021). The results show that the program went beyond introducing participants to digital platforms and thereby established a process in which digital knowledge translated into practical skills, practical skills into online activities, and online activities into measurable commercialization outcomes.

Conclusion

An integrated e-commerce and digital marketing intervention improved the digital capabilities of women entrepreneurs in Bumiaji, East Java, specifically supporting BanaGurt. The intervention consisted of an initial assessment, practical training, e-commerce implementation, mentoring, and evaluation. Improvements were observed across all measured digital capability indicators. Digital marketing capability increased from 60.5% to 82.7%, e-commerce utilization from 48.3% to 81.6%, and promotional content capability from 55.8% to 84.2%. These enhancements were accompanied by an increase in online product visibility from 10% to 73%, and the contribution of online sales to monthly sales rose from 4.6% to 18.9%. The findings indicate that the success of this model lies in combining digital skills training with actual e-commerce implementation and continuous mentoring. This integrated approach not only enhances the ability of women entrepreneurs to use digital tools but also expands opportunities for BanaGurt products to reach consumers beyond the local market. Thus, it provides a practical model for supporting the competitiveness and sustainable development of women-led microenterprises based on local product innovation. Future programs should focus on maintaining digital engagement, expanding the reach of the digital market, and monitoring long-term changes in sales and customer acquisition to assess the sustainability of the improvements achieved.

Acknowledgments

This program was supported financially by LPPM UPN Veteran Jawa Timur, for which the authors gratefully acknowledge the funding and institutional support provided throughout its implementation. We also sincerely appreciate our community partner, Bumiaji, for their valuable cooperation, contributions, and constructive input, which played an important role in the successful completion of this program.

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