Empowering Indonesian MSMEs: Bridging the digital divide through e-commerce

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the Indonesian economy, yet comprehensive e-commerce adoption remains low. This community service initiative aimed to facilitate the digital transformation of MSMEs by enhancing awareness and skills in the integration of e-commerce and artificial intelligence (AI). The implementation method included a national webinar, "Forum Digitalk". The results demonstrated an 80% increase in public awareness regarding the digital transformation of MSMEs, along with a positive shift in participants' attitudes towards utilizing technology. This initiative recommends advanced training, government policies supporting technology adoption, and mentorship programs to ensure the sustainability of MSME digital transformation, including the integration of social commerce and artificial intelligence applications, to maintain competitiveness in the future marketplace.

Keywords: Digital transformation; E-commerce adoption; MSME growth strategies

Pemberdayaan UMKM Indonesia: Menjembatani kesenjangan digital melalui e-commerce

Abstrak

Usaha Mikro, Kecil, dan Menengah (UMKM) memainkan peran penting dalam perekonomian Indonesia, namun adopsi e-commerce yang komprehensif masih rendah. Pengabdian masyarakat ini bertujuan untuk memfasilitasi transformasi digital UMKM melalui peningkatan kesadaran dan keterampilan dalam integrasi e-commerce dan kecerdasan buatan (AI). Metode pelaksanaan berupa webinar nasional "Forum Digitalk". Hasilnya menunjukkan peningkatan kesadaran publik sebesar 80% tentang transformasi digital UMKM, serta perubahan positif pada sikap peserta terhadap pemanfaatan teknologi. Pengabdian ini merekomendasikan pelatihan lanjutan, kebijakan pemerintah yang mendukung adopsi teknologi, dan program pendampingan untuk memastikan keberlanjutan transformasi digital UMKM termasuk integrasi social commerce dan aplikasi kecerdasan buatan, guna mempertahankan daya saing di pasar masa depan.

Kata Kunci: *Transformasi digital; Adopsi e-commerce; Strategi pertumbuhan UMKM*

1. Introduction

In the current digital era, the role of Micro, Small, and Medium Enterprises (MSMEs) is increasingly critical to the Indonesian economy, contributing over 60% to the national GDP and employing more than 56% of the country's workforce (Sinha et al., 2024).

However, despite their significance, many MSMEs still rely on conventional business models that depend on face-to-face transactions and offline interactions. The rapid advancement of technology, particularly in e-commerce, presents both an opportunity and a challenge for these conventional MSMEs (Ernawati, 2021). The shift towards digital transformation is no longer a choice but a necessity for business survival and competitiveness in the global market (Leão & da Silva, 2021).

Previous studies and community service programs have focused extensively on the digitalization of MSMEs (Kavre et al., 2025; Kawane et al., 2024; Titin et al., 2024). Several programs have successfully introduced MSMEs to social media as a marketing tool, with research indicating that 40% of Indonesian MSMEs have adopted this medium. Moreover, 38% of MSMEs have begun utilizing instant messaging platforms for business operations. However, only 13% have integrated e-commerce into their business model, showing a significant gap in leveraging online marketplaces for business expansion (Hanifah et al., 2025). Other programs have explored the challenges of digital literacy, lack of infrastructure, and resistance to adopting new technologies (Choudhary, 2025). While these programs have laid the groundwork for digital transformation, they primarily focus on digital marketing rather than comprehensive integration into e-commerce platforms.

The scientific novelty of this article lies in its focus on guiding MSMEs through a complete digital transformation by emphasizing the integration of e-commerce and artificial intelligence (AI) into business processes. Unlike previous community service programs that primarily concentrated on social media usage and digital marketing (Khan et al., 2024; Muhammad et al., 2025), this study aims to assist MSMEs in navigating the complex transition from conventional business operations to fully utilizing e-commerce platforms. This shift represents a more comprehensive approach to digital transformation, addressing not only marketing but also operational, logistical, and technological aspects.

The main problem addressed in this study is the low adoption rate of e-commerce among MSMEs in Indonesia, despite the increasing trend towards digital commerce. The hypothesis is that by providing targeted support and training in e-commerce utilization, MSMEs will be able to overcome challenges in digital transformation, resulting in increased market reach and business growth.

To achieve the goals set out in the community service project titled "Digital Transformation from Conventional MSMEs to E-commerce", a strategic, measurable approach was taken, primarily through a national webinar called "Forum Digitalk." This method aimed to raise public awareness about the importance of digital transformation for businesses, especially MSMEs, and their transition to e-commerce. The core of the initiative involved an education-based awareness campaign, facilitated by community engagement programs and collaboration with various stakeholders, such as legislators and government officials. As part of a larger public awareness effort, educational content was delivered through presentations and visual aids to ensure easy comprehension for participants.

The objective of this article is to analyze the challenges and opportunities MSMEs face in transitioning to e-commerce and to propose practical solutions to facilitate their digital transformation. The study aims to fill the gap in previous programs by providing a more holistic approach to digitalization that includes not only marketing but also the use of

AI applications and omnichannel strategies. By doing so, this article seeks to contribute to the ongoing effort of enhancing MSMEs' resilience and competitiveness in the digital economy.

2. Method

The National Webinar "Forum Digitalk", themed "Digital Transformation from Conventional MSMEs to E-commerce", was organized by the Ministry of Communication and Information (KEMKOMINFO) in partnership with Commission I of the Indonesian House of Representatives (DPR RI). The entire webinar was facilitated by Studio Intel Pasar Minggu, appointed by Kemkominfo, located at Jalan Tlk. Peleng No.B/32, RT.4/RW.8, Pasar Minggu, South Jakarta, Special Capital Region of Jakarta, 12520. Atma Jaya Catholic University of Indonesia had previously collaborated with Studio Intel Pasar Minggu in organizing another national webinar titled "Building a Bright Future for Generation Z," which targeted high school students enrolled in the Industrial Engineering Study Program (Prasetya et al., 2023) as well as several related training programs (Surbakti, 2024, 2025).

Public education activities were delivered through an online platform to enhance accessibility and encourage broader participation. A national webinar served as the primary medium for disseminating information and promoting public awareness on the digital transformation of conventional MSMEs transitioning to e-commerce. The webinar sessions, complemented by interactive discussions, addressed critical topics such as the strategic role of digital platforms in business growth, common challenges faced during the digital transition, and practical strategies for enhancing digital adoption among MSMEs. In addition, the sessions explored recent trends in e-commerce development and introduced regulatory frameworks supporting digital business operations in Indonesia. Visual presentations and relevant case studies were utilized to facilitate participants' understanding and to provide concrete examples of successful digital integration within MSMEs.

Figure 1. Designed flyers and prepared presentation materials for the webinar

During the preparation phase, the speakers developed and delivered materials based on the designated topic. The event featured three speakers: Kresna Dewanata Phrosakh (member of Commission I of the Indonesian House of Representatives), Feliks Prasepta Sejahtera Surbakti, S.T., M.T., PhD (faculty member from Universitas Katolik Indonesia

Atma Jaya), and Septriana Tangkary, S.E., M.M (Director of Economic and Maritime Information and Communication at the Ministry of Communication and Information Technology). The event flyer and the presentation materials delivered by Feliks Prasepta Sejahtera Surbakti, S.T., M.T., PhD, are displayed in Figure 1. The event involved coordination with all speakers, moderators, and participants, which included owners of small and medium-sized MSMEs, particularly those operating with conventional methods and having limited knowledge or access to e-commerce platforms. Many participants were constituents of Kresna Dewanata Phrosakh, representing the East Java Electoral District 5 (Malang Regency, Batu City, and Malang City).

3. Results and Discussion

The webinar was conducted online through Zoom, with the committee sending the Zoom link to registered participants a day before the event. Additionally, the event was streamed live on the Studio Intel Pasar Minggu YouTube channel. In the execution phase, an evaluation was also conducted, including pre-tests and post-tests to measure changes in public knowledge and awareness before and after the event, as well as feedback collection through observations on the webinar.

Materials provided to participants included digital transformation guides, step-by-step manuals for e-commerce setup (Gallastegui & Forradellas, 2024), and educational resources on utilizing AI-driven tools for business optimization (Schmitt, 2023). These materials were tailored to the technological literacy levels of the participants and were designed to be easy to understand. Evaluation was conducted through pre- and post-program surveys to assess participants' knowledge and readiness to adopt e-commerce practices.

The outcome of this community service project was the successful execution of the Forum Digitalk webinar on the topic "Digital transformation from conventional MSMEs to e-commerce" with the majority of participants hailing from Malang Regency, Batu City, and Malang City. The event was conducted live on the Zoom platform (Figure 2). As one of the keynote speakers, the author presented material titled "Digital Transformation from Conventional MSMEs to E-commerce" In addition to being broadcast on Zoom, the event was also available for viewing on the Studio Intel Pasar Minggu YouTube channel.
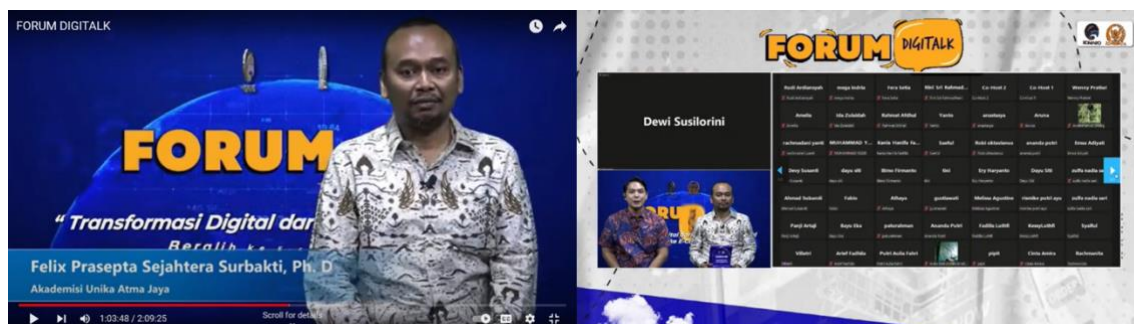

Figure 2. Presenting materials during a community service webinar

The materials presented during the webinar consisted of a digital presentation covering several key topics relevant to MSMEs undergoing digital transformation. These topics included the strategic role of digital platforms in supporting business growth and

competitiveness (Romansky, 2022), an overview of digital infrastructure and its regulatory framework (Bernes, 2022), common risks encountered in digital environments such as cybersecurity threats, including phishing and malware (Cheng et al., 2022), practical strategies for securing digital business operations and customer data, and case studies highlighting digital transformation successes and failures among Indonesian MSMEs (Aminullah et al., 2024). To evaluate the effectiveness of the webinar, post-event surveys were conducted to assess participants' increased awareness and understanding of digital transformation. The survey measured participants' knowledge before and after the session, focusing on their ability to identify digital risks and apply strategies for adopting secure and sustainable e-commerce practices.

Before the speakers presented the materials, a pre-test was conducted for the webinar participants. From the pre-test results, it was evident that the participants did not yet have sufficient understanding or awareness of digital transformation of conventional MSMEs. Therefore, when it came to delivering the material, the chosen method was a presentation by the speakers followed by a Q&A session. After the three speakers, coming from different backgrounds namely a member of the Indonesian House of Representatives, an academic, and a practitioner, delivered their presentations, a Q&A session followed, where many participants asked questions about topics, they found interesting and required further clarification. After the 15-minute Q&A session ended, a post-test was conducted. The post-test results showed a significant improvement in the participants' understanding. Their awareness of digital transformation of conventional MSMEs increased significantly. Following the national webinar, public awareness about digital transformation of conventional MSMEs in Indonesia rose by 80%.

In addition to skill improvement, a shift in attitude toward the use of technology was also an important outcome. Before the training, some participants were skeptical about the benefits of technology for their small businesses. However, after experiencing the benefits firsthand, there was a significant change in their perspective. Participants became more open to adopting technology as a tool to help develop their businesses and expand their market reach.

The findings are consistent with previous research emphasizing the critical role of digital literacy in supporting successful digital transformation among MSMEs (Hughes-Lartey et al., 2021). The results reinforce the notion that a well-informed business community is essential for effectively navigating digital transitions and mitigating associated risks. However, this program also reveals a gap in the availability of ongoing, accessible educational initiatives that address the latest challenges and tools related to digital business operations. Therefore, future community engagement efforts should focus on providing continuous updates and practical training on emerging e-commerce technologies, cybersecurity risks, and digital business management strategies (Florackis et al., 2023).

4. Conclusion

The results of this community service activity demonstrate a meaningful impact in achieving the program's objectives. Participants showed significant improvement in their knowledge and skills, particularly in utilizing digital technology for business development and management. The shift in their attitude toward adopting technology also indicates a positive outcome, where they are now more open to using digital tools

to support and expand their small businesses. These findings align with the program's goal of empowering local entrepreneurs through technology, contributing to their business sustainability and growth. The participants' ability to apply what they learned in real-world settings reflects the success of the program in fostering long-term development.

To ensure the sustainability of this community service program, several recommendations are proposed. It is recommended to establish follow-up training sessions or workshops to further enhance participants' skills and knowledge, particularly in advanced areas of digital marketing and financial management. Local governments and related agencies should consider formulating policies that encourage the integration of digital technology in small and medium enterprises (MSMEs). Providing incentives or subsidies for technology adoption can help accelerate this transformation. Creating a structured mentorship program where experienced business owners or digital experts can guide participants in implementing new technologies would ensure ongoing support and encourage long-term success

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