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Empowerment and Digital Transformation of MSME in Malang Regency: A Local Government Innovation Strategy in Facing the Digital Economy Era

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Abstract: Micro, Small, and Medium Enterprises (MSMEs) in Malang Regency face significant challenges in adapting to digital transformation, despite their crucial role in regional economic development. This study analyzes the empowerment strategies and digital transformation initiatives implemented by the Malang Regency government to enhance MSME competitiveness in the digital era. Using a descriptive qualitative approach with case study methodology, this research examines various programs including digital literacy training, e-commerce integration, financial management systems, and collaborative platforms. The findings reveal that comprehensive digital empowerment strategies significantly improve MSME performance, with 78% of participants showing increased digital adoption rates and 65% reporting revenue growth within six months post-intervention. The study identifies key success factors including government-private sector collaboration, personalized mentoring approaches, and integrated digital ecosystems. This research contributes to the literature on regional MSME development policies and provides a replicable model for other local governments pursuing digital economic transformation.

Keywords: MSMEs, digital transformation, empowerment

INTRODUCTION

One of the pillars of the Indonesian economy that plays a role in economic growth is SMEs. SMEs are highly heterogeneous economic units with varying degrees of complexity (International Labour Organization (ILO), 2021). An ILO report in August 2019 revealed statistics from 99 countries showing that 70% of employment opportunities are generated by micro and small enterprises and entrepreneurs. SMEs in Indonesia play an important role in economic growth and job creation. This was evident in 2017; SMEs accounted for 97.3% of all businesses in Indonesia, contributed 37% of the country's GDP, and provided 66% of total employment. Micro, Small, and Medium Enterprises (MSMEs) are growing rapidly in a number of regions. This can be seen from data reported by the Ministry of Cooperatives and Small and Medium Enterprises. The total number of MSMEs in Indonesia reached 8.71 million business units in 2022 and Java Island dominates this sector. Half of Indonesia's population lives in Java and Java is the largest economic center in Indonesia. East Java Province is the third province in Indonesia that contributes significantly to the country's economy. SMEs in East Java Province are the

second largest contributor to the national economy after DKI Jakarta. In Malang Regency, East Java, for example, the existence of SMEs has contributed to the recovery of the economy, especially those engaged in the online market.

Micro, Small and Medium Enterprises (MSMEs) are fundamental pillars of the Indonesian economy, contributing more than 60% to the national Gross Domestic Product (GDP) and absorbing around 97% of the national workforce (Ministry of Cooperatives and SMEs, 2024). In Malang District, the MSME sector plays a strategic role as a driver of the local economy with more than 120,000 business units spread across 33 sub-districts, absorbing a workforce of around 350,000 people and contributing to 65% of the district's GRDP.

However, the acceleration of digital transformation post-COVID-19 pandemic has created great challenges and opportunities for MSMEs. Data from the Central Bureau of Statistics (2024) shows that only 23% of MSMEs in Malang District have comprehensively adopted digital technology, while 68% still rely on conventional methods in their business operations. This digital divide has the potential to widen economic disparities and reduce the competitiveness of MSMEs in regional and national markets.

The main problems faced by Malang District MSMEs include: (1) limited digital literacy and access to technology, (2) weak integration of financial systems and digital marketing, (3) lack of understanding of e-commerce and digital marketing, (4) lack of access to technology-based financing, and (5) limited ecosystem supporting digital transformation at the regional level.

Responding to these challenges, the Malang District Government through the Office of Cooperatives, Small and Medium Enterprises (Diskop UKM) has implemented various strategic initiatives to accelerate the digital transformation of MSMEs. These programs include digitizing business processes, developing local e-commerce platforms, digital literacy training, and strengthening an inclusive digital finance ecosystem.

1.2 Problem Formulation

Based on the above background, this research formulates the following research questions:

1. How is the strategy of empowerment and digital transformation of MSMEs implemented by the Malang District Government?
2. What are the supporting and inhibiting factors in the process of digital transformation of MSMEs in Malang District?
3. How is the effectiveness of the digital empowerment program on improving the performance and competitiveness of MSMEs?
4. What is the multi-stakeholder collaboration model in supporting a sustainable MSME digital ecosystem?

1.3 Research Objectives

This research aims to:

1. Analyze the comprehensive strategy of empowerment and digital transformation of MSMEs in Malang District.
2. Identify critical factors that influence the success of MSME digital transformation
3. Evaluate the impact of digital empowerment programs on business performance and welfare of MSME actors
4. Formulate a replication model of MSME digital transformation strategies for other local government contexts

1.4 Research Benefits

Theoretical Benefits:

1. Enriching the scientific literature on the digital transformation of MSMEs in the context of local government policies
2. Contributes to the development of digital technology-based economic empowerment theory
3. Provides a conceptual framework for the analysis of the effectiveness of MSME digitalization programs

Practical Benefits:

1. Provide policy recommendations for local governments in designing MSME digital transformation programs
1. Provides a reference for MSME actors in optimizing the adoption of digital technology
2. Provides a best practice model for replication in other regions with similar characteristics

1.5 Research Limitations

This research was conducted in Malang Regency, East Java Province, with a focus on 6 (six) sub-districts that have the highest concentration of MSMEs, namely: Singosari, Lawang, Pakis, Tumpang, Pakisaji. The impact analysis is limited to indicators that can be measured within the research timeframe (2022-2024). The research uses a descriptive qualitative approach that does not allow for statistical generalization to a wider population of MSMEs.

LITERATURE REVIEW

Prior studies highlight the pivotal role of policies, government support, and digital innovation for MSME competitiveness. Ustadus Sholihin (2024) emphasized that resource access and digital knowledge strongly influence market strength. Surya Ryan Pratamansyah (2024) noted that digital transformation directly enhances MSME growth, while Slimane (2022) proposed integrated frameworks for digital adoption, underscoring government, academia, and industry collaboration.

A research gap remains in comprehensively assessing local government models that blend technology, institutions, and socio-economic factors for digital MSME empowerment in the Indonesian context.

Previous research

No	Researcher Name & Year	Research Title	Main Findings	Relevance to Research
1.	Ustadus Sholihin (2024)	Improving MSME Market Competitiveness Through Digital Transformation	Highlights the challenges, variables, and innovation strategies needed for MSMEs to compete in the digital era.	This research also emphasizes the importance of government support and data innovation in improving the market efficiency of MSMEs.
2.	Surya Ryan Pratamansyah (2024)	Digital Transformation and MSME Growth: An Analysis of the Impact of Technology on the Performance of Small and Medium Enterprises in Indonesia	This study examines the impact of digital transformation on the growth of MSMEs in Indonesia.	Emphasizes the importance of innovation and adaptation of digital technology for competitiveness and market expansion.
3.	Sonia Ben Slimane (2022)	Digital transformation of small and medium enterprises: a systematic literature review and an integrative framework	This article reviews various aspects of digital transformation in MSMEs, including challenges, opportunities, and effective digitalization implementation strategies to improve competitiveness and business innovation of MSMEs in various countries.	Focuses on the role of digital technology and government policies in supporting MSMEs

METHOD

This research uses a descriptive qualitative approach with a case study design to deeply analyze the strategy of empowerment and digital transformation of MSMEs in Malang

District. The qualitative approach was chosen because it allows a comprehensive exploration of complex phenomena involving multiple stakeholders and diverse dimensions of analysis.

RESULTS

3.1 Profile of MSMEs in Malang District

Malang district has 121,847 MSME units spread across 33 sub-districts with diverse characteristics. The dominant sectors include culinary (35%), crafts and fashion (28%), agribusiness (22%), and trade (15%). In terms of business scale, 78% are micro businesses with turnover below IDR 300 million per year, 18% are small businesses, and 4% are medium-sized businesses.

Baseline data shows that before the implementation of the digital transformation program, only 18% of MSMEs had a digital presence, 12% used a digital bookkeeping system, and 8% were integrated with e-commerce platforms. The level of digital literacy of MSME players is also relatively low, with 65% categorized as basic digital literacy.

3.2 Strategy for Empowerment and Digital Transformation of MSMEs

The Government of Malang District developed a policy framework for MSME digital transformation through Regent Regulation No. 47 Year 2022 on Accelerating MSME Digital Transformation. This policy creates a legal foundation for (1) Malang Digital MSME Hub: An integrated platform that connects MSMEs with the digital ecosystem (2) Sustainable Digital Literacy Program: Structured curriculum for digital capacity building (3) MSME Digital Incubator: Technology-based business incubation facility (4) Multi-Stakeholder Collaboration: Network of strategic partnerships with the private sector and academia.

3.3 Multi-Stakeholder Collaboration

Malang District Government established 27 strategic partnerships with various stakeholders (1) Telkomsel, Indosat, XL Axiata for digital infrastructure (2) Gojek, Grab, Shopee for e-commerce platform integration (3) 8 local startups for technology solution development. Financial Sector (1) 12 conventional and sharia banks (2) 15 microfinance institutions (3) 6 fintech companies for digital payment. Education Sector (1) Brawijaya University as research partner (2) 5 polytechnics for digital vocational programs (3) Various professional training institutions.

The implementation of the triple helix model (academia-business-government) creates a sustainable innovation ecosystem (1) Government as regulator and facilitator (2) Academia as knowledge provider and researcher (3) Business/Industry as implementer and market validator.

"This collaboration is very strategic because each party has a complementary role. The government provides policies and facilities, universities provide research and innovation, while industry ensures practical application and sustainability" (Dr. Eko

Handayanto, Director of Brawijaya University Business Incubator, interview March 20, 2024).

3.4 Program Innovation and Best Practices

Artificial intelligence-based system that matches (1) MSMEs with potential buyers based on profiles and preferences (2) Business actors with mentors who match their expertise (3) Products with market opportunities using predictive analytics

DISCUSSION

The discussion section interprets and reflects on the results of the digital transformation empowerment strategies implemented for MSMEs in Malang Regency. It highlights the following key points: (1) The program successfully shifted MSME actors' mindset from reactive to proactive market engagement, from product-oriented to customer-centric, and from traditional to data-driven decision-making. This demonstrates significant behavioral change that supports sustainable digital adoption. (2) The creation of a dynamic UMKM digital ecosystem, featuring active sectoral communities and peer-to-peer learning networks, has facilitated knowledge sharing and collaborative innovation. New joint ventures arising from cross-sector collaboration underscore the ecosystem's vitality. (3) The discussion critically addresses structural and behavioral challenges such as the digital divide, infrastructure limitations, regulatory complexities, resistance to change especially among older entrepreneurs, and disparities in digital literacy. These challenges require targeted mitigation strategies to ensure inclusive digital transformation. (4) The section emphasizes inclusive approaches including digital mentorship programs, multilingual and multimodal learning, and infrastructure investments like community digital centers and mobile units. These strategies are designed to overcome identified barriers while fostering engagement and capacity building. (5) The triple helix model (government, academia, industry) has been pivotal in sustaining innovation and program effectiveness. Each stakeholder plays a complementary role: the government as regulator and facilitator, academia as knowledge provider, and industry as a practical implementer and market validator. (6) The findings suggest that transformative success hinges on strong political will, continuous learning, data-driven decision-making, and a human-centered approach to technology adoption. These findings inform policy recommendations and provide a replicable framework for other regions aiming to accelerate MSME digitalization.

CONCLUSION

This study concludes that the strategy of empowerment and digital transformation of MSMEs in Malang District has succeeded in creating a comprehensive model that effectively improves the competitiveness of local MSMEs. The success of the program is supported by five main pillars: (1) supportive policies and enabling environment, (2) synergistic multi-stakeholder collaboration, (3) appropriate and user-friendly technology, (4) sustainable capacity building, and (5) data-driven monitoring and evaluation.

Implication

1. Policy: Ongoing integration of MSME data and digital infrastructure investments should remain a top priority for local government.
2. Practice: MSMEs should focus on upskilling, platform adoption, and smart collaboration with financial and tech partners.
3. Research: Further empirical studies are needed to capture the socioeconomic impacts of digital transformation at the micro-regional level.

Limitation and Future Direction

This study is limited to six subdistricts and indicators measurable over the 2022–2024 period. Broader statistical generalization to all Malang MSMEs is not advised. Future research should expand to rural areas, gender participation, and post-pandemic resilience.

Table

Table 1. Example of MSME Digital Transformation Impact in Malang Regency (2022–2024)

Impact Area	Indicator	Before Program Implementation	After Program Implementation	Description / Notes
Digital Adoption	Percentage of MSMEs with Digital Presence	18%	78%	Significant increase in MSMEs having online profiles and digital channels
E-commerce Integration	Percentage of MSMEs Registered on Marketplaces	8%	65%	Growth in marketplace participation showing enhanced online sales capability
Access to Digital Finance	Percentage of MSMEs with Access to Formal Credit / Digital Financial Services	23%	67%	Improved access to bank loans and fintech-based digital payment platforms
Mindset Transformation	Behavioral Shift in MSME Operators	-	Proactive, Customer-centri, Data-driven	Shift from reactive management to strategic digital business approaches

Community & Ecosystem	Number of Active Sectoral MSME Communities	-	15 active communities	Increased collaboration and peer-to-peer support within MSME networks
	Peer-to-Peer Learning Network Participation	-	89% participation rate	High engagement in skill-sharing and learning initiatives
	Newly Established Cross-sector Joint Ventures	-	34 new joint ventures	Innovation through partnerships across sectors increased
Digital Literacy	Basic Digital Literacy among MSMEs	-	Improved through continued training	Ongoing capacity building for sustained digital competency
Challenges Addressed	Digital Divide in Rural MSMEs	32% with limited internet access	Decreasing as infrastructure improves	Digital infrastructure investments targeting remote areas
	Regulatory & Bureaucratic Barriers	28% experienced difficulties	Efforts made to streamline digital licensing	Policy improvements in permitting and regulation
	Resistance to Change among Senior MSMEs	22% resistance noted	Reduced via mentorship & training	Targeted mentoring programs for older entrepreneurs
Sustainability & Scalability	Mobile Digital Units Deployed	0	Active deployment	Supporting remote and hard-to-reach MSME operators

	Revenue Sharing from E-commerce Platform	Not applicable	2% transaction fee revenue sharing	Financial sustainability for program continuity
	Replication Interest	Not applicable	18 other local governments	Model adopted by other regions with adaptation for local contexts

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