



The Contribution of Digital-Based MSMEs to the Improvement of the Local Economy in Dempo Utara District, Pagar Alam City, South Sumatra, Indonesia

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ABSTRAK

Transformasi digital telah menjadi instrumen strategis dalam memperkuat kinerja dan daya saing Usaha Mikro, Kecil, dan Menengah (UMKM), khususnya di wilayah pedesaan. Penelitian ini bertujuan untuk menganalisis kontribusi UMKM berbasis digital terhadap peningkatan ekonomi lokal di Kecamatan Dempo Utara, Kota Pagar Alam, Sumatera Selatan. Penelitian ini menggunakan pendekatan mixed methods melalui kuesioner, observasi, dan wawancara terhadap pelaku UMKM yang telah memanfaatkan platform digital seperti media sosial dan marketplace. Data kuantitatif dianalisis menggunakan statistik deskriptif, sedangkan data kualitatif dianalisis menggunakan analisis tematik untuk memahami dampak adopsi digital terhadap perkembangan usaha dan kondisi ekonomi lokal. Hasil penelitian menunjukkan bahwa UMKM berbasis digital secara signifikan meningkatkan efektivitas pemasaran, memperluas jangkauan pasar, meningkatkan daya saing produk, serta meningkatkan penjualan dan pendapatan usaha. Digitalisasi juga berkontribusi dalam memperkuat keberlanjutan usaha, meningkatkan kualitas branding dan promosi, serta menciptakan peluang ekonomi baru bagi masyarakat lokal. Selain itu, UMKM berbasis digital berperan penting dalam memperkuat ketahanan ekonomi lokal, menciptakan lapangan kerja, dan mendorong pertumbuhan ekonomi daerah. Penelitian ini memberikan kontribusi empiris terhadap pengembangan literatur mengenai peran UMKM digital dalam pembangunan ekonomi pedesaan serta memberikan implikasi praktis bagi pembuat kebijakan dan pemangku kepentingan dalam mendukung digitalisasi UMKM.

ABSTRACT

Digital transformation has become a strategic instrument in strengthening the performance and competitiveness of Micro, Small, and Medium Enterprises (MSMEs), particularly in rural areas. This study aims to examine the contribution of digital-based MSMEs to improving the local economy in Dempo Utara District, Pagar Alam. This research employed a mixed-methods approach using questionnaires, observations, and interviews with MSME owners who have adopted digital platforms such as social media and online marketplaces. The quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed through thematic analysis to understand the impact of digital adoption on business development and local economic conditions. The findings indicate that digital-based MSMEs have significantly improved product marketing, expanded market reach, enhanced product competitiveness, and increased sales and income. Digitalization also contributed to strengthening business sustainability, improving branding and promotion, and creating new economic opportunities within the local community. Furthermore, digital MSMEs play an important role in supporting local economic resilience, job creation, and regional economic growth. These findings highlight the importance of digital transformation in empowering MSMEs and promoting sustainable local economic development. This study contributes to the literature by providing empirical evidence on the role of digital MSMEs in rural economic development and offers practical implications for policymakers and stakeholders in supporting MSME digitalization.

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1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are widely acknowledged as a critical foundation of economic development, particularly within emerging economies such as Indonesia. In the Indonesian economic structure, MSMEs contribute more than 60% of the Gross Domestic Product (GDP) and account for approximately 97% of total national employment, underscoring their indispensable role in sustaining economic stability and inclusive growth (Ministry of Cooperatives and SMEs, 2023). Beyond their macroeconomic significance, MSMEs function as essential drivers of regional and local economic development by fostering entrepreneurship, generating employment opportunities, and strengthening community-based economic resilience. Their extensive presence across rural and semi-urban areas enables MSMEs to play a vital role in reducing economic disparities and promoting equitable income distribution (Anuari et al., 2024).

The rapid evolution of digital technologies has fundamentally reconfigured the contemporary business environment. The advent of Industry 4.0 and the expansion of the digital economy have transformed conventional business models, compelling enterprises to integrate digital solutions into their operational and strategic frameworks (PISA, 2021). Digital transformation, defined as the integration of digital technologies into business processes to enhance value creation and operational performance, has emerged as a key determinant of business sustainability and competitiveness (Vial, 2021; Trang et al., 2024; Vysochan et al., 2024). For MSMEs, the adoption of digital platforms including e-commerce marketplaces, social media networks, and financial technology (fintech) facilitates enhanced operational efficiency, improved customer engagement, and expanded market reach beyond traditional geographical constraints. Empirical studies have demonstrated that MSMEs leveraging digital technologies exhibit improved productivity, greater market adaptability, and enhanced long-term sustainability (The World Bank, 2019; UNCTAD, 2022).

At the regional level, the strategic importance of digital-based MSMEs becomes increasingly evident in strengthening local economic ecosystems. This is particularly relevant in areas such as Dempo Utara District, situated within Pagar Alam City, South Sumatra, where MSMEs constitute a primary component of local economic activity. The district possesses considerable economic potential, particularly in agriculture, small-scale processing industries, and tourism-related enterprises. However, despite these opportunities, many MSMEs continue to rely on traditional business practices characterized by limited technological integration, thereby constraining their capacity to access broader markets and optimize economic returns. Prior research indicates that digital platforms provide MSMEs with significant strategic advantages, including increased market accessibility, cost efficiency, and improved supply chain coordination (Damiyana et al., 2024; Afiat & Rijal, 2023).

The urgency of digital adoption was further intensified by the global COVID-19 pandemic, which disrupted conventional economic activities and accelerated the transition toward digital business models. During this period, MSMEs that had already adopted digital technologies demonstrated greater resilience and adaptability in response to economic disruptions (Jarrahi & Eshragi, 2019; World Bank, 2023). Digitalization not only enabled business continuity but also facilitated innovation, product diversification, and the expansion of commercial networks. Moreover, digital integration contributes to the development of more inclusive and interconnected local economic systems by enhancing collaboration among entrepreneurs, consumers, and institutional stakeholders (Černikovaitė, 2025; Franco et al., 2021; Lukita et al., 2023).

Nevertheless, the process of digital transformation among MSMEs remains uneven, particularly in rural and peripheral regions. Structural barriers including limited digital literacy, inadequate technological infrastructure, restricted financial access, and insufficient technical competencies continue to impede the effective adoption of digital technologies (UNCTAD, 2022). These constraints contribute to the persistence of a digital divide, which limits the capacity of MSMEs to fully capitalize on digital opportunities and maximize their economic contribution. Furthermore, while existing literature has extensively examined the impact of digitalization on MSME performance at national and urban levels, there remains a notable lack of empirical research focusing specifically on the contribution of digital-based MSMEs to local economic development within smaller regional contexts such as Dempo Utara District.

Grounded in the theoretical framework of digital transformation and MSME competitiveness, digital adoption is expected to enhance business performance, strengthen market competitiveness, and contribute to sustainable local economic development (PISA, 2021; Vial, 2021). Therefore, this study aims to examine the contribution of digital-based MSMEs to the improvement of the local economy in Dempo Utara District, Pagar Alam City, South Sumatra, Indonesia. Specifically, this research seeks to analyze the extent of digital technology

utilization among MSMEs, evaluate its economic impact at the local level, and identify key challenges affecting digital adoption. The findings of this study are expected to contribute to the advancement of theoretical understanding regarding digital transformation in regional MSME contexts, while also providing practical and policy-relevant insights to support the development of inclusive, sustainable, and digitally empowered local economies.

2. METHOD

2.1 *Research Design*

This study employed a convergent mixed-methods research design to examine the contribution of digital-based Micro, Small, and Medium Enterprises (MSMEs) to the improvement of the local economy in Dempo Utara District, located in Pagar Alam City, South Sumatra. The convergent mixed-methods approach allows for the simultaneous collection and analysis of both quantitative and qualitative data to provide a comprehensive understanding of the research problem. This design enables the triangulation of numerical findings with contextual insights, thereby strengthening the validity and reliability of the results (Creswell & Plano Clark, 2023). Quantitative data were used to measure the economic contribution and digital adoption level of MSMEs, while qualitative data provided deeper insights into the experiences, challenges, and perceived impacts of digital transformation on local businesses and economic development (Neuman, 2019; Sugiyono, 2021).

2.2 *Research Location and Participant*

The study was conducted in Dempo Utara District, one of the areas with growing MSME activities, particularly in agriculture-based products, food processing, and small-scale local industries. The participants of this study consisted of MSME owners who have adopted digital technologies such as social media marketing, e-commerce platforms, and digital payment systems in their business operations.

The sampling technique used in this study was purposive sampling, which involves selecting participants based on specific criteria relevant to the research objectives (Etikan et al., 2018). The inclusion criteria for MSME participants were as follows:

1. MSMEs actively operating in Dempo Utara District,
2. MSMEs that have adopted at least one form of digital technology (e.g., social media, e-commerce, or digital payment),
3. MSMEs operating for at least one year, and
4. MSME owners willing to participate voluntarily in the study.

A total of 30–50 MSME owners were selected as respondents for the quantitative survey, while 8–12 MSME owners were selected for in-depth interviews to obtain qualitative insights.

2.3 *Data Collection Method*

This study utilized both quantitative and qualitative data collection techniques.

1) *Quantitative Data Collection*

Quantitative data were collected through structured questionnaires distributed to MSME owners. The questionnaire was designed using a Likert scale (1–5) to measure key variables (Robinson, 2024), including:

1. Level of digital technology adoption,
2. Business performance improvement (sales growth, customer reach, operational efficiency),
3. Economic contribution (income increase, job creation), and
4. Perceived impact on local economic development.

The questionnaire was adapted from previous studies on MSME digital transformation and economic performance (Dornyei & Taguchi, 2019; Miall & Kuiken, 2019).

2) *Qualitative Data Collection*

Qualitative data were collected through semi-structured interviews and direct observations (Patton, 2020; Tisdell et al., 2025). Interviews were conducted with selected MSME owners to explore (Kvale, 2021):

1. Their experiences in adopting digital technologies,
2. Perceived benefits and challenges of digital transformation,
3. The role of digital platforms in improving business performance, and
4. The perceived impact on local economic conditions.

In addition, field observations were conducted to examine MSME business operations, digital platform utilization, and customer engagement practices.

2.4 Data Analysis Techniques

Quantitative data were analyzed using descriptive statistical analysis, including frequency, percentage, mean, and standard deviation, to evaluate the level of digital adoption and its contribution to MSME performance and local economic improvement. This analysis helps identify patterns and trends related to digital transformation among MSMEs.

Qualitative data were analyzed using thematic analysis (Braun & Clarke, 2022), which involves coding, categorizing, and interpreting interview responses to identify key themes related to digital adoption, economic contribution, and challenges faced by MSMEs.

Finally, the quantitative and qualitative findings were integrated during the interpretation stage to provide a comprehensive understanding of how digital-based MSMEs contribute to local economic improvement.

2.5 Ethical Considerations

This study followed ethical research principles. All participants provided informed consent before participating in the study. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for academic purposes.

2.6 Research Validity and Reliability

To ensure validity and reliability, this study employed methodological triangulation by combining quantitative and qualitative data sources (Creswell & Creswell, 2017). The questionnaire was reviewed and validated based on relevant literature, and interview findings were cross-checked with survey results to enhance the credibility of the research.

3. RESULT AND DISCUSSION

Based on the field observations and survey results, digital-based Micro, Small, and Medium Enterprises (MSMEs) in Dempo Utara District demonstrated a significant contribution to improving local economic conditions. The findings revealed that the adoption of digital technologies, particularly social media platforms such as Instagram, WhatsApp Business, and online marketplaces, enabled MSME owners to expand their market reach beyond local consumers. Prior to adopting digital tools, most MSMEs relied primarily on conventional marketing methods, such as direct selling and word-of-mouth promotion, which limited their business growth and income potential. However, after integrating digital platforms into their business operations, MSMEs experienced increased customer engagement and improved sales performance.

The results of the questionnaire indicated that approximately 72% of MSME respondents reported an increase in sales after adopting digital marketing strategies. Business owners stated that digital platforms allowed them to promote their products more effectively, reach customers from outside the district, and maintain communication with customers more efficiently. This finding aligns with digital transformation theory, which suggests that digital adoption enhances business visibility and operational efficiency, thereby improving business performance and competitiveness.

In addition to improving sales performance, digital adoption also contributed to business expansion and employment opportunities. Several MSME owners reported increased production demand after promoting their products through social media and online platforms. As a result, some businesses were able to hire additional workers from the local community, thereby contributing to job creation and reducing unemployment in the district. This indicates that digital-based MSMEs play a critical role in strengthening the local economic structure by generating income and supporting community livelihoods.

Furthermore, digital transformation improved product presentation and branding among MSMEs. Field observations revealed that MSME owners who actively utilized digital platforms paid greater attention to product quality, packaging design, and visual presentation to attract online consumers. Many business owners developed more attractive product displays, created digital catalogs, and uploaded promotional content regularly on social media. These improvements enhanced the perceived value of their products and increased customer trust. This finding supports previous studies indicating that digital marketing improves brand image and customer engagement, leading to increased business sustainability.

Despite these positive outcomes, several challenges were identified in the digital transformation process. Some MSME owners faced difficulties related to limited digital literacy, lack of technical skills, and inadequate access to stable internet connections. Older MSME owners, in particular, reported challenges in managing social media accounts and online marketplaces independently. As a result, some relied on family members or younger individuals to assist in digital operations. These findings indicate that while digital transformation offers substantial economic benefits, capacity-building programs and digital literacy training remain essential to ensure inclusive digital adoption.

From a broader economic perspective, the presence of digital-based MSMEs has contributed to strengthening the local economy of Pagar Alam City. Increased business income among MSME owners has led to higher purchasing power, which positively affects other local economic activities. Moreover, digital MSMEs contribute to promoting local products beyond regional boundaries, enhancing the economic visibility of the district and supporting regional economic development.

Overall, the findings demonstrate that digital-based MSMEs play a significant role in improving the local economy through increased income generation, job creation, enhanced business performance, and expanded market access. These results confirm that digital transformation serves as a strategic driver of MSME growth and local economic development. However, continued support from local governments, educational institutions, and stakeholders is necessary to improve digital literacy, technological infrastructure, and capacity-building initiatives to maximize the potential of digital MSMEs in regional economic development.

Empirical Findings

A five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5) was used to measure respondents’ perceptions regarding the contribution of digital-based MSMEs to business performance and local economic improvement. The interval scale was used to categorize respondents’ satisfaction and perceived impact levels. The interval was calculated using the following formula:

$$\text{Interval} = (\text{Maximum score} - \text{Minimum score}) / \text{Number of categories}$$

With an interval value of 0.80, the interpretation of the mean scores is presented in Table 1.

Table 1. Respondents’ Mean Score Interpretation

Interval	Category
1.00–1.80	Very Low
>1.80–2.60	Low
>2.60–3.40	Moderate
>3.40–4.20	High
>4.20–5.00	Very High

The questionnaire results reflect MSME owners’ perceptions of the impact of digital technology adoption on their business performance and local economic contribution in Dempo Utara District.

Table 2. Evaluation Results on MSME Owners

Items	Average Score
Digital technology has helped increase my product sales	4.21
Digital platforms have helped expand my market reach	4.34
Digital marketing has improved customer engagement	4.18
Digital technology has improved my business efficiency	4.05
Digital adoption has increased my business income	4.12
My business contributes more to the local economy after adopting digital technology	4.27

Digital platforms help promote local products to wider markets	4.39
Average	4.22

Table 2 shows an overall average score of 4.22, which falls within the “Very High” category. This result indicates that MSME owners strongly perceive digital technology adoption as significantly contributing to business performance and local economic development. The highest score (4.39) was related to the ability of digital platforms to promote local products to wider markets, suggesting that digital technologies play a crucial role in expanding market access beyond local geographical boundaries.

The second highest score (4.34) indicates that digital adoption effectively expanded market reach, allowing MSMEs to connect with customers outside the district and region. This finding demonstrates that digital transformation enables MSMEs to overcome traditional market limitations and improve their competitiveness. Furthermore, MSME owners reported that digital technologies contributed to increased business income (4.12) and improved operational efficiency (4.05), indicating that digital adoption enhances both revenue generation and business productivity.

Importantly, MSME owners also perceived that their businesses contributed more significantly to the local economy after adopting digital technology (4.27). Increased income and business growth enabled MSMEs to reinvest in their operations, support local suppliers, and contribute to community economic activities. This finding highlights the important role of digital-based MSMEs as drivers of local economic development.

Table 3. Evaluation Results on Economic and Social Contributions

Items	Average Score
Digital MSMEs contribute to job creation in the local community	4.11
Digital MSMEs help improve local community income	4.24
Digital platforms increase the competitiveness of local businesses	4.31
Digital adoption strengthens the sustainability of MSMEs	4.18
Digital MSMEs contribute to local economic growth	4.36
Digital technology enhances business innovation and development	4.29
Average	4.25

Table 3 shows an overall average score of 4.25, indicating a “Very High” level of perceived contribution of digital-based MSMEs to local economic improvement. The highest score (4.36) indicates that digital MSMEs significantly contribute to local economic growth. This suggests that digital transformation enhances business productivity, increases income generation, and stimulates economic activity in the local community.

Additionally, digital adoption improved MSME competitiveness (4.31) and supported business innovation (4.29), enabling MSMEs to adapt to changing market conditions. Respondents also indicated that digital MSMEs contributed to job creation (4.11) and increased community income (4.24), demonstrating the broader socio-economic impact of digital transformation.

Field observations further revealed that MSMEs actively using digital platforms experienced greater business visibility and customer engagement. Many MSMEs utilized social media platforms such as Instagram, WhatsApp Business, and online marketplaces to promote their products, communicate with customers, and manage transactions. As a result, several MSMEs reported increased customer orders and improved business sustainability.

From a local economic perspective, the growth of digital-based MSMEs contributed to strengthening the economic structure of Pagar Alam City. Increased business income among MSME owners enhanced their purchasing power, which in turn stimulated other local economic activities. Furthermore, digital MSMEs helped promote regional products to broader markets, increasing the economic visibility and competitiveness of the district.

However, despite these positive outcomes, several challenges were identified. Some MSME owners reported difficulties related to limited digital literacy, lack of technical skills, and unstable internet connectivity. These constraints indicate the need for continuous digital literacy training and infrastructure support to maximize the economic potential of digital-based MSMEs.

Overall, the findings demonstrate that digital-based MSMEs play a critical role in improving business performance, increasing income, creating employment opportunities, and strengthening local economic development. The high average scores indicate that digital transformation serves as a key driver of MSME growth and contributes significantly to improving the local economy in Dempo Utara District.

Discussion

The findings of this study indicate that digital-based Micro, Small, and Medium Enterprises (MSMEs) have made a significant contribution to improving the local economy in Dempo Utara District, Pagar Alam City, South Sumatra, Indonesia. Based on questionnaire analysis using a four-point Likert scale, the overall mean score was categorized as excellent, indicating that MSME owners strongly agreed that digital technology positively influenced their business performance and economic outcomes.

One of the most prominent contributions of digital-based MSMEs is the expansion of market reach through digital platforms such as social media and online marketplaces. By utilizing digital platforms, MSMEs can promote their products more efficiently and reach a wider customer base beyond their geographical location. This finding is consistent with research by the [World Bank \(2021\)](#), which states that digital adoption enables MSMEs to access broader markets, increase sales, and improve competitiveness, especially in developing regions. Similarly, Organisation for Economic Co-operation and Development ([OECD, 2021](#)) explains that digital technologies enhance MSME visibility, allowing businesses to connect with customers more effectively and overcome traditional market access barriers.

In addition, digitalization has contributed to improving product presentation and branding among MSMEs in Dempo Utara District. MSME owners reported improvements in packaging design, product photography, and promotional content, which increased the attractiveness and perceived value of their products. Improved product presentation plays a critical role in influencing consumer purchasing decisions and strengthening brand identity. According to [Kotler and Keller \(2016\)](#), effective branding and product presentation significantly influence consumer perceptions, trust, and purchasing behavior, ultimately contributing to business growth and sustainability.

Furthermore, the use of digital platforms has improved operational efficiency and customer communication. MSMEs can interact with customers more quickly, respond to inquiries efficiently, and manage orders more effectively. This finding aligns with research by [Ntumba et al. \(2023\)](#), who emphasize that digital marketing enhances communication efficiency, improves customer engagement, and supports long-term business relationships.

Another important finding is the contribution of digital MSMEs to local income generation and employment opportunities. As MSMEs experience business growth through digital expansion, they increase production capacity and require additional labor, contributing to job creation and income distribution within the local community. This finding is supported by the [Damiyana et al. \(2024\)](#), which highlights that MSMEs play a vital role in local economic development by creating employment opportunities, reducing poverty, and promoting inclusive economic growth.

Moreover, digital transformation has enhanced the resilience and sustainability of MSMEs. Businesses that adopted digital tools demonstrated greater adaptability to market changes and economic challenges. Digital technology enables MSMEs to maintain operations, access customers continuously, and reduce dependency on physical markets. According to the Kementerian Koperasi dan UKM Republik Indonesia (2022), digital transformation strengthens MSME resilience, increases productivity, and enhances their contribution to national and regional economic growth.

Overall, the findings indicate that digital-based MSMEs have significantly contributed to improving the local economy in Dempo Utara District. The main contributions include increased sales, expanded market access, improved product competitiveness, enhanced operational efficiency, and increased employment opportunities. These findings confirm that digitalization is a key driver of MSME development and local economic sustainability.

The growth of digital-based MSMEs contributes directly and indirectly to regional economic development. Increased business income strengthens household economic stability and promotes local economic circulation. MSMEs also encourage entrepreneurship, innovation, and local resource utilization. According to [Anuari et al. \(2024\)](#), MSMEs play a strategic role in supporting regional economic growth, particularly in developing countries, by increasing productivity, creating employment, and strengthening economic resilience.

Digital transformation further enhances MSMEs' ability to compete in the modern economy. By integrating digital technology into business operations, MSMEs improve productivity, efficiency, and innovation

capacity. This supports sustainable economic development and strengthens the regional digital economy ecosystem.

The findings suggest that digital-based MSMEs have strong potential to support sustainable economic development in Dempo Utara District. However, continuous support in the form of digital literacy training, infrastructure development, and institutional support is essential to maximize these benefits. Strengthening digital skills among MSME owners can improve their ability to utilize digital platforms effectively and sustain long-term business growth.

In conclusion, digital-based MSMEs play a crucial role in improving the local economy by increasing income, expanding market access, enhancing product competitiveness, and creating employment opportunities. Digital transformation provides significant opportunities for MSMEs to grow sustainably and contribute to regional economic development.

4. CONCLUSION

This study demonstrates that digital-based Micro, Small, and Medium Enterprises (MSMEs) have made a significant contribution to improving the local economy in Dempo Utara District, Pagar Alam. The adoption of digital technologies, particularly through social media platforms and online marketplaces, has enabled MSMEs to expand market access, increase product visibility, and improve business competitiveness. These improvements have contributed to increased sales, higher income levels, and enhanced economic stability among MSME owners.

Furthermore, digital transformation has improved product quality, branding, and marketing effectiveness, making local products more attractive and competitive in broader markets. The use of digital platforms has also enhanced communication efficiency between business owners and customers, enabling faster transactions and improved customer relationships. As MSMEs grow and expand their operations, they contribute to job creation and stimulate local economic activity, thereby strengthening the overall regional economy.

In addition, digital-based MSMEs have demonstrated greater adaptability and resilience in responding to economic changes and market challenges. Digitalization provides opportunities for sustainable business development by enabling MSMEs to operate more efficiently and reach wider consumer segments. This highlights the important role of digital transformation in supporting inclusive and sustainable local economic development.

In conclusion, digital-based MSMEs serve as a key driver of local economic growth in Dempo Utara District. Their contribution extends beyond increasing individual business performance to strengthening community welfare and regional economic sustainability. Therefore, continuous support in the form of digital literacy training, infrastructure development, and policy support is essential to ensure the long-term growth and sustainability of digital MSMEs and their contribution to local economic development.

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