

Digital Transformation of Myna Gawosa Fisheries MSMEs: AOV Analysis and Sales Improvement Strategies Post E-Commerce Implementation

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Abstract

This report presents an analysis of e-commerce performance as a result of the community service program (Pengabdian Masyarakat/PkM) at the Myna Gawosa Fish Cultivators Group (Pokdakan), Banjarnegara. The objective of this community service program is to address the limitations of conventional marketing through the implementation of e-commerce-based digital marketing technology to expand market reach and improve the welfare of fish farmers. The PkM implementation method is carried out in stages, including program socialization, digital literacy and content creation training, e-commerce technology application, as well as mentoring and periodic evaluation. The target of the PkM activities is the Myna Gawosa Farmers Group, which cultivates ornamental and consumption fish. Overall, the digital platform shows a positive impact on business volume: Total Revenue grew significantly by 36.8%, driven by a sharp increase in the Number of Orders by 120.0%. However, this success is offset by a drastic decrease in the Average Order Value (AOV) by -37.8%. In conclusion, the business successfully drove transaction volume but faces three major strategic issues: daily revenue volatility, declining AOV, and a customer base that is too small. Strategic recommendations include the development of upselling and cross-selling techniques, as well as more intensive digital marketing campaigns for acquiring new customers.

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INTRODUCTION

The fisheries sector, particularly ornamental fish and freshwater fish farming, is one of the subsectors of the creative economy and food security that has great potential for development at the local level. Banjarnegara Regency, with its geographical conditions, has many areas suitable for the development of fish farming, one of which is Gumiwang Village in Purwonegoro District. In the village of Gumiwang, there is the Myna Gawosa Farmers Group, which serves as a platform for ornamental fish and freshwater fish breeders. This group actively produces various types of fish that have economic value, both for local and regional markets.

Although it has the potential for high-quality products, the Myna Gawosa Farmers Group faces fundamental challenges in marketing. So far, sales activities have been heavily reliant on the local market, middlemen, or word-of-mouth promotion. These limitations

cause the market reach to stagnate, selling prices to fluctuate and become less competitive, and difficulties in directly reaching end consumers. On the other hand, the implementation of an appropriate digital marketing strategy ([Puspitarini, 2023](#)) can be an effective solution to overcome these constraints and open access to a wider market ([Juanita et al., 2024](#)). There is a digital divide caused by various factors, such as limited digital literacy, minimal access to adequate internet infrastructure, and reluctance to switch from traditional marketing methods that have been passed down through generations ([Amal et al., 2025](#)). Without proper intervention and assistance, farmers will struggle to seize market opportunities in the digital era and risk falling behind in economic competition ([Putra Anugrah et al., 2023](#)).

In the current digital era, the utilization of information technology has become a crucial factor in enhancing the competitiveness of Micro, Small, and Medium Enterprises (MSMEs) ([Murtiningsih & Caroline, 2024](#)), including farmer groups. The transformation from conventional marketing models to digital marketing has proven capable of significantly expanding market reach and increasing sales volume ([Setiawan et al., 2024](#)). Studies show that SMEs in the agribusiness sector that adopt e-commerce and social media experience higher revenue increases ([Lestandy et al., 2025](#)) compared to those that still rely on traditional methods ([Kartika et al., 2024](#)).

The development of digital marketing media is expected to provide a concrete solution to expand market reach, increase sales volume, and ultimately improve the welfare of fish farmers in Gumiwang Village ([Setiawan et al., 2025](#)). The role of higher education institutions in transferring technology and knowledge to the community is key to accelerating the adoption of innovation at the grassroots level ([Ecoinovasi et al., 2024](#)).

METHODS

Community service implementation methodology: We implement this community service program in stages to ensure targeted results and a direct impact on increasing the capacity and marketing of ornamental fish farmers in Banjarnegara Regency. The activities are implemented in several stages: program outreach, digital literacy training, and content creation training.

The implementation of community service began with coordination and field surveys with the Fisheries Department to identify partner needs, followed by the development of a digital marketing strategy. Next, digital literacy training, product content creation, business management, and marketplace usage were conducted. After that, E-Commerce technology is applied through simulations and direct practice by partners. The program is complemented by intensive mentoring, the formation of a digital community ([Farida et al., 2024](#)), cultivators, and periodic evaluations of system usage. For sustainability, an internal partner team was formed, and digital modules were prepared so that the program could continue to run independently. This activity lasts for 3 months, from August to October 2025. This community service activity requires several training sessions since E-Commerce is a new concept for the farmers. Technology training becomes an educational solution for farmers who want to improve marketing using E-commerce ([Rahmat et al., 2022](#)). This training can enhance the human resources within the Gawosa group.

During the implementation of the activities, the method used is Participatory Action Research (PAR) ([Siswadi & Ahmad Syaifuddin, 2024](#)). PAR is a model of research and community service. There are six stages in the implementation of the activities, namely formative, application development, solution, needs analysis, engagement, and full awareness ([Muhtarom, 2018](#)). This PAR model demands problem-solving and analysis.

Method of implementation: stages of community service. The implementation of this community service program is carried out in stages to ensure it is targeted and has a direct

impact on the capacity building and marketing of ornamental fish farmers in Banjarnegara Regency. The method of the activities is carried out in several stages, namely program socialization, digital literacy training, and content creation training.

RESULTS AND DISCUSSION

The activities' socialization began with the program socialization to the Myna Gawosa Farmers Group. This socialization aims to convey the program's objectives and goals, as well as to directly explore the partners' needs through interviews and field observations ([Yaqin et al., 2022](#)). At this stage, an initial analysis of the partners' readiness to accept digital technology interventions and the mapping of the existing marketing systems is also conducted ([Satria et al., 2022](#)).

The next stage of training is intensive training ([Citradika et al., 2023](#)) for ornamental fish breeders. This training includes basic digital literacy (use of smartphones, social media, and digital wallets), promotional content creation (photos, videos, product descriptions), digital communication with customers, and training on the use of E-Commerce platforms. Digital literacy training and product content creation are shown in Figure 1.



Figure 1 Digital literacy training and product content creation

The purpose of this training is to equip partners with the basic skills needed in the digital marketing of ornamental fish products. After the partners understand the concepts and how to use the digital platform, technology is implemented through the creation of an E-Commerce system designed according to the needs of the breeders. This system includes product pages, digital payment integration, shipment tracking features, and customer interaction features. The interaction between sellers and customers builds customer loyalty ([Diantoro et al., 2024](#)) to continue shopping on E-commerce. Partners are also assisted in creating marketplace accounts, managing content, and simulating online transactions.

Mentoring is conducted periodically so that partners become accustomed to and independent in utilizing the provided technology. During the mentoring, the proposing team monitors the interactions and transactions that occur, assists with any technical difficulties, and measures the effectiveness of the marketing strategies implemented. Evaluation is conducted through the collection of feedback from partners and buyers, as well as progress reporting from each group of cultivators. Training on using e-commerce is shown in Figure 2.



Figure 2 E-commerce usage training

Program sustainability, to ensure the sustainability of the program after the service period ends, a digital community of ornamental fish breeders is formed as a platform for sharing information and joint promotion. In addition, a digital marketing module was developed as a follow-up guide.

The approach and application of technology in this program began with problem identification through direct observation with the Myna Gawosa farmer group, which showed that the main issue was limited access to marketing. To address this need, the team designed and developed an E-Commerce platform as a digital marketing solution, equipped with digital transaction training and the creation of visual content in the form of product photos and videos. The marketing product content is shown in Figure 3.



Figure 3 Marketing product content

The work volume is organized according to a priority scale, starting from the creation of digital identities for each cultivator, online marketing training to expand market reach, and the development of branding strategies to enhance product competitiveness. Partners are actively involved from the early stages, starting from business analysis, system design, testing, training, and evaluation. The partner's commitment is also demonstrated by providing training locations and simple equipment that support the smooth running of the program.

To address the marketing issues faced by ornamental fish breeders in Banjarnegara, the implementation of activities was carried out in stages. First, preparation and field surveys were conducted to identify actual problems through interviews and direct observations. The results show that limited market access and suboptimal use of digital technology are the main obstacles. Second, the development of a digital marketing strategy ([Dicha et al., 2024](#)) was carried out, including mapping the platforms to be used (such as E-Commerce and

social media), as well as designing the promotion flow from content production to customer communication. Third, training and capacity building for partners were conducted through activities such as visual content creation (photos and videos), copywriting, marketplace account management, and digital communication. Fourth, implementation support was carried out in the form of online transaction simulations, product uploads to E-Commerce, and digital catalog creation. Fifth, periodic evaluation and monitoring were conducted by assessing partner account performance and transaction development, to measure program effectiveness and determine further strategies. Lastly, as a sustainability strategy, an internal digital marketing team was formed from the partners, and training modules were developed for independent use.

Partners were actively involved from the beginning, starting with needs analysis and system design. They provided training venues, participants from the cultivation groups, and accompanied every training session until hands-on practice. The commitment of the partners is also demonstrated in the implementation of the digital marketing system trial and their readiness to form an internal marketing team. Partner involvement ensures that the developed solutions meet needs and are sustainable.

Myna Gawosa, a Micro, Small, and Medium Enterprise (MSME) of ornamental fish farmers, traditionally relies on a limited conventional marketing system, often depending on middlemen or sales in local markets. These limited reach results in thin profit margins and hinders their growth potential. To address these geographical and economic barriers, a community service initiative introduced a fundamental solution through the application of technology and innovation via E-commerce-based digital marketing. This transformation aims to cut the long distribution chain and connect farmers directly with end consumers, both nationally and internationally. The names of registered MSMEs in the e-commerce sector are listed in Figure 4.

Nama Pemilik	Nama Toko	Status Verifikasi	Tanggal Bergabung	Aksi
 Wahyu purnomo ID: OWIN-026	NISAI KOI FARM	Terverifikasi	03 Oct 2025	Detail
 Ela Susijanti ID: OWIN-035	serasa	Terverifikasi	29 Sep 2025	Detail
 Rusmono ID: OWIN-034	Ayraf fis	Terverifikasi	29 Sep 2025	Detail
 Maulida Helmi Isnaini ID: OWIN-033	Mbok Maul	Terverifikasi	29 Sep 2025	Detail
 Sis woyo ID: OWIN-032	Jhon woy barwal	Terverifikasi	29 Sep 2025	Detail
 Masrokhudin ID: OWIN-029	Geafish	Terverifikasi	29 Sep 2025	Detail
 Darpin ID: OWIN-028	Darpin Komot	Terverifikasi	29 Sep 2025	Detail
 Aliva Diny ID: OWIN-027	Suka Nicky	Terverifikasi	29 Sep 2025	Detail

Figure 4 Names of registered MSMEs in e-commerce

The first step in this innovation is the digitization of the product catalog. Unlike offline sales that rely solely on physical appearance, e-commerce demands high visual and descriptive quality. Myna Gawosa farmers were trained to enhance safe and attractive packaging innovations for long-distance shipping, as well as product photography skills for ornamental fish using smartphones. Each variety of ornamental fish, such as Comet, Koi, or Manfish, is now documented with high-resolution photos and detailed descriptions regarding size, color, and health condition. This innovation creates a strong value proposition (Mulya Gumilar & Kurniasari, 2024) in the digital market, allowing potential buyers to transparently assess product quality before making a transaction.

The second step in this innovation is that the Gawosa admin manager can monitor and recap the overall transactions of the farmers' store, allowing the admin to be more motivated

to further increase transactions. The transaction summary report data from Gawosa admin monitoring is shown in Figure 5.

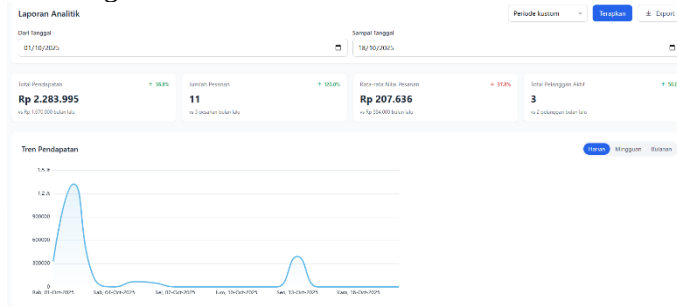


Figure 5 Transaction recap report data from gawosa admin monitoring

Figure 5 shows the sales transaction report from all the farmers' stores. The revenue trend graph shows uneven revenue performance during the period from October 1 to October 18, 2025. High Revenue Peak (Beginning of the Month): There was a significant revenue spike on October 1, 2025, reaching its peak at around Rp 1,300,000 or more. This contributed a large portion of the total revenue. Stagnation Period: After the initial peak, the revenue plummeted sharply and remained low or stagnant from around October 4, 2025, to October 12, 2025, with daily revenue being almost zero or very small. Second Smaller Peak: There was a smaller surge in revenue around Monday, October 13, 2025, reaching around Rp 300,000 to Rp 400,000. End-of-Period Decline: Revenue dropped again and approached zero toward the end of the period (October 16, 2025). The business has successfully increased sales volume (Order Quantity) and total Active Customers, resulting in a significant increase in Total Revenue by 36.8% from transactions in the previous month.

This e-commerce platform has only been operational since October 2025. Previously, the farmers sold their products traditionally, either by selling them at fish markets or to middlemen. With the advent of e-commerce, the Gawosa group can monitor the development of product categories that sell well and the number of customers for data processing (Asir et al., 2025).

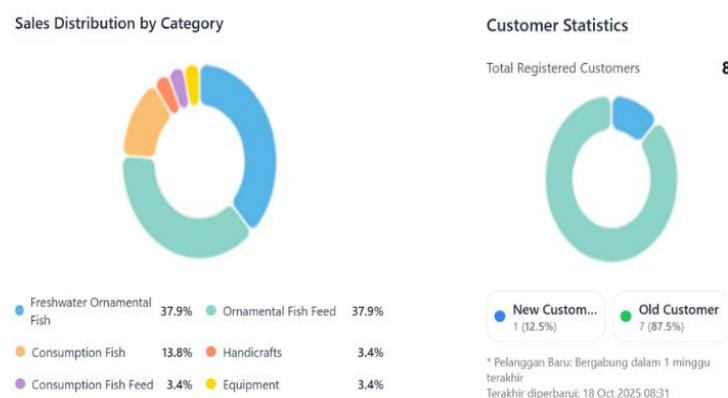


Figure 6 Recap of sales distribution by category and customer statistics

Figure 6 shows the percentage of sales categories. The categories of freshwater ornamental fish and ornamental fish feed have the highest percentage in sales transactions, at 37.9%. The next category with a relatively high percentage is consumption of fish at 13.8%, followed by the categories of handicrafts, consumption of fish feed, and equipment at 3.4%. As for customer statistics, the registered customer category consists of 8

customers, with 7 long-term customers and 1 new customer during the period from October 1 to October 18, 2025. The customer base is still relatively small compared to the total number of customers.

Sales distribution analysis confirms that the business has a very strong niche focus ([Umar, 2022](#)), with Freshwater Ornamental Fish and Ornamental Fish Feed being the main contributors, accounting for the majority of sales at 75.8%. The equal balance between ornamental fish sales and their feed suggests the presence of bundling strategies or effective customer purchasing habits. On the other hand, other categories, such as Consumption Fish, Crafts, and Pond/Aquaculture Equipment, have very minimal contributions (ranging from only 3.4% to 13.8% each), indicating untapped potential in these segments. From the customer side, the business faces challenges related to scale and acquisition. The total registered customer base is still very small (8 customers), and the majority, 87.5%, are long-term customers. Although long-term customers are the main source of revenue, the low rate of new customer acquisition (only 1 new customer in the past week) indicates stagnation in market expansion efforts. The high dependence on this handful of core customers creates a significant financial risk if any one of them stops shopping. In conclusion, this business has succeeded in driving transaction volume and frequency primarily in its niche ([Razak, 2024](#)), but it faces three main strategic issues: daily revenue volatility, declining average order value, and a customer base that is too small. To ensure sustainable growth, the business must strive to stabilize daily revenue, develop upselling strategies to increase order value in the ornamental fish segment, and promptly enhance customer acquisition efforts to reduce risk and scale the business.

CONCLUSION

Overall, the business showed significant revenue growth of 36.8%, driven by a sharp increase in sales volume of 120.0% and a rise in the number of active customers by 50.0%. However, this growth was accompanied by a drastic decrease in the average order value of -37.8%, indicating that the increase in orders was dominated by low-value transactions. The daily revenue trend is also highly volatile, with two significant spikes at the beginning and middle of the period, indicating revenue dependence on certain unstable promotional moments or activities. The Community Service activities to address the limitations of conventional marketing for the Myna Gawosa Fish Cultivators Group (Pokdakan) through the implementation of E-commerce have successfully achieved a positive impact on increasing business volume.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

AI DISCLOSURE STATEMENT

The author used [TOOL/SERVICE NAME] during the preparation of this work for [REASON]. After using the tool/service, the author thoroughly reviewed and edited the content as needed and takes full responsibility for the content of the publication. The authors declare that this research was prepared, researched, written, and edited without the aid of artificial intelligence (AI) techniques.

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