



Empowerment of Women-Led MSMEs in Mojokerto through Artificial Intelligence Training to Improve Product Marketing Communication Skills

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ABSTRACT

This community service initiative aims to empower women-managed Micro, Small, and Medium Enterprises (MSMEs) in Mojokerto, Indonesia, by improving their digital marketing communication skills through the practical application of Artificial Intelligence (AI) tools. Despite their crucial contribution to the economy, many women entrepreneurs face barriers in adopting digital technologies, which limits their market reach and business growth. Through a collaboration with the Mojokerto Cooperative Office and the Gerakan Majapahit Muda, supported by Microsoft and the Ministry of Digital Communications, the program trained 45 women entrepreneurs using a community-based participatory approach. A tailored three-day AI training module introduced tools such as ChatGPT, Canva, and WhatsApp Bots, followed by a two-month online mentorship. Results showed significant improvements in AI literacy, marketing content quality, customer engagement, and business performance. Notably, social media interactions and online product orders increased, with several entrepreneurs reporting up to 30% sales growth. The program also fostered peer learning and collective support among participants. While challenges such as limited internet access and resistance to technology were encountered, they were mitigated through inclusive teaching strategies. The project demonstrates the transformative potential of AI training in enabling inclusive, sustainable development for women entrepreneurs in semi-urban areas.

Inisiatif kegiatan pengabdian kepada masyarakat ini bertujuan untuk memberdayakan Usaha Mikro, Kecil, dan Menengah (UMKM) yang dikelola oleh perempuan di Mojokerto, Indonesia, yaitu dengan meningkatkan keterampilan komunikasi pemasaran digital mereka melalui penerapan praktis alat Kecerdasan Buatan (AI). Meskipun kontribusi mereka penting bagi perekonomian, banyak pengusaha perempuan menghadapi hambatan dalam mengadopsi teknologi digital, yang membatasi jangkauan pasar dan pertumbuhan bisnis mereka. Melalui kolaborasi dengan Kantor Koperasi Mojokerto dan Gerakan Majapahit Muda, didukung oleh Microsoft dan Kementerian Komunikasi Digital, program ini melatih 45 pengusaha perempuan menggunakan pendekatan partisipatif berbasis komunitas. Modul



pelatihan AI tiga hari yang disesuaikan memperkenalkan alat-alat seperti ChatGPT, Canva, dan WhatsApp Bots, diikuti oleh bimbingan daring selama dua bulan. Hasilnya menunjukkan peningkatan yang signifikan dalam literasi AI, kualitas konten pemasaran, keterlibatan pelanggan, dan kinerja bisnis. Khususnya, interaksi media sosial dan pesanan produk daring meningkat, dengan beberapa pengusaha melaporkan pertumbuhan penjualan hingga 30%. Program ini juga mendorong pembelajaran sejawat dan dukungan kolektif di antara para peserta. Meskipun tantangan seperti keterbatasan akses internet dan resistensi terhadap teknologi dihadapi, tantangan tersebut dapat diatasi melalui strategi pengajaran yang inklusif. Proyek ini menunjukkan potensi transformatif pelatihan AI dalam mewujudkan pembangunan yang inklusif dan berkelanjutan bagi wirausaha perempuan di wilayah semi-perkotaan.

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A. INTRODUCTION

In recent decades, Micro, Small, and Medium Enterprises (MSMEs) have played a critical role in shaping Indonesia's economic development (Ahmed et al., 2025). Representing over 99% of all business entities in Indonesia and contributing more than 60% to the national Gross Domestic Product (GDP), MSMEs are vital to job creation and inclusive growth (Ministry of Cooperatives and SMEs, n.d.). Among these, women-led MSMEs constitute a significant and growing segment, especially in semi-urban and rural areas like Mojokerto, East Java. These businesses often stem from household-based industries such as culinary arts, fashion, handicrafts, and herbal products, which are deeply embedded in local culture and traditions.

Despite their potential, women-led MSMEs face multifaceted challenges, particularly in accessing digital tools and mastering effective marketing communication strategies (Davenport et al., 2019). These limitations often result in low market visibility, limited consumer reach, and reduced competitiveness, especially in the digital era. According to (Purwaningsih et al., 2021), the lack of digital literacy among women entrepreneurs significantly hampers their business development.

The advent of Artificial Intelligence (AI) has introduced transformative changes in how businesses engage with customers and manage marketing communication (Smith & Green, 2019). AI tools can generate personalized content, optimize social media campaigns, automate customer service, and analyze market trends (Kaplan & Haenlein, 2020). However, many MSMEs, particularly those led by women in less urbanized areas, remain unaware or untrained in the use of these technologies.

This community engagement project was initiated to bridge that gap. It aimed to empower women-led MSMEs in Mojokerto by enhancing their marketing communication skills through practical training in AI tools (Anderson et al., 2018). The program sought not only to increase awareness and usage of AI but also to instill confidence and provide ongoing mentorship to ensure the long-term sustainability of digital transformations within their businesses (Zhou et al., 2021).

That's why we're collaborating with the Majapahit Muda Movement Community, supported by Microsoft and the Ministry of Digital Communications (Kemkomdigi), to hold a



training event themed "PEREMPUAN PANDAI AI". We hope this training will pave the way for women MSME owners to become more tech-savvy and ready to face the challenges of the digital era (Wulandari & Nugraheni, 2021). This can be a strategic step (Kusumawati & Arisandi, 2020) in alleviating poverty and creating economic independence in Mojokerto and the surrounding areas.

B. METHODS

Community service activities (PKM) are implemented using a "community-based" approach and with active community participation. The PRA strategy is a planning strategy that is more oriented towards "bottom-up" characteristics (Chambers, 1996). This strategy is in accordance with the commonly determined approach, namely the "community-based approach" which values community participation in the processes of problem formulation and planning, with outsiders as facilitators so that views from within the community itself (emic) are the main approach. The stages of implementing the activity assistance are:

1. Participant Selection

The community engagement activity was conducted in collaboration with the Mojokerto Cooperative Office and local community leaders. A total of 45 women entrepreneurs from various sub-districts in Mojokerto were selected based on their active participation in MSMEs and willingness to adopt digital tools in their business processes.

2. Needs Assessment

An initial assessment was carried out through online questionnaires and focus group discussions (FGDs). These were designed to understand participants' current level of digital literacy, familiarity with AI, marketing practices, and their specific challenges. The majority of participants were unfamiliar with AI but expressed a strong interest in improving their online marketing capabilities.

3. Training Module Development

Based on the findings from the needs assessment, a three-day training module was developed, consisting of six core sessions:

- Introduction to Artificial Intelligence
- Content Creation using ChatGPT and Copy.ai
- Visual Marketing with Canva and DALL.E
- Automating Customer Interaction through WhatsApp Bots
- Analyzing Customer Behavior using Meta Business Suite
- Ethical Use of AI in Marketing

Each session was followed by a hands-on workshop allowing participants to immediately apply what they had learned.

4. Training Implementation

The training took place at the Graha Nuswantara Hall of Universitas Islam Majapahit. A combination of lectures, demonstrations, practical exercises, and case studies was employed. Trainers included lecturers from the Communication Studies Department and external experts from local tech startups.

5. Mentorship and Monitoring

After the training, participants were included in a two-month online mentorship program through WhatsApp groups and scheduled Zoom meetings. Weekly assignments were

given to monitor progress and provide further assistance in real-time application of AI tools.

C. RESULTS AND DISCUSSION

1. Improved Digital Literacy and AI Awareness

Post-training evaluations showed a significant increase in participants' understanding of AI and its application in marketing. Pre-training surveys indicated that only 10% of participants had heard of ChatGPT or Canva AI features, whereas post-training, 85% reported being comfortable using at least three AI tools.



Picture 1. Documentation of training activities

2. Enhanced Content Quality and Frequency

Most participants were able to improve the aesthetic quality and persuasive appeal of their marketing materials. They used Canva to create posters and social media visuals, and ChatGPT to generate captions and product descriptions. On average, participants increased their posting frequency from once per week to three times per week.

3. Increased Customer Engagement

Participants reported a rise in customer engagement on their social media platforms. Metrics such as likes, shares, and comments doubled in many cases. Some participants also used chatbot scripts to respond automatically to customer inquiries, reducing response time and increasing customer satisfaction.

4. Business Growth

Although long-term revenue impacts require further observation, within one month of training, 50% of the participants reported an increase in product orders. One entrepreneur dealing in traditional snacks mentioned a 30% rise in online sales due to better promotional content and more consistent posting.

5. Peer Learning and Community Support

After the collaboration between Gerakan Majapahit Muda and the Faculty of Social and Political Sciences, Majapahit Islamic University, The WhatsApp group created for mentorship evolved into a peer-support group. Participants actively shared tips, challenges, and success stories. This collaborative spirit increased confidence and reduced technological anxiety.



Picture 2. Signing of MoU

6. Challenges and Limitations

Some challenges were identified during the program:

- Limited internet access affected participation in follow-up sessions.
- A few participants lacked adequate digital devices.
- Resistance to technological change was observed among older participants.

Despite these, the overall response was positive, and additional support strategies—such as printed guides and one-on-one coaching—helped mitigate these barriers.

DISCUSSION

The outcomes validate the theoretical model of "Community-Based Digital Empowerment" which emphasizes localized, contextual, and collaborative approaches (Tarute et al., 2017). AI literacy, when combined with mentorship and community support, has the potential to transform traditional business models among marginalized groups, especially women entrepreneurs.

D. CONCLUSION

This community engagement program successfully empowered women-led MSMEs in Mojokerto by enhancing their understanding and use of Artificial Intelligence in marketing communication. Participants demonstrated improved digital competencies, produced better marketing content, and achieved measurable business improvements.

The initiative highlighted the importance of integrating digital literacy and AI education into community development programs, especially for underrepresented groups in the entrepreneurial ecosystem. Continued mentorship and infrastructure support are essential to sustain this transformation.

Future projects should aim to scale the program to other districts, involve male allies to ensure inclusive support systems, and explore partnerships with tech companies for more advanced AI tool access.

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F. AUTHOR CONTRIBUTIONS

Ratnaningrum Zusyana Dewi: Project conceptualization, training design, and manuscript writing and final editing



Masniah Ningsih: AI tools instruction, data analysis, Monitoring and evaluation, and participant interviews.

Jenny Yudha Utama; participant interviews and field coordination.

All authors contributed equally to the review and approval of the final manuscript.

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