Abdimas Umtas: Jurnal Pengabdian Kepada Masyarakat
LPPM-Universitas Muhammadiyah Tasikmalaya
Volume: 8, Issue: 4, October, 2025; pp: 2151-2164
E-ISSN: 2614 - 8544

Production Optimization and Digital Marketing of Pumpkin Egg Roll Products: A Technology-Based Intervention at Krisna UMKM

Adhika Pramita Widyassari [a)], Indra Gunawan [b)], Mudjijanto [c)], Moh. Bagus Jiran Riskohar [d)], Egy Setyo Mukti [e)]

STT Ronggolawe, Blora, Indonesia

[a)]Corresponding author: dikasari9@gmail.com
[b)]igunsttr@gmail.com
[c)]mudjijantoswd@gmail.com
[d)]prominentgorda@gmail.com
[e)]egymukti988@gmail.com

ABSTRACT

The "Krisna" UMKM faces challenges such as limited manual production capacity and suboptimal marketing strategies, which impact operational efficiency and market reach. This community service program aims to increase production output and sales turnover by applying appropriate technology and digital promotional strategies. The program was implemented using a Participatory Action Research (PAR) approach and service learning principles, involving business partners and students in training and mentoring on the use of semi-automatic egg roll printing machines and optimizing digital marketing through social media and online marketplaces. Within two months, daily production capacity increased from 120 to 192 boxes, exceeding the initial target of 180 boxes. Time efficiency per production cycle increased by 75%, and product quality became more consistent. On the marketing side, the digital strategy resulted in a 12.25% increase in monthly turnover, primarily through WhatsApp transactions triggered by promotional content on TikTok. The multi-channel approach proved effective in expanding market reach and strengthening the identity of local products. This initiative also encouraged labor redistribution for product diversification and a shift in business mindsets towards technology and strategic marketing. This program successfully addressed initial challenges and demonstrated an intervention model that could be replicated in other UMKMs with similar characteristics.

ARTICLE INFO

Article History:
Submitted/Received: 02 Sept. 2025
First Revised: 19 September 2025
Accepted: 30 September 2025
First Available online: 31 October 2025
Publication Date: 31 October 2025

Keyword:
Digital Marketing
Food Processing Technology
Participatory Action Research (PAR)
Small Business
Appropriate Technology

https://doi.org/10.35568/abdimas.v8i4.7135

INTRODUCTION

The food and beverage industry is one of the key sectors that continues to grow in Indonesia (Anisatul Auliya & Nailul Mona, 2020), including in Central Java. According to data from BPS Central Java (2023), the manufacturing sector contributes 34.82% to Central Java's GRDP, with the food and beverage industry being the largest sub-sector. This industry experienced a growth rate of 5.12% in 2023, indicating significant potential for innovation and product development based on local ingredients.

Blora Regency, as part of Central Java, has also seen notable growth in the food and beverage industry. There are approximately 12,500 UMKM actors in Blora, with around 40% engaged in the culinary sector (Disperindag Blora, 2023). Cepu District, one of Blora's economic centers, hosts over 300 culinary businesses that continue to expand. Beyond meeting local needs, this sector also contributes to tourism, with domestic tourist visits to Blora increasing by approximately 8% annually (Kristianti et al., 2019).

One of the flagship products from Blora, particularly Cepu, is Egg Roll Waluh (Anggraira, 2022)—a pumpkin-based snack with a distinctive flavor and strong potential to become a high-value economic product (Melati & Hayati, 2021). Central Java produces around 75,000 tons of pumpkin annually (BPS, 2023), and Blora has agricultural land that supports this commodity. The product is priced at approximately IDR 17,000 per pack. With abundant raw materials and affordable pricing, this business holds great growth potential, benefiting entrepreneurs, group members, the surrounding community, and farmers in Cepu.

The target partner in this program is the home-based pumpkin egg roll business owned by Mrs. Lina Daniyati, named "Krisna," located in Ngroto Village, Cepu District. She is part of a women's farming group (KWT) called Budi Rahayu. The business currently employs eight workers—five producing pumpkin egg rolls and three producing other cake variants. Initially focused solely on pumpkin egg rolls, the product line has expanded to include kecimpring, dry brownies, onion sticks, and sweet potato sticks.

However, the development of pumpkin egg roll businesses in Cepu still faces several challenges, particularly in production and marketing. In terms of production, the process remains manual—from ingredient preparation to molding and packaging. As a result, production quantity is limited, and product quality consistency is suboptimal. Currently, daily production averages around 120 boxes due to equipment limitations. This hinders entrepreneurs from scaling up to meet broader market demand. Therefore, innovation is needed in the form of a semi-automatic egg roll molding machine to improve production efficiency, ensure consistent quality, and reduce the workload of artisans.

The use of semi-automatic molding machines has been previously implemented in community service projects, such as those (Asmoro et al., 2019), aimed at improving the production efficiency of Opak Gambir. While similar in applying appropriate technology to support small businesses, the focus differs: the previous project developed an electric-heated processing machine, whereas the current initiative uses a gas-heated semi-automatic egg roll machine for energy efficiency.

Another relevant project (Sutadji et al., 2024) aimed to enhance the production capacity and quality of kue semprong for UMKMs in Wonorejo Village through the use of an Oval Automatic Spray-Bake machine. This machine distributes batter evenly and bakes with precision, resulting in more consistent and high-quality products. In contrast, the egg roll machine proposed here includes a motorized rotating mold, allowing for more even heat distribution and product doneness.

https://doi.org/10.35568/abdimas.v8i4.7135

Beyond production challenges, marketing remains another major hurdle. Although pumpkin egg rolls are already marketed via social media platforms such as WhatsApp, Facebook, and Instagram, and through e-commerce platforms like Shopee, as well as local markets, souvenir shops, and supermarkets, the reach is still limited and uneven across Indonesia and international markets. The current marketing strategy is suboptimal. Monthly sales average around 3,000 boxes, or approximately 100 boxes per day. Despite competitive pricing, the product's appeal in broader markets remains underdeveloped. Thus, a more effective digital marketing strategy is needed to expand market reach nationally and internationally.

Research (Silaen et al., 2024) focused on implementing digital marketing strategies at Shafa Aneka Snack Store through social media optimization, e-commerce, and digital content, which proved effective in boosting local product sales. (Larasati et al., 2022) studied digital marketing strategies at Ayana Store Pati, utilizing platforms like Instagram and Facebook for promotion and direct consumer engagement. Both studies highlight the importance of digital marketing in expanding markets and increasing UMKM sales volume.

Further research (Titin Sumarni et al., 2024) explored comprehensive digital marketing strategies to boost bag sales via e-commerce, emphasizing SEO, social media, paid advertising, and data-driven personalization. Meanwhile, (Maharani, 2023) examined the effectiveness of social media platforms like WhatsApp and Instagram in increasing sales for beauty-related UMKMs, focusing on content and business owner engagement.

Unlike studies (Silaen et al., 2024) and (Larasati et al., 2022), which focused on observing the independent use of social media and e-commerce by UMKM partners, and also by (Titin Sumarni et al., 2024) and (Maharani, 2023), which only digitalized marketing, the proposed community service combines digital media optimization and hands-on training using a Participatory Action Research (PAR) approach. Partners are actively involved in all stages of the activity—from problem identification and solution design to impact evaluation. This approach was chosen because it has proven effective in producing contextual and sustainable interventions, particularly in empowering UMKM communities. According to (Akbar et al., 2020) and (Keahey, 2021), PAR supports sustainable development by integrating scientific and local knowledge through reflective and democratic partnerships. (Feekery, 2024) also emphasized that PAR encourages social change through direct engagement and shared reflection between researchers and participants. The training includes digital content creation, marketplace management, customer communication strategies, and intensive mentoring for the consistent implementation of digital marketing strategies.

Based on the background and literature review presented above, this program aims to: 1) Improve Production Efficiency: by introducing a semi-automatic egg roll molding machine, the program seeks to increase production quantity and ensure more consistent product quality. 2) Expand Marketing Reach: through digital marketing training, including e-commerce optimization and social media strategies, the program aims to boost sales and increase revenue.

METHOD

This community engagement activity adopts a Participatory Action Research (PAR) approach (Firmansah et al., 2025), which emphasizes the active involvement of UMKM partners throughout all stages of the program—from identifying production and marketing needs, designing technological solutions, to evaluating impact (Kurniawan et al., 2025). This approach is chosen to ensure that the

https://doi.org/10.35568/abdimas.v8i4.7135

solutions developed—both in terms of production technology and marketing strategies—are truly relevant, applicable, and sustainable, and are carried out collaboratively and adaptively in response to the real conditions faced by the partners.

In addition, the program integrates the principles of Service Learning (Surur & Usman, 2022), where students are actively involved in training, mentoring, and evaluation processes as part of contextual learning (Andika et al., 2024), (Rehatta et al., 2025). Students contribute to promotional content creation, digital transaction simulations, and activity documentation. This approach not only strengthens social contribution but also enriches students' learning experiences through direct engagement with community dynamics. To clarify the implementation flow, Figure 1 presents a diagram of the activity stages, illustrating the collaborative process between the implementation team, UMKM partners, and students.

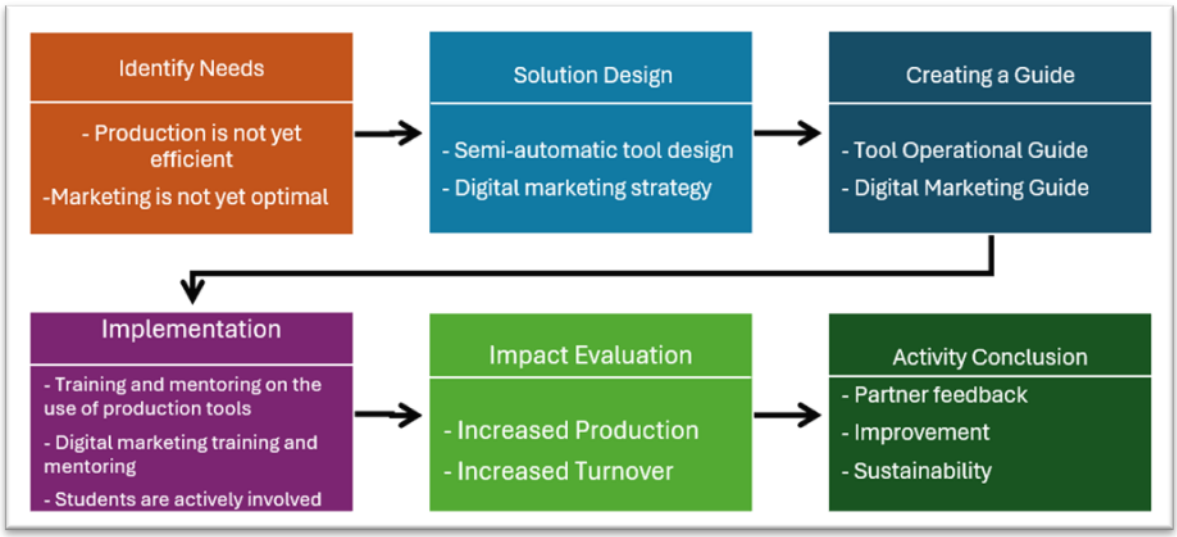

FIGURE 1. Workflow of the Community Engagement Activities

Stage 1 is Needs Identification (Nurjanah et al., 2024). The initial stage involved field observations and interviews with UMKM partners to identify key problems. It was discovered that the pumpkin egg roll production process was still manual, resulting in inefficiency, and the marketing strategy was still conventional, preventing it from reaching a wider market.

Stage 2 is Solution Design. Based on the identification results, the community service team designed a solution in the form of a semi-automatic egg roll printing machine equipped with a rotation system, heat control, and a timer-based dough sprayer. This machine has a capacity of 1 recipe per 30 minutes, produces 8 boxes per cycle, and has a power of 1200 watts. To support the marketing aspect, a digital marketing strategy was designed, including establishing online stores on Shopee and TikTok Shop, optimizing social media (Instagram and WhatsApp Business), and introductory training on basic copywriting techniques tailored to the needs of partners. The material focused on selecting product keywords, writing attractive captions, and managing digital catalogs in the marketplace. This approach aims to increase product visibility and expand market reach online.

Stage 3 is Guide Creation. To support the training and mentoring process, the team developed two types of guides: (1) an operational manual for the production equipment explaining how to use and maintain the machine, and (2) a digital marketing guide covering steps for optimizing online platforms and social media.

https://doi.org/10.35568/abdimas.v8i4.7135

Stage 4 is Implementation. The activities were implemented through technical training on production equipment and mentoring on digital marketing strategies. Students were actively involved in this process as part of a Service-Learning approach, which emphasized both educational aspects and social contribution. Production time was measured using a digital stopwatch, recording the duration of completing one recipe for five consecutive days. Daily output was recorded in production logs, while digital marketing activities included content uploads, customer interactions, and transaction channels.

Stage 5 is Impact Evaluation. The evaluation was conducted using a pre-post approach, comparing production and online transaction data before and after the intervention. Daily output data was analyzed descriptively and tested using a paired t-test to determine the significance of the increase in production capacity (Gollin, 2023), with a significance level of α = 0.05 (Levine et al., 2012). This test was conducted on paired data from five days of observation before and after the intervention. To evaluate the financial feasibility of the technology intervention, a simplified ROI formula was applied (Corvo et al., 2022):

$$\text{ROI} = \frac{Additional\ Revenue}{Investment\ Cost}\ x\ 100\% \quad (1)$$

This approach focuses on gross revenue increase rather than net profit, which is appropriate in community-based interventions such as PKM, where operational cost data may be limited. The method aligns with impact evaluation practices in nonprofit and development programs, as supported by recent literature. According to a systematic review by (Corvo et al., 2022), ROI and SROI models often rely on monetized benefits such as increased revenue to assess intervention outcomes when detailed cost structures are unavailable. Similarly, (Edwards & Lawrence, 2021) emphasizes that ROI calculations in capital expenditure decisions may be based on anticipated revenue gains relative to investment cost.

The machine investment cost of Rp. 37,000,000 was used as a reference, while monthly revenue data was collected from partner sales reports for the two months following the intervention. The digital strategy evaluation was conducted by comparing the revenue contribution from each sales channel (WhatsApp, Shopee, TikTok) and analyzing the cross-channel effects on consumer behavior.

Stage 6 is Activity Conclusion. The final stage involved a collaborative reflection with partners to gather feedback, develop recommendations for improvement, and design a long-term sustainability strategy. As part of the sustainability planning, work structure adjustments were made based on the existing employee composition. Of the eight employees, four remained in egg roll production, three in various pastry production, and one in marketing. Marketing employees were assigned to additional roles as digital activity managers, including answering customer inquiries via social media, creating promotional content, and managing the online store on the marketplace. This strategy enabled the integration of technology into daily operations without adding new employees. RESULT AND DISCUSSION

This community engagement initiative involved the UMKM partner “Krisna,” comprising one business owner, eight active employees, and one resident as a training participant. A total of ten individuals participated in an intensive training program covering two main aspects: enhancing production capacity through the use of a semi-automatic egg roll molding machine, and implementing digital marketing strategies via social media and online marketplaces.

Evaluation of Production Technology Impact

One of the primary focuses of this program was the implementation of a semi-automatic egg roll molding machine to improve the efficiency and production capacity of the UMKM partner. Before the

https://doi.org/10.35568/abdimas.v8i4.7135

machine's introduction, the molding process was conducted manually using a Teflon mold and stove, which required considerable time and labor. Based on observational data, one batch of dough took approximately two hours to produce eight boxes of product. With five workers operating for six hours, the partner was only able to produce around 120 boxes per day.

Following the adoption of the semi-automatic machine, a significant improvement in time efficiency and productivity was observed (presented in Table 1). One batch can now be completed in just 30 minutes, yielding the same eight boxes. A single operator using the machine can complete 12 batches in six hours, producing 96 boxes. Meanwhile, four manual workers continue to produce 96 boxes within the same timeframe. This combination results in a total daily output of 192 boxes, surpassing the initial target of 180 boxes per day.

TABLE 1. Summary of Production Efficiency Before and After Intervention

Parameter	Before Intervention	After Intervention	Change (%)
Time per batch	120 minutes	30 minutes	75% more efficient
Output per machine operator	–	96 boxes/day	–
Output per manual worker	24 boxes/day	24 boxes/day	–
Total daily output	120 boxes	192 boxes	+60% increase
Target daily output	180 boxes	192 boxes	Surpassed

This improvement demonstrates that the machine not only substitutes manual labor but also optimizes work distribution and production time. Time efficiency increased by up to 75% per batch, and daily production capacity rose by 60% compared to pre-intervention levels. Furthermore, product quality became more consistent in terms of shape and doneness, as the machine is equipped with an automatic rotation system and timer-based batter spraying mechanism.

Nevertheless, the daily production capacity of 192 boxes represents a maximum potential achievable under the current workforce and machine configuration. In practice, production volume can be dynamically adjusted based on the order quantity and product type requested by consumers. This is crucial given that the partner produces not only pumpkin egg rolls but also various other processed products such as pumpkin sticks, sweet potato sticks, kecipring, dry brownies, and more.

With the semi-automatic machine in place, one to two workers previously dedicated to pumpkin egg roll production can now be reassigned to assist in the production of other baked goods. This strategy enables the partner to maintain efficient egg roll production while expanding product diversification capacity without significantly increasing workload. Such flexibility is a valuable asset in managing small-scale enterprises, where adaptability to market demand and resource optimization are key to sustainability.

From an operational perspective, partners reported that the use of semi-automatic egg roll printing machines (as shown in Figure 2) significantly reduced physical fatigue and increased work comfort. Training on machine use and maintenance provided during community service activities also made partners more independent and confident in operating the equipment on an ongoing basis. Overall, the implementation of semi-automatic egg roll printing machines has proven effective in increasing productivity, time efficiency, and product quality. This evaluation confirms that appropriate technology, designed contextually and supported by intensive support, can have a significant impact on the competitiveness of UMKMs.

https://doi.org/10.35568/abdimas.v8i4.7135

FIGURE 2. Semi-automatic egg roll making machine

Daily Output Consistency and Statistical Validation

To validate the production improvement, a paired t-test was conducted on five days of output data before and after the intervention. The result showed a t-value of 53.15 (df = 4), exceeding the critical value of 2.776 at $\alpha = 0.05$, confirming that the increase was statistically significant ($p < 0.05$). Table 2 presents a Comparison of Daily Production Before and after the Intervention.

TABLE 2. Comparison of Daily Production Before and After the Intervention

Days	Before (box)	After (box)	Difference (box)
1	120	192	72
2	118	190	72
3	122	193	71
4	119	191	72
5	121	193	72

The data show a stable increase in daily output, with minimal variation across days, indicating consistent machine performance and reliable operational adaptation by the production team.

ROI Analysis and Financial Viability

Using a balanced two-month comparison (May–June vs July–August), revenue increased from Rp89,980,000 to Rp109,650,000, resulting in an additional Rp19,670,000. With an investment cost of Rp37,000,000, the ROI was calculated at 53.16%, confirming that the intervention was financially viable and profitable. Table 3 below presents the ROI Analysis of Machine Investment.

TABLE 3. ROI Analysis of Machine Investment (Mei–August)

Component	Value (Rp)	Description
Investment cost	37,000,000	Machine purchase and training
Revenue before intervention (May–June)	89,980,000	Baseline turnover
Revenue after intervention (July–August)	109,650,000	Post-intervention turnover
Additional revenue	19,670,000	Net increase over two months

https://doi.org/10.35568/abdimas.v8i4.7135

Component	Value (Rp)	Description
ROI	53.16%	Financially viable and profitable

This evaluation confirms that appropriate technology, when contextually designed and supported by intensive training, can significantly enhance the competitiveness and sustainability of UMKM operations.

Evaluation of the Impact of Digital Promotion Strategy

In addition to increasing production capacity, community service activities also focus on strengthening digital promotion strategies. Partners are accompanied by a community service team comprised of students, who actively participate in establishing online stores on Shopee and TikTok Shop, creating promotional video content, and uploading products and content to digital platforms (as shown in Figure 3). Platforms such as Instagram and WhatsApp Business are used to expand market reach and build direct communication with customers.

FIGURE 3. Partners are accompanied by a community service team with students for digital promotion strategies

The mentoring also included basic copywriting training, digital catalog management, and the use of status and story features to increase product visibility. As a result, partners began receiving orders from outside the village, and online customer interaction increased. The branding of pumpkin egg rolls as a local souvenir (Blora) was also strengthened through visual narratives and consumer testimonials.

The impact evaluation was conducted by comparing monthly turnover data before and after the intervention (presented in Table 4). In June 2025, before implementing the digital strategy, total partner turnover was recorded at Rp. 49,980,000. After one month of digital promotion, turnover increased to Rp. 53,550,000 in July and reached Rp. 56,100,000 in August. This increase demonstrated a consistent positive trend, with a total increase of Rp. 6,120,000, or approximately 12.25% of the initial turnover.

TABLE 4. Turnover/month data (before and after digital marketing strategy)

Monthly	Turnover/month
June	Rp49,980,000.00
July	Rp53,550,000.00
August	Rp56,100,000.00

Further analysis of revenue contributions by sales channel revealed interesting dynamics. Before the

https://doi.org/10.35568/abdimas.v8i4.7135

intervention, sales were conducted solely through WhatsApp, in-store displays, and direct sales at homes. After the training, two new channels, Shopee and TikTok, became active and showed growth. Although the direct contribution from Shopee and TikTok was still small, their presence served as a significant driver of purchasing interest.

One important finding was the cross-channel effect between TikTok and WhatsApp. Video content uploaded to TikTok successfully attracted the attention of potential buyers, but the majority of transactions continued to be conducted through WhatsApp. This suggests that TikTok served as a promotional and awareness channel, while WhatsApp served as the primary conversion channel. The increase in WhatsApp revenue from Rp. 14,994,000.00 (June) to Rp. 19,550,000.00 (August) reflects the indirect impact of the implemented digital content strategy. The following graph (figure 4) shows the revenue contribution from each sales channel during the three months of the intervention:

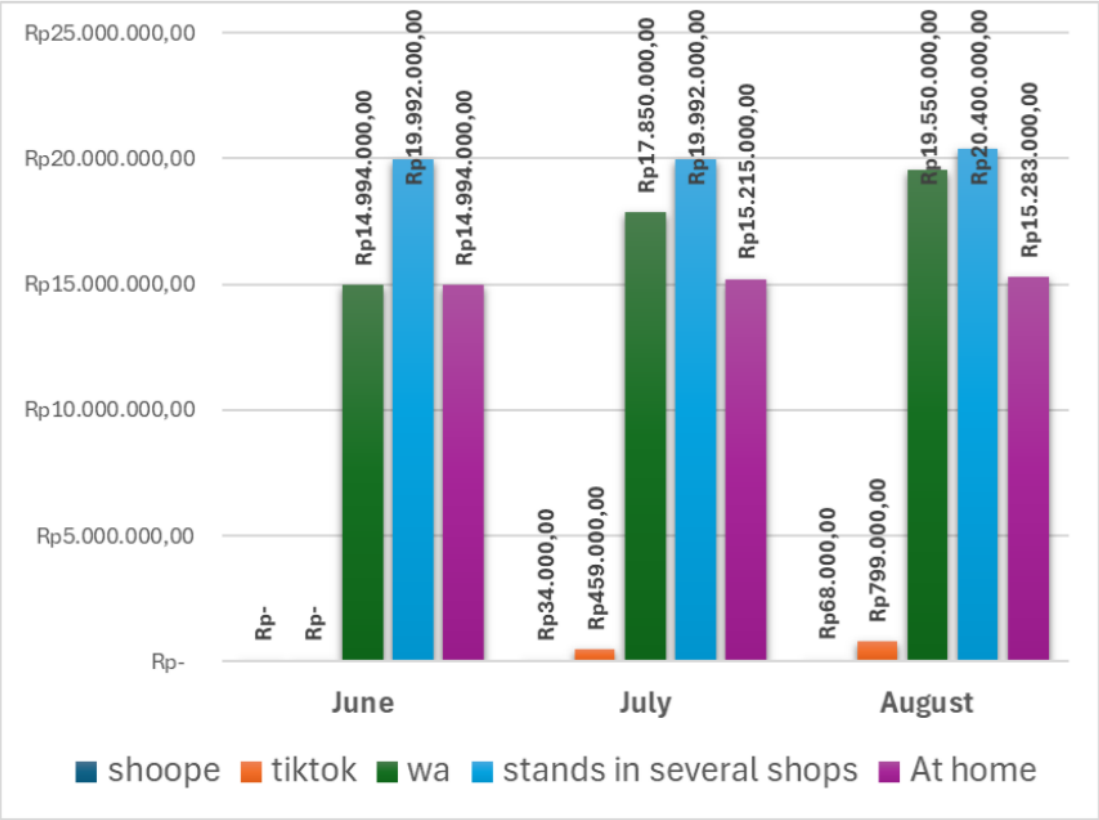

FIGURE 4. Sales Channel Contribution Graph (June–August)

The graph (Figure 4) shows that conventional channels, such as storefronts and in-home sales, remain stable, while digital channels are starting to show contribution and growth potential. This multi-channel approach has proven effective in maintaining sales stability while opening up opportunities for market expansion.

Discussion

The results of this community service align with the theory of technology adoption in the context of UMKMs, which states that adopting simple technology can improve operational efficiency and expand production capacity when accompanied by contextual training and mentoring (Rahmawati et al., 2024).

https://doi.org/10.35568/abdimas.v8i4.7135

The implementation of semi-automatic printing machines has been shown to reduce manual production bottlenecks that previously served as bottlenecks in partners' business processes. Time efficiency has increased, production capacity has increased, and product quality has become more consistent. This demonstrates that appropriate technology designed to meet local needs can significantly strengthen the competitiveness of UMKMs.

When compared with similar technological alternatives, such as the circular molding machine developed (Sutadji et al., 2024), there are fundamental differences in the working mechanism. The machine has a six-mold configuration and is equipped with a dough spraying system, but the process still relies on manual labor to rotate the machine. In contrast, the machine used in this program has an eight-mold configuration and a fully automatic rotation and spraying system, where the dough is sprayed periodically according to the machine's rotational speed without manual intervention. This results in a more uniform shape and level of doneness, while reducing work fatigue. Thus, although the basic form and function of the two tools are similar, the level of automation and operational efficiency of the machine used in this program is superior and more suited to the needs of UMKMs that prioritize practicality and consistency

From a marketing perspective, it demonstrates a strong link with current technology adoption theory and practice in the UMKM context. A study (Namora et al., 2025) found that the Technology Acceptance Model (TAM) approach remains relevant in explaining how perceived ease and usefulness of technology influence UMKMs' attitudes toward digital innovation. In the case of Krisna's UMKM partner, the introduction of semi-automatic printing machines and digital marketing training has been shown to increase efficiency and expand market reach, in line with these findings.

Digital transformation has also been shown to strengthen UMKM resilience, particularly in the face of crises and market dynamics. A Systematic Literature Review (Cynthia Ananda Br Tarigan et al., 2025) emphasized that digitalization fosters innovation and collaboration capabilities and accelerates adaptation to changing consumer behavior. This is reflected in the shift in mindset of partners who have begun utilizing social media and marketplaces as primary marketing channels, rather than merely complementary ones.

Product branding as a typical Blora souvenir is also strengthened through visual narratives and consumer testimonials, which enhance the emotional appeal and identity of the product. This strategy not only expands market reach but also builds relevant cultural connections with local and international consumers.

In the context of sustainability, several operational risks need to be considered. Reliance on machines as the center of daily production creates potential disruptions if damage occurs. Currently, partners rely on local technicians and assistance from the community service team. As part of the risk mitigation strategy, SOP documentation in the form of a manual for equipment use and maintenance has been provided to partners during training. This step allows for systematic knowledge transfer and reduces reliance on specific individuals. With written documentation, partners have an operational reference that can be used for internal training and independent technical problem-solving.

In terms of social impact, the digitalization of UMKMs has created new jobs and improved operational efficiency. A 2023 INDEF study showed that 71.4% of UMKMs that went digital successfully added employees, and 44% experienced reduced production costs (Sonani et al., 2024). In this community service program, the redistribution of labor and product diversification, such as pumpkin sticks and kecipring, provide clear evidence that simple technology can transform work structures and increase productivity.

https://doi.org/10.35568/abdimas.v8i4.7135

Overall, this program not only addresses technical and promotional challenges but also drives strategic transformation in how partners manage production, marketing, and business sustainability. The integration of appropriate technology and digital literacy has proven to be a powerful lever for UMKM growth, resilience, and long-term competitiveness.

CONCLUSION

This community service program successfully demonstrated that integrating appropriate technology and digital strategies can have a real impact on increasing production efficiency, expanding markets, and transforming the mindset of UMKMs. The implementation of semi-automatic printing machines not only addressed manual production barriers but also improved quality consistency and output capacity. Furthermore, digital marketing strategies through TikTok, Shopee, and WhatsApp Business encouraged broader customer engagement and strengthened the product's identity as a regional souvenir. The program's success was supported by a contextual approach, technical training, intensive mentoring, and standard operating procedure (SOP) documentation that enabled continuous knowledge transfer. The transformations were not only technical but also strategic—encouraging partners to be more adaptive, collaborative, and oriented toward business sustainability.

However, several limitations warrant consideration. First, the scale of the intervention was limited to a single UMKM partner, so generalizing the results requires caution. Second, long-term impact evaluation cannot be fully measured within the relatively short implementation period. Third, reliance on machines as the center of production creates technical risks that need to be systematically mitigated. For future service, it is recommended to expand the scale to other UMKMs with different characteristics, as well as develop a community-based training model to facilitate more widespread technology transfer and digitalization. Further research could also explore the effectiveness of various digital channels in driving sales conversions, as well as a cost-benefit analysis of various production technologies available on the market.

From a sustainability perspective, the implemented approach can be replicated by other UMKMs, tailored to their respective capacities, product types, and digital readiness. Local governments and UMKM support institutions can use this model as a reference in designing technology-based empowerment and digital literacy programs. Meanwhile, UMKMs are advised to begin documenting their work processes, adopting technology appropriate to their business scale, and building a digital presence gradually and consistently. Thus, this program not only provides short-term solutions to production and marketing challenges but also builds a foundation for business independence and resilience that can grow sustainably and have a broad impact.

ACKNOWLEDGEMENT

We express our deepest gratitude to the Ministry of Education, Culture, Research, and Technology (KEMDIKTISAINTEK) of the Republic of Indonesia for the support and trust given through the 2025 Community-Based Empowerment Scheme. This support has enabled the implementation of a community service program that has a real impact on UMKM partners (Krisna), particularly in increasing production capacity and optimizing digital marketing. We hope that the results and lessons learned from this activity can become a sustainable contribution to strengthening the innovation ecosystem and community empowerment at the local and national levels.

https://doi.org/10.35568/abdimas.v8i4.7135

REFERENCES

Akbar, A., Flacke, J., Martinez, J., & Van Maarseveen, M. F. A. M. (2020). Participatory planning practice in rural Indonesia: A sustainable development goals-based evaluation. Community Development, 51(3), 243–260. https://doi.org/10.1080/15575330.2020.1765822

Andika, M., Agustiani, S., & Faisal, M. (2024). Service Learning ; Mengintegrasikan Tujuan Akademik Yang Berkompetitif Dan Berkarakter Profesional Pada Mahasiswa Keperawatan. BERNAS: Jurnal Pengabdian Kepada Masyarakat, 5(1), 218–225. https://doi.org/10.31949/jb.v5i1.7322

Anggraira, N. (2022). Pengembangan produk eggroll waluh ngudi roso dalam meningkatkan potensi desa ngroto. Universitas Muhammadiyah Surakarta.

Anisatul Auliya, & Nailul Mona. (2020). Pengembangan Kreativitas Kuliner Sebagai Elemen Daya Tarik Wisata Kota Depok. Jurnal Ilmiah Pariwisata, 25(3), 189–200.

Asmoro, W. K., Nurfarida, E., & Wahyu, M. (2019). Implementasi Mesin Pengolah Opak Gambir Guna Peningkatan Efisiensi Produksi. Jurnal Daya-Mas, 4(2), 50–56. https://doi.org/10.33319/dymas.v4i2.25

Corvo, L., Pastore, L., Mastrodascio, M., & Cepiku, D. (2022). The social return on investment model: A systematic literature review. Meditari Accountancy Research, 30(7), 49–86. https://doi.org/10.1108/MEDAR-05-2021-1307

Cynthia Ananda Br Tarigan, Hendestri Br Sembiring, Rissa Yulinda, Siti Marfu'ah Bako, & Arsyadona Arsyadona. (2025). Peran Inovasi Operasional Berbasis Digital dalam Meningkatkan Daya Saing UMKM. Jurnal Bisnis, Ekonomi Syariah, dan Pajak, 2(2), 187–195. https://doi.org/10.61132/jbep.v2i2.1115

Edwards, R. T., & Lawrence, C. L. (2021). 'What You See is All There is': The Importance of Heuristics in Cost-Benefit Analysis (CBA) and Social Return on Investment (SROI) in the Evaluation of Public Health Interventions. Applied Health Economics and Health Policy, 19(5), 653–664. https://doi.org/10.1007/s40258-021-00653-5

Feekery, A. (2024). The 7 C's framework for participatory action research: Inducting novice participant-researchers. Educational Action Research, 32(3), 332–347. https://doi.org/10.1080/09650792.2023.2234417

Firmansah, D., Arief, M. F., Aptaputra, A. F., Zharfan, N., Damanik, D. F., Nugraha, A. S., Abdillah, M. R., Aji, P., Muliawan, F. F., Bifaldo, D. V., & Sasongko, Y. B. (2025). Pendampingan Digitalisasi Pemasaran Bagi UMKM Griya Grabah Melalui Pembuatan Iklan dan Desain Logo di Desa Gombang, Slahung, Ponorogo. Journal of Social Work and Empowerment, 4(3), 131–140.

Gollin, D. (2023). Agricultural productivity and structural transformation: Evidence and questions for African development. Oxford Development Studies, 51(4), 375–396. https://doi.org/10.1080/13600818.2023.2280638

Keahey, J. (2021). Sustainable Development and Participatory Action Research: A Systematic Review. Systemic Practice and Action Research, 34(3), 291–306. https://doi.org/10.1007/s11213-020-09535-8

https://doi.org/10.35568/abdimas.v8i4.7135

Kristianti, Sudarwanto, A. S., & Iskamto, B. (2019). Upaya Meningkatkan Pembangunan Ekonomi Melalui Loco Tour Untuk Mengembangkan Potensi Wisata Blora. JUPE "Tourism Development Loco Tour," 1(1), 113–137.

Kurniawan, D. E., Yulianti, D. R., Febrianita, R., Zain, F. I., & Rahma, S. A. (2025). Optimalisasi Branding dan Inovasi Packaging Berbasis Digital Guna Peningkatan Daya Saing UMKM Gading di Rungkut Kidul. 5(2).

Larasati, T. A., Pradiptya, A., & Mawardani, M. (2022). Penerapan Digital Marketing Dalam Meningkatkan Penjualan Produk Ayana Store Pati. Solusi, 20(4), 397–402. https://doi.org/10.26623/slsi.v20i4.6055

Levine, D. M., Berenson, M. L., & Krehbiel, T. C. (2012). Appendix B: Statistical Tables. In Statistics for Managers Using Microsoft Excel (6th ed.). Wiley. https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781118342978.app2

Maharani, S. (2023). Efektifitas Digital Marketing dalam Meningkatkan Penjualan pada UMKM Kel. Siti Rejo. Jurnal Pemasaran Kompetitif, 6(3), 357–367. https://doi.org/10.32493/jpkpk.v6i2.30742

Melati, B. R., & Hayati, R. (2021). Eksistensi Industri Eggroll Waluh Terhadap Kondisi Sosial Ekonomi Masyarakat Desa Ngroto Kecamatan Cepu Kabupaten Blora Beuty. Edu Geography, 9(1), 9–17.

Namora, N., Army, W. L., Anita, S., & Nugroho, A. (2025). Analisis Technology Acceptance Model (TAM) dalam Penggunaan Aplikasi E-Commerce. Jurnal Pendidikan Sains dan Komputer, 5(01), 85–95. https://doi.org/10.47709/jpsk.v5i01.5500

Nurjanah, N., Nasihin, N., Indriyani, T., Isnadiyati, A., Sabita, A., Noviana, P., Jannah, A. N., Wahyuningsih, S. R., Nur, S. M., Safithri, H. W., Loerensa, A. S., Asropi, P., & Harahap, A. A. (2024). Pelatihan dan Pendampingan untuk Meningkatkan Potensi Usaha Mikro, Kecil, dan Mengenah (UMKM) di Kelurahan Sawitan. Jurnal Warta LPM, 27(2), 172–184. https://doi.org/10.23917/warta.v27i2.2826

Rahmawati, H. R., Wardhani, W., Za, S. Z., Purnamasari, I., & Kadafi, M. A. (2024). Assistance Of Umkm In Adopting Technology To Improve Production And Marketing. Jurnal Pengabdian Masyarakat (PENGAMAS), 1(3), 341–348. https://doi.org/10.62207

Rehatta, S. D., Hardini, I. R., Novianti, A., & Purba, R. H. (2025). Akselerasi Inovasi Digital UMKM dengan Pemanfaatan Canva untuk Branding & Inovasi Berkelanjutan (SDGs 9). Jurnal Bersama Pengabdian Kepada Masyarakat SAMAMAS, 1(2), 85–91. https://doi.org/10.55123/samamas

Silaen, K., Bachtiar, L. E., Silaen, M., & Parhusip, A. (2024). Strategi Pemasaran Digital Untuk Meningkatkan Penjualan Produk Lokal Diera Online. 2(3).

Sonani, N., Riani, D., & Fatulloh, M. A. (2024). Ekonomi Digital dan Sektor UMKM : Meningkatkan Daya Saing. Takaza Innovatix Labs.

Surur, F., & Usman, K. S. (2022, October 24). Pendekatan Service Learning pada Pembelajaran Daring Studio Penyajian dan Presentasi dalam Penyusunan Profil Desa Tarasu Kecamatan Kajuara Kabupaten Bone. The 4th International Conference on University-Community Engagement (ICON-UCE), Cirebon.

Sutadji, E., Tuwoso, Putra, A. B. N. R., Subandi, M. S., & Widiyanti. (2024). Inovasi Mesin Kue Semprong Oval Automatic Spray-Bake Dalam Meningkatkan Produksi Produk Olahan Hasil Panen Wilayah Pada UMKM di Desa Wonorejo. Prosiding HAPEMAS, 4(1), 59–63.

https://doi.org/10.35568/abdimas.v8i4.7135

Titin Sumarni, Siti Murasih, M. Iqbal Romadhan, & Ayu Suraya. (2024). Strategi Digital Marketing Untuk Meningkatkan Penjualan Tas di E-Commerce. Jurnal Bisnis, Ekonomi Syariah, dan Pajak, 1(4), 128–139. https://doi.org/10.61132/jbep.v1i4.688

https://doi.org/10.35568/abdimas.v8i4.7135