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Digital Transformation Strategies of MSMEs in Samarinda City: An Analysis of Challenges, Opportunities, and Their Impact on Local Competitiveness

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Abstract
The accelerated growth of digital technologies has reshaped business environments, creating new opportunities and competitive pressures particularly for micro, small, and medium enterprises (MSMEs). In Samarinda City, MSMEs play a central role in driving local economic activity, yet their level of digital adoption remains uneven. This study analyzes digital transformation strategies implemented by MSMEs in Samarinda, identifies challenges and opportunities, and examines their implications for local competitiveness. Using a descriptive-quantitative design, data were collected through structured questionnaires distributed to MSME actors in culinary, fashion, and creative-service sectors. The findings reveal varying levels of digital readiness influenced by digital literacy, cost barriers, infrastructure limitations, and policy support. MSMEs that adopted digital tools such as e-commerce platforms, digital payments, and social media marketing reported higher efficiency, improved market access, and stronger brand positioning. The study highlights the need for coordinated interventions involving government, academia, and industry associations to strengthen digital capability and ensure sustainable local competitiveness.

1. Introduction

The digital economy has become a key driver of socio-economic transformation, particularly in emerging economies. Global reports indicate that digitalization can increase productivity, expand market reach, and stimulate innovation for micro, small, and medium enterprises (MSMEs) (OECD, 2023; UNCTAD, 2024). In Indonesia, MSMEs constitute more than 99% of total enterprises and contribute significantly to national GDP and employment. Their digital empowerment has thus become a strategic priority within the national economic agenda.

Samarinda, the capital city of East Kalimantan, is experiencing rapid economic transition, especially amid the development of the new capital city (IKN). This change has created new market dynamics and competition, urging local MSMEs to enhance their digital capabilities. Despite the availability of digital platforms, financial technology (fintech), e-commerce, and government initiatives, many MSMEs still struggle to adopt digital tools effectively. Common barriers include limited digital literacy, high perceived costs, lack of infrastructure, and insufficient guidance in implementing digital strategies.

This paper seeks to fill the gap in regional-level empirical evidence by offering a focused analysis of digital transformation among MSMEs in Samarinda. The results are expected to guide policymakers, practitioners, and business communities in designing more effective digital support programs.

Literature Review

1) Digital Transformation in MSMEs
Digital transformation refers to the integration of digital technologies into business processes, organizational culture, and customer engagement models (Vial, 2021). For MSMEs, digital tools such as e-commerce, digital payments, cloud computing, and social media serve as enablers for efficiency, innovation, and competitive advantage (Bai et al., 2023).

2) Adoption Theories
This study draws on two established frameworks:
   a. Technology Acceptance Model (TAM)
   Suggests that perceived usefulness and perceived ease of use influence technology adoption (Davis, 1989).
   b. Technology–Organization–Environment (TOE) Framework
   Emphasizes that technological capability, organizational resources, and external environmental pressures shape digital adoption (Tornatzky & Fleischer, 1990).

3) Digital Competitiveness
Local competitiveness refers to the ability of enterprises to sustain performance within regional markets through innovation, operational efficiency, and customer value creation (World Economic Forum, 2024). Digitalization strengthens competitiveness by enabling data-driven decision-making, expanded market access, and operational optimization.

4) Previous Studies
Studies in Indonesia show that digital transformation significantly improves MSME income, productivity, and market reach (KemenkopUKM, 2023; Febriyanti & Sari, 2024). However, digital inequality persists between urban and peri-urban regions, indicating the need for targeted policies.

2. Method

This study uses a descriptive quantitative method to obtain a general overview of MSME digital transformation in Samarinda.
1) Population and Sample
The population includes MSMEs in three major sectors:
   a. Culinary
   b. Fashion
   c. Creative services

Using accidental sampling, 120 respondents participated in the survey.
2) Data Collection
Data were collected using a structured questionnaire covering:
   a. digital tools adoption
   b. digital literacy
   c. business performance indicators
   d. perceived barriers and opportunities
3) Data Analysis
Descriptive statistics were used to analyze adoption levels, challenges, and self-reported performance impacts. Qualitative explanations were integrated to interpret patterns.

3. Results and Discussion

3.1. Digital Adoption Level

Findings show that:
1) 65% of MSMEs use social media as their primary marketing tool.
2) 54% have adopted digital payment systems (QRIS, e-wallets).
3) Only 32% use e-commerce platforms regularly.
4) Fewer than 20% use advanced tools such as cloud accounting or customer analytics.
   The uneven adoption reflects varying digital readiness across sectors, with fashion and creative services showing higher adoption compared to culinary businesses.

3.2. Main Challenges

Respondents identified several constraints:
1) Limited Digital Skills
   Many MSME owners lack understanding of effective digital marketing, content creation, and platform management.
2) Implementation Costs
   Expenses for devices, software, and advertisements hinder digital growth.
3) Inconsistent Internet Quality
   Although Samarinda's urban areas are connected, some regions still face unstable connections.
4) Lack of Technical Support
   Many MSMEs have never received formal training in digital business strategies.

These findings align with previous research showing that digital transformation in emerging markets depends heavily on education, resource availability, and policy support.

3.3. Opportunities for MSMEs

Despite challenges, significant opportunities exist:
1) Increasing digital consumer behavior in East Kalimantan post-pandemic
2) Growth of IKN-related economic activity, opening new markets
3) Government support programs for digital MSME training
4) Fintech expansion enabling easier financing and payments

3.4. Impact on Local Competitiveness

MSMEs that adopted digital tools reported:
1) Higher sales volume (45% improvement on average)
2) Reduced operational costs (e.g., cashless transactions, online promotions)
3) Faster customer response time
4) Improved brand visibility and customer engagement

Digital adoption enhances competitiveness by strengthening adaptive capacity and allowing small firms to compete more effectively with larger players.

4. Conclusion

Digital transformation has become an essential strategy for MSMEs in Samarinda to improve competitiveness within an increasingly digital marketplace. Although adoption levels vary, MSMEs that integrate digital marketing, e-commerce, and digital payments achieve notable gains in efficiency and performance. However, digital gaps persist because of limited literacy, cost barriers, and inconsistent infrastructure.

Strengthening MSME competitiveness requires collaborative efforts between government, academia, and industry associations. Policies should focus on capacity-building, infrastructure enhancement, and financial incentives that lower digital adoption barriers. This study contributes empirical insights for designing more targeted digital empowerment programs in Samarinda and similar urban contexts.

Acknowledgements

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