

ENHANCEMENT OF MSME DIGITALIZATION WITH COLLABORATIVE GOVERNANCE: PUBLIC VALUES, DECISION-MAKING, AND THE ADMINISTRATIVE CONTEXT

Subambang Harsono¹, Teja Rinanda

Department of Management, Sekolah Tinggi Ilmu Ekonomi Graha Kirana
Jl. Kirana Raya No. 20-22 Medan 20112, Indonesia

Article history:

Received
18 September 2024

Revised
28 October 2024

Accepted
12 February 2025

Available online
31 May 2025

This is an open access
article under the CC
BY license (<https://creativecommons.org/licenses/by/4.0/>)



Abstract

Background: Micro, Small, and Medium Enterprises (MSMEs) are vital to Indonesia's economy but struggle with digitalization.

Purpose: This study investigates how collaborative governance accelerates MSME digitalization through NVivo 12, focusing on the role of public values, decision-making, and administrative culture in driving digital transformation. It aims to identify key themes that strengthen governance and foster a sustainable digital ecosystem for MSMEs.

Design/methodology/approach: This study examines the Fast Track Digitalization (FTD) Program in North Sumatra, a collaboration between the government, private sector, and civil society to support MSME digitalization. Data from 16–24 in-depth interviews were analyzed using thematic analysis to identify key themes in collaborative governance.

Findings/Result: The study highlights the role of stakeholder collaboration and public values in accelerating MSME digitalization. It emphasizes public-private partnerships, digital literacy, and financial support, while transparent governance and flexible regulations are key to sustainable growth.

Conclusion: Collaborative governance has proven effective in enhancing the competitiveness and sustainability of MSMEs in the digital era. However, research on this topic is limited, especially regarding North Sumatra, and does not fully explore the impact of emerging technologies like AI and blockchain on MSMEs' digital resilience. Future studies should investigate how these technologies can strengthen governance frameworks and contribute to long-term sustainability.

Originality/value (State of the art): This research offers novelty by developing a threefold perspective that emphasizes the importance of integrating public values, collaborative decision-making, and the administrative and cultural context of policy.

Keywords: MSME, digitalization, collaborative governance, threefold perspective, thematic analysis

How to Cite:

Harsono S., & Rinanda T. (2025). Enhancement of MSME Digitalization With Collaborative Governance: Public Values, Decision-Making, and The Administrative Context. *Indonesian Journal of Business and Entrepreneurship (IJBE)*, 11(2), 355. <https://doi.org/10.17358/ijbe.11.2.355>

¹Corresponding author:

Email: subambangharsono@gmail.com

INTRODUCTION

Indonesia's Micro, Small, and Medium Enterprises (MSMEs), which account for over 60% of the country's GDP and employ 97% of the private sector workforce, encounter substantial challenges in adopting digital technologies, despite various government and private sector initiatives such as the 100 Smart City Movement and Making Indonesia 4.0 (Rozikin et al. 2023). The primary obstacles include disparities in technology access between urban and rural areas, as well as low levels of digital literacy (Kusumawardhani et al. 2023). Digitalization has the potential to enhance operational efficiency, reduce costs, and expand market opportunities through e-commerce and digital marketing (Bening et al. 2023; Kurniasari et al. 2023). However, significant barriers persist, particularly the limited availability of technology and inadequate investment, which continue to hinder MSME digital adoption (Kusumawardhani et al. 2023).

The digitization process in Indonesia encounters significant challenges, primarily due to the diversity of Micro, Small, and Medium Enterprises (MSMEs), particularly in remote areas where access to digital infrastructure and technical support is limited (Paendong et al. 2023). Although there has been some adoption of digital technologies, MSMEs continue to face difficulties in sustaining innovation due to resource constraints. Key obstacles include low levels of digital literacy, unequal access to technology, and inadequate coordination among stakeholders (Suyanto et al. 2023). Furthermore, policies designed to foster cross-sector collaboration remain suboptimal, leading to the ineffectiveness of digitization initiatives (Islam et al. 2023).

Public-private collaboration has played a crucial role in accelerating digital transformation, facilitating the nationwide penetration of technology (Bening et al. 2023). Collaborative governance, which involves the government, the private sector, academia, and civil society, can drive the digitalization of Micro, Small, and Medium Enterprises (MSMEs) by identifying both challenges and opportunities (Rozikin et al. 2023). This collaboration fosters a more coordinated strategy, enhances efficiency, creates synergy between public policies and private sector initiatives, and promotes the adoption of digital technologies across sectors, thereby contributing to the development of an inclusive and sustainable digital ecosystem (Dellyana et al. 2023).

Although collaborative governance holds significant potential to advance digitalization, its effectiveness is often context-dependent. Much of the existing research highlights the benefits of collaboration without sufficiently addressing how various actors can work together effectively, considering factors such as power dynamics, organizational culture, and politics, which can all influence the success of such initiatives (Skritsovali et al. 2023).

Furthermore, the literature on collaborative governance remains limited, and there is a need to employ diverse approaches at different levels of government and across various sectors (Mancheva et al. 2024). The success of digitization largely depends on technological capacity and available resources (Hedelin et al. 2023), and further research is needed to pinpoint the key factors that contribute to success in this domain (Carr Kelman et al. 2023). In Indonesia, MSMEs face challenges such as limited resources and unequal access to technology, underscoring the necessity for partnerships with the private sector and local communities.

Despite extensive research on MSME digitalization in Indonesia, which identifies key challenges such as low digital literacy, limited access to technology, and weak cross-sector coordination, there remains a notable gap in the in-depth analysis of the role of collaborative governance as an effective solution. While previous studies emphasize the advantages of collaboration, they often fail to explore how stakeholders can work synergistically while navigating power dynamics, organizational culture, and political influences. Additionally, although initiatives such as the Fast Track Digitalization Program in North Sumatra have been implemented, the effectiveness of collaborative approaches in public policy remains underexplored, leaving an important gap in understanding how public values, decision-making processes, and administrative culture can drive sustainable MSME digitalization.

This study employs a qualitative descriptive methodology to investigate the role of collaborative governance in accelerating the digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. Through in-depth interviews, direct observations, and document analysis, the research identifies patterns of collaboration among the government, private sector, academia, and civil society in addressing challenges such as limited digital literacy, restricted access to technology, and disparities in resources. Focusing on

the Fast Track Digitalization program in North Sumatra, the study explores the impact of public values, decision-making processes, and policy culture on the success of digitalization efforts. Utilizing thematic analysis with NVivo 12, the study aims to reveal cooperation patterns and identify adaptive policy frameworks that foster transparency, accountability, and coordination, ultimately offering evidence-based recommendations for more inclusive and sustainable digitalization strategies.

The study offers a threefold perspective on collaborative governance for the digitalization of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia, with particular emphasis on public values, decision-making characteristics, administrative context, and political culture (Lahat & Sher-Hadar, 2020). It provides both practical and theoretical insights into accelerating digitalization through effective collaborative governance, aimed at integrating and synergizing stakeholders.

This research seeks to analyze the role of collaborative governance in advancing MSME digitalization in Indonesia by focusing on three core elements: public values, decision-making characteristics, and administrative culture. The study aims to identify key themes that enhance governance effectiveness and promote a more sustainable digital ecosystem for MSMEs. Furthermore, the research assesses the impact of the Fast Track Digitalization Program in North Sumatra in fostering technology adoption and improving financial inclusion among MSMEs. By examining collaboration patterns between the government, private sector, academia, and civil society, this study offers valuable insights into more adaptive and evidence-based digitalization strategies.

The findings are expected to provide policy recommendations that strengthen MSME digitalization through multi-stakeholder collaboration and responsive governance frameworks. Ultimately, this study contributes not only to the academic discourse surrounding MSME digitalization but also to the development of more inclusive and sustainable policy frameworks.

METHODS

This study employs a qualitative descriptive approach to examine the acceleration of MSME digitalization and collaborative governance in Indonesia. Data were gathered through in-depth interviews, direct observations, and document reviews. The research focuses on the Fast Track Digitalization (FTD) program in North Sumatra, which is designed to enhance the competitiveness of micro, small, and medium enterprises (MSMEs) in the digital economy. The program provides a three-month training course that covers social media management, digital marketing strategies, and e-commerce platforms for 1,000 MSMEs.

Data collection involved interviews with representatives from the government, private sector, and civil society to explore the challenges and opportunities in this domain. The study aims to investigate the perspectives of various stakeholders and the factors influencing the success of digitization collaborations. Data will be gathered, transcribed, and analyzed using NVivo, a software tool designed to efficiently organize and analyze complex qualitative data from interviews, observations, and written documents. NVivo also facilitates systematic coding and thematic analysis (Dalkin et al. 2021).

Key informants in this study include the Cooperatives and Small and Medium Enterprises (SMEs) Office of North Sumatra, which will provide insights on the Fast Track Digitalization program, including details about the parties involved, program implementation, and the marketing media used to support SMEs. The private sector will offer valuable perspectives on their role in training SMEs for digital financial reporting and fostering long-term collaborations. Academics and policy observers will analyze collaborative governance policies related to SME digitalization, including potential future impacts. SME actors will share their experiences, and the benefits derived from the program, while the general public will contribute information on their role, particularly in supporting SMEs' digital transition.

Thematic analysis is particularly flexible, allowing for tailored sample sizes based on the specific context, research objectives, and analysis methods (Braun & Clarke, 2016). According to Hennink et al. (2017), code saturation can be achieved with as few as nine

interviews, while meaning saturation may require between 16 to 24 interviews. Furthermore, Malterud et al. (2016) suggest that a smaller sample size of approximately 10 informants is suitable for focused, specific research.

Thematic analysis using NVivo provides a structured approach for organizing qualitative data through coding and examination (Elliott-Mainwaring, 2021). This approach was utilized to identify and analyze themes, with a focus on uncovering deeper patterns and meanings in participants' responses (Vaismoradi et al. 2016). Reflective thematic analysis, a qualitative method that involves the active development of themes (Braun and Clarke, 2021), is particularly suited for exploring public values in the collaborative governance of MSMEs in Indonesia. The study aims to enhance collaboration implementation in the country by identifying value alignment among stakeholders, examining decision-making characteristics that support effective collaboration, and mapping the influence of administrative factors and policy culture on the success of collaborative governance.

The study employed thematic analysis to identify significant patterns and themes from the qualitative interview data, using NVivo software for coding and theme mapping. The analysis followed a five-step process: familiarization with the data, initial coding, theme searching, theme review, and final theme naming (Byrne, 2022). Themes and sub-themes were categorized, beginning with descriptive coding that used phrases and sentences from the interview transcripts related to the acceleration of MSME digitalization (Dalkin et al. 2021). All interviews were recorded with the participants' consent, and the transcriptions were thoroughly checked for accuracy before coding commenced (Ligita et al. 2022). Major themes were identified based on categories derived from the collected codes, which provided a comprehensive

understanding of the phenomenon under study (Braun & Clarke, 2016). This approach offers a systematic and transparent framework for interpreting data and generating both descriptive and analytical findings that can inform theory or policy development (Vaismoradi et al. 2016).

Data triangulation was employed to ensure validity by combining interviews, observations, and documentation. This method enhances the credibility of the findings by cross-referencing various sources of information and providing a more holistic understanding of the phenomenon being studied (Carter et al. 2014). Elite interviews, which may be influenced by access limitations and confidentiality concerns, require specific strategies to ensure the accuracy of the information provided. Triangulation, which involves cross-referencing data from interviews with document reviews and other sources, is essential for validating the information and mitigating potential biases and misrepresentations in research (Natow, 2020). The quality of qualitative research is assessed by factors such as credibility, transferability, dependability, and confirmability, using reporting standards like COREQ (Buus & Perron, 2020) and SRQR (McCloskey et al. 2023). Reflexivity and active listening during interviews further contribute to the trustworthiness of the findings (Lavee and Itzchakov, 2023). Ultimately, triangulation with interviews, observations, and documents bolsters validity, reduces bias, and provides a more objective perspective (Natow, 2020).

Figure 1 presents a framework, drawing on insights from Lahat and Sher-Hadar (2020), aimed at enhancing the digitalization of MSMEs through collaborative governance. It highlights the interconnected factors of public values, situational decisions, policy style, and administrative culture, thereby improving the effectiveness of collaborative governance and enabling MSMEs to thrive in a competitive digital economy.

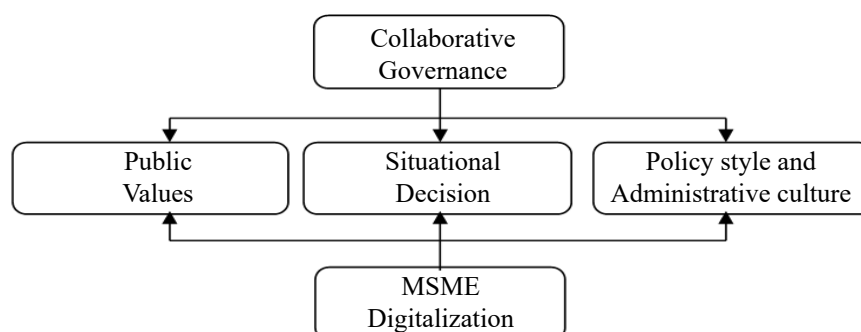


Figure 1. Conceptual Framework for Enhancing MSME Digitalization

RESULTS

The study employs Lihi Lahat's three-layer framework to examine the influence of public values, collaborative decision-making, and the administrative cultural context on the implementation of collaborative governance in the context of MSME digitalization in Indonesia.

Figure 2 illustrates the key themes identified through thematic analysis, with particular emphasis on inclusivity and access to technology, transparency and accountability, empowerment and capacity building of MSMEs through technology, economic sustainability and social impact, as well as financial access and financing for MSME digitalization. These themes are integral to advancing the digitalization of MSMEs within the framework of collaborative governance, as they play a crucial role in fostering a more equitable and sustainable digital ecosystem.

Theme 1: data-driven decision-making

Data-driven decision-making is crucial for the digitalization of MSMEs, as it helps identify challenges such as inadequate digital infrastructure and low digital literacy. Comprehensive data facilitates the design of policies that address these issues, such as improving infrastructure and enhancing digital literacy in remote areas. Moreover, data analysis enables the development

of more adaptive policies that respond to the evolving needs of MSMEs and market trends (Rautenbach et al. 2022). Policymakers can utilize data to identify relevant technologies for MSMEs, particularly in areas such as e-commerce, inventory management, and digital payments. Data-driven approaches make digitization policies more responsive and inclusive, thereby supporting equitable growth across regions.

Theme 2: policy flexibility

Flexible policies are essential for MSMEs to adapt to the technological requirements across various sectors. Factors influencing technology adoption include relative advantages, compatibility, CEO innovation, information intensity, and pressure from buyers, suppliers, and technology providers. Policies that are responsive to technological advancements, such as digital marketing platforms and payment solutions, can enhance operational efficiency and broaden market reach (Pierce, 2014). The technology needs of MSMEs differ by sector; for instance, the culinary sector requires technology for inventory management, food delivery applications, and fast payment systems. Rapid adaptation is also necessary to meet increased demand during the pandemic, which has driven the need for digital services. Policy flexibility strengthens MSMEs' capacity to respond to complex external environments, thereby supporting sustainable economic growth.

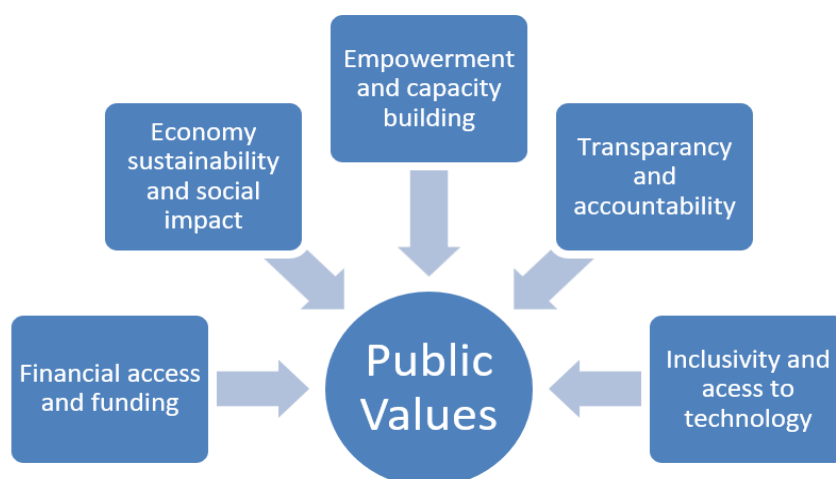


Figure 2. Themes developed from thematic analysis based on the first layer: public values

Theme 3: strategic decisions for innovation and technology development

MSMEs must adopt e-commerce and cloud-based data management to remain competitive. Digitalization has the potential to increase sales by up to 30% and reduce errors. Prompt and informed decision-making is critical, particularly during the pandemic (Mittal et al. 2020). Data-driven decisions are essential for success in the digital era. Collaboration between the government, the private sector, and MSMEs is crucial for achieving sustainable digital success. Training and mentorship programs can help overcome technological challenges, thereby contributing to increased sales.

Theme 4: participatory decision-making aligned with MSME needs

The digital transformation of MSMEs must account for local needs, particularly in remote areas, to ensure inclusive growth. Limited infrastructure, especially in terms of internet access, presents a significant barrier to adoption. Governments should collaborate with ISPs to expand access in remote areas to prevent a digital divide between urban and rural regions (Salemink et al. 2017). Digital solutions must be tailored to the specific capabilities of MSMEs in these areas. The direct involvement of MSMEs in decision-making processes is essential for the development of adaptive and responsive policies. Collaboration between the government, the private sector, and MSMEs ensures that policies are aligned with local conditions and provide the necessary tools and solutions.

Theme 5: decisions to expand market reach through technology

Digital platforms, such as e-commerce, provide MSMEs with the opportunity to access global markets, reduce marketing costs, and enhance their international competitiveness. Strategic decisions to adopt e-commerce can lead to increased sales and improved positioning in the marketplace. The success of MSMEs in the global marketplace is contingent upon their understanding and optimal utilization of digital technologies, including online store management and promotional strategies. Additionally, it is essential to fully leverage the potential of digitization.

Theme 6: decisions regarding technological development and innovation

MSMEs should strategically invest in technology to foster business growth. It is essential for them to select the appropriate technology based on their size, avoid unnecessary purchases, and evaluate their readiness for Industry 4.0 (Kazemargi & Spagnoletti, 2020). Digital literacy and long-term training are crucial, while automation and cloud-based management systems can enhance competitiveness (Cottrino et al. 2020). Strategic and sustained investments in technology are vital to ensuring the sustainability of MSMEs in the digital era.

Theme 7: decisions aimed at overcoming infrastructure barriers

MSMEs in remote areas encounter significant infrastructure challenges, including limited internet access (Yaacoub & Alouini, 2020). Both the government and the private sector must collaborate to enhance digital infrastructure and ensure inclusive digitization. Wireless technology offers a cost-effective solution for expanding internet coverage. Basic technology training and continuous technical support are crucial for success. Collaboration between the government, the private sector, and local communities is essential to providing MSMEs with the necessary support to thrive in the global marketplace.

The second layer: situations requiring decisions

Figure 3 presents the thematic findings related to various aspects of decision-making in the digital transformation of MSMEs. It emphasizes the significance of data-driven decision-making, policy flexibility, strategic decisions for innovation and technology development, participatory decision-making aligned with MSME needs, decisions to expand market reach through technology, decisions regarding technology development and innovation, and decisions aimed at overcoming infrastructure barriers. Together, these themes address the primary challenges faced by MSMEs in their digital transformation process.

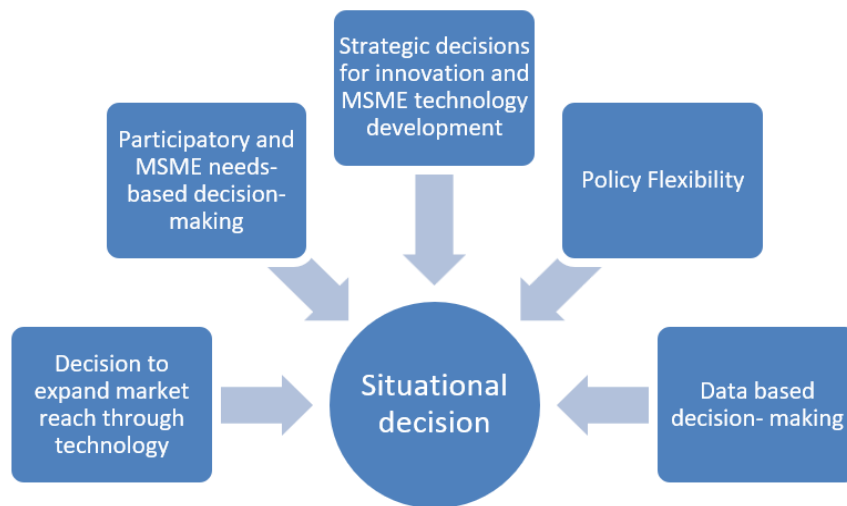


Figure 3. Themes developed from thematic analysis based on the second layer: situations requiring decisions

Theme 1: data-driven decision-making

Data-driven decision-making is crucial for the digitalization of MSMEs, as it helps identify challenges such as inadequate digital infrastructure and low digital literacy. Comprehensive data facilitates the design of policies that address these issues, such as improving infrastructure and enhancing digital literacy in remote areas. Moreover, data analysis enables the development of more adaptive policies that respond to the evolving needs of MSMEs and market trends (Rautenbach et al. 2022). Policymakers can utilize data to identify relevant technologies for MSMEs, particularly in areas such as e-commerce, inventory management, and digital payments. Data-driven approaches make digitization policies more responsive and inclusive, thereby supporting equitable growth across regions.

Theme 2: policy flexibility

Flexible policies are essential for MSMEs to adapt to the technological requirements across various sectors. Factors influencing technology adoption include relative advantages, compatibility, CEO innovation, information intensity, and pressure from buyers, suppliers, and technology providers. Policies that are responsive to technological advancements, such as digital marketing platforms and payment solutions, can enhance operational efficiency and broaden market reach (Pierce, 2014). The technology needs of MSMEs differ by sector; for instance, the culinary sector requires technology for inventory management, food delivery applications, and fast payment systems. Rapid adaptation is also necessary to meet increased demand

during the pandemic, which has driven the need for digital services. Policy flexibility strengthens MSMEs' capacity to respond to complex external environments, thereby supporting sustainable economic growth.

Theme 3: strategic decisions for innovation and technology development

MSMEs must adopt e-commerce and cloud-based data management to remain competitive. Digitalization has the potential to increase sales by up to 30% and reduce errors. Prompt and informed decision-making is critical, particularly during the pandemic (Mittal et al. 2020). Data-driven decisions are essential for success in the digital era. Collaboration between the government, the private sector, and MSMEs is crucial for achieving sustainable digital success. Training and mentorship programs can help overcome technological challenges, thereby contributing to increased sales.

Theme 4: participatory decision-making aligned with MSME needs

The digital transformation of MSMEs must account for local needs, particularly in remote areas, to ensure inclusive growth. Limited infrastructure, especially in terms of internet access, presents a significant barrier to adoption. Governments should collaborate with ISPs to expand access in remote areas to prevent a digital divide between urban and rural regions (Salemink et al. 2017). Digital solutions must be tailored to the specific capabilities of MSMEs in these areas. The direct involvement of MSMEs in decision-making processes is essential for the development of adaptive

and responsive policies. Collaboration between the government, the private sector, and MSMEs ensures that policies are aligned with local conditions and provide the necessary tools and solutions.

Theme 5: decisions to expand market reach through technology

Digital platforms, such as e-commerce, provide MSMEs with the opportunity to access global markets, reduce marketing costs, and enhance their international competitiveness. Strategic decisions to adopt e-commerce can lead to increased sales and improved positioning in the marketplace. The success of MSMEs in the global marketplace is contingent upon their understanding and optimal utilization of digital technologies, including online store management and promotional strategies. Additionally, it is essential to fully leverage the potential of digitization.

Theme 6: decisions regarding technological development and innovation

MSMEs should strategically invest in technology to foster business growth. It is essential for them to select the appropriate technology based on their size, avoid unnecessary purchases, and evaluate their readiness for Industry 4.0 (Kazemargi & Spagnoletti, 2020). Digital literacy and long-term training are crucial, while automation and cloud-based management systems can enhance competitiveness (Cotrino et al. 2020). Strategic and sustained investments in technology are vital to ensuring the sustainability of MSMEs in the digital era.

Theme 7: decisions aimed at overcoming infrastructure barriers

MSMEs in remote areas encounter significant infrastructure challenges, including limited internet access (Yaacoub & Alouini, 2020). Both the government and the private sector must collaborate to enhance digital infrastructure and ensure inclusive digitization. Wireless technology offers a cost-effective solution for expanding internet coverage. Basic technology training and continuous technical support are crucial for success. Collaboration between the government, the private sector, and local communities is essential to providing MSMEs with the necessary support to thrive in the global marketplace.

The third layer: the policy style and administrative culture

Figure 4 illustrates the critical role of efficient bureaucracy, inter-institutional collaboration, policy innovation, and the simplification of bureaucratic and administrative processes in facilitating MSME digitalization. Furthermore, it highlights the importance of inclusive and collaborative governance in cultivating an environment that supports the digital transformation of MSMEs. Together, these elements form a comprehensive framework that aids MSMEs in their digitalization initiatives.

Theme 1: efficient bureaucracy

Digitizing MSMEs in Indonesia is essential for overcoming administrative barriers and enhancing access to programs and support. The local government in North Sumatra has launched an integrated digital service to streamline administrative processes and expedite access to government services. Initiatives such as the Fast Track Digitalization program have led to a revenue increase of up to 40% for MSMEs. However, bureaucratic delays contribute to uncertainty and diminish motivation to participate in the digitization program (Islam et al. 2023). Clear regulations, flexible policies, faster approval processes, and improved coordination between government agencies are necessary to support cross-sector collaboration and accelerate technology adoption (Paendong et al. 2023).

Theme 2: inter-institutional collaboration

Digitizing MSMEs in Indonesia requires collaboration between institutions, particularly between central and regional governments, to ensure consistent policy implementation. This is especially crucial in remote areas where internet access is limited, and technology costs are high. A policy culture that encourages innovation and collaboration, exemplified by initiatives like the 1000 Digital Startup Movement program, is essential for nurturing the digital ecosystem. The government plays a pivotal role in facilitating cross-sector collaboration by providing expedited approvals, financial support, and regulations that respond to technological needs (Rozikin et al. 2023). Successful partnerships between local governments and the private sector, such as those in North Sumatra, can have a positive impact on digital marketing training and technology access.

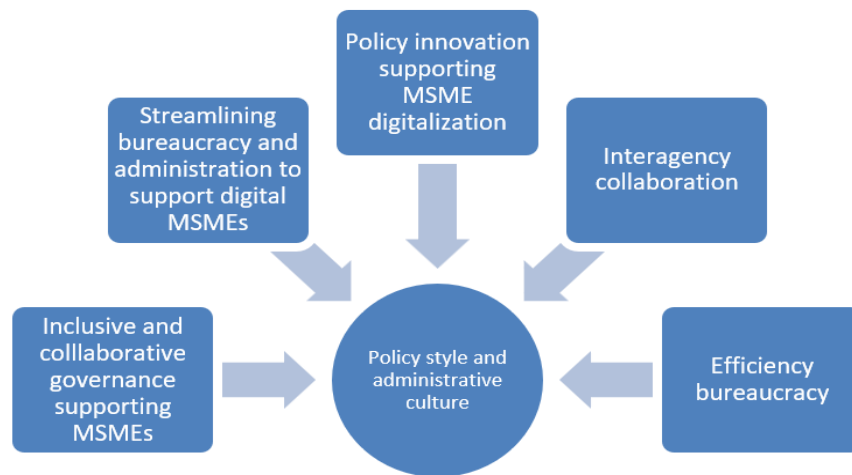


Figure 4. Themes developed from thematic analysis based on the third layer: the policy style and administrative culture

Theme 3: policy innovation supports MSME digitalization

To accelerate the digitization of MSMEs in Indonesia, flexible and adaptive regulations are essential (Astuti et al. 2020). Rigid regulations can impede their development, whereas adaptive regulations facilitate the swift adoption of new technologies. The Digital MSME Go Global program offers financial support, technology, and digital literacy training. Streamlining digital licensing accelerates the online legalization process, reduces bureaucracy, and enhances competitiveness in the global marketplace. Conducting small-scale trials of digitization policies can help identify challenges prior to large-scale implementation. Flexible, adaptive, and evidence-based policies are necessary to improve the competitiveness of MSMEs in the global digital marketplace.

Theme 4: simplifying bureaucracy and administration to support digital MSMEs

Simplifying bureaucracy and administrative processes is essential for the digital transformation of MSMEs in Indonesia. A one-stop digital service system can reduce costs and save time, while flexible policies, such as tax incentives and enhanced access to credit, are crucial (Astuti et al. 2020). The digitization of government processes can lower costs, increase transparency, and minimize the risk of corruption. Regulatory updates, such as those concerning data security and digital transactions, provide vital protection for MSMEs (Paendong et al. 2023). Local government initiatives, such as the digitization of licensing in North Sumatra,

aim to streamline processes and accelerate the adoption of digital technologies, thereby fostering MSME growth.

Theme 5: inclusive and collaborative governance supporting MSMEs

Inclusive and collaborative governance is essential for the success of MSME digitalization in Indonesia. Programs such as the National 1000 Startup Movement and MSME Go Digital exemplify successful collaboration between the government and technology companies. For instance, the North Sumatra Cooperative and the SME Service have partnered to enhance digital access in remote areas. This approach can foster the development of policies that support the digitization of MSMEs across Indonesia.

Theoretical and practical implications

The research underscores the significance of collaborative governance in accelerating the digitalization of MSMEs in Indonesia. It advocates for fostering an open dialogue among the government, the private sector, academia, and civil society to develop policies that are more inclusive and responsive to the needs of MSMEs. This approach ensures the effectiveness and relevance of digitization initiatives while establishing a comprehensive monitoring mechanism for continuous improvement. The study introduces a threefold perspective encompassing public values, decision-making characteristics, and administrative context and policy culture, integrating insights from various stakeholders and adapting

policies to the diverse local contexts of Indonesia. This strategy fosters inclusive and sustainable economic growth through open dialogue and participatory decision-making.

CONCLUSIONS AND RECOMENDATIONS

Conclusions

The government, private sector, and civil society are essential in advancing MSME digitalization in Indonesia, with the government providing regulations and infrastructure, the private sector offering technology and training, and civil society enhancing digital literacy and access. A collaborative governance approach helps overcome barriers and improves MSMEs' readiness to adopt digital technologies.

This study introduces a framework for understanding collaborative governance in MSME digitalization, emphasizing public values, decision-making, administrative context, and political culture. The Fast Track Digitalization Program in North Sumatra demonstrates the framework's effectiveness, underscoring the need for ongoing evaluation and feedback-based adjustments.

The study explores the theoretical implications of collaborative governance, advocating for inclusive, transparent, and data-driven policies, and stresses the importance of adaptive administrative cultures. It contributes to MSME digitalization research by highlighting the role of public values in fostering equitable policies, particularly in remote areas, and by emphasizing participatory decision-making. The study also calls for future research into the impact of emerging technologies like AI, blockchain, and big data on MSME digitalization, and the need for longitudinal studies to assess long-term sustainability.

Recommendations

The study offers valuable suggestions for further research on collaborative governance in the digitization of MSMEs in Indonesia. It proposes examining how stakeholders can collaborate effectively by exploring factors such as power dynamics, negotiation, organizational culture, and technological capacity. The study also recommends investigating the perspectives of different regions to better understand public values,

decision-making characteristics, and administrative contexts. Long-term research is essential to assess whether digitization initiatives, such as the Fast Track Digitization Program, are sustainable. Additionally, the use of specific performance indicators to evaluate the effectiveness of collaborative governance is encouraged. A comparative analysis of different countries would also be beneficial to identify the most effective methods for collaboration using technology. Finally, the study underscores the importance of a flexible and adaptable collaborative governance model to keep pace with rapid technological advancements and market changes.

ACKNOWLEDGMENTS

We would like to thank the Directorate General of Higher Education, Research, and Technology, Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, for funding this research in 2024.

FUNDING STATEMENT: In 2024, this research was awarded a PDP grant by the Directorate General of Higher Education, Research, and Technology under the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia.

CONFLICTS OF INTEREST: The author declares no conflict of interest.

DECLARATION OF GENERATIVE AI STATEMENT: During the preparation of this work the authors used ChatGPT in order to check grammar and polish text. After using this tool, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

REFERENCES

- Aleksandrova et al., (2022). Digitalization and its impact on economic growth. *Brazilian Journal of Political Economy*, 42(2), 424–441. <https://doi.org/10.1590/0101-31572022-3306>
- Anshari, M., & Almunawar, M. N. (2022). Adopting open innovation for SMEs and industrial revolution 4.0. *Journal of Science and Technology Policy Management*, 13(2), 405–427. <https://doi.org/10.1108/JSTPM-03-2020-0061>
- Astuti et al. (2020). Attributes of innovation, digital technology and their impact on sme

- performance in indonesia. *International Journal of Entrepreneurship*, 24(1), 1–14.
- Bening et al. (2023). E-Commerce Technologies Adoption Strategy Selection in Indonesian SMEs Using the Decision-Makers, Technological, Organizational and Environmental (DTOE) Framework. *Sustainability (Switzerland)*, 15(12), 9361. <https://doi.org/10.3390/su15129361>
- Braun, V., & Clarke, V. (2016). (Mis)conceptualising themes, thematic analysis, and other problems with Fugard and Potts' (2015) sample-size tool for thematic analysis. *International Journal of Social Research Methodology*, 19(6), 739–743. <https://doi.org/10.1080/13645579.2016.1195588>
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
- Braun, V., & Clarke, V. (2021). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology*, 18(3), 328–352. <https://doi.org/10.1080/14780887.2020.1769238>
- Buus, N., & Perron, A. (2020). The quality of quality criteria: Replicating the development of the Consolidated Criteria for Reporting Qualitative Research (COREQ). *International Journal of Nursing Studies*, 102, 103452. <https://doi.org/10.1016/j.ijnurstu.2019.103452>
- Byrne, D. (2022). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality and Quantity*, 56(3), 1391–1412. <https://doi.org/10.1007/s11135-021-01182-y>
- Campbell et al. (2021). Reflexive thematic analysis for applied qualitative health research. *Qualitative Report*, 26(6), 2011–2028. <https://doi.org/10.46743/2160-3715/2021.5010>
- Carr Kelman, et al. (2023). A Systematic Review of Key Factors of Effective Collaborative Governance of Social-Ecological Systems. *Society and Natural Resources*, 36(11), 1452–1470. <https://doi.org/10.1080/08941920.2023.2228234>
- Carter et al. (2014). The Use of Triangulation in Qualitative Research. *Oncology Nursing Forum*, 41(5), 545–547. <https://doi.org/10.1188/14.ONF.545-547>
- Cotrino et al. (2020). Industry 4.0 roadmap: Implementation for small and medium-sized enterprises. *Applied Sciences (Switzerland)*, 10(23), 1–17. <https://doi.org/10.3390/app10238566>
- Dalkin et al. (2021). Using computer assisted qualitative data analysis software (CAQDAS; NVivo) to assist in the complex process of realist theory generation, refinement and testing. *International Journal of Social Research Methodology*, 24(1), 123–134. <https://doi.org/10.1080/13645579.2020.1803528>
- Dellyana et al. (2023). Digital Innovative Governance of the Indonesian Creative Economy: A Governmental Perspective. *Sustainability (Switzerland)*, 15(23), 16234. <https://doi.org/10.3390/su152316234>
- Dethine et al. (2020). Digitalization and SMEs' export management: Impacts on resources and capabilities. *Technology Innovation Management Review*, 10(4), 18–34. <https://doi.org/10.22215/TIMREVIEW/1344>
- Elliott-Mainwaring, H. (2021). Exploring using NVivo software to facilitate inductive coding for thematic narrative synthesis. *British Journal of Midwifery*, 29(11), 628–632. <https://doi.org/10.12968/bjom.2021.29.11.628>
- Fahmi, F. Z., & Savira, M. (2023). Digitalization and rural entrepreneurial attitude in Indonesia: a capability approach. *Journal of Enterprising Communities*, 17(2), 454–478. <https://doi.org/10.1108/JEC-06-2021-0082>
- Gupta, P. (2021). Role of Fintech in Financial Inclusion of Small & Medium Enterprises (Sme) in India. *Journal of Economics and Social Studies*, 8(2). <https://doi.org/10.14706/jecoss188224>
- Hedelin et al. (2023). Collaboration Adrift: Factors for Anchoring into Governance Systems, Distilled from a Study of Three Regulated Rivers. *Sustainability*, 15(6), 4980. <https://doi.org/10.3390/su15064980>
- Hennink et al. (2017). Code Saturation Versus Meaning Saturation: How Many Interviews Are Enough? *Qualitative Health Research*, 27(4), 591–608. <https://doi.org/10.1177/1049732316665344>
- Islam et al. (2023). Smes' Flight To Digital and Green Economy: Evidence From Indonesia. *International Journal of Business and Society*, 24(1), 362–379. <https://doi.org/10.33736/ijbs.5622.2023>
- Kazemargi, N., & Spagnoletti, P. (2020). IT Investment Decisions in Industry 4.0: Evidences from SMEs. In *Lecture Notes in Information Systems and Organisation (Vol. 38, pp. 77–92)*. https://doi.org/10.1007/978-3-030-47355-6_6

- Kurniasari et al. (2023). Pursuing Long-Term Business Performance: Investigating the Effects of Financial and Technological Factors on Digital Adoption to Leverage SME Performance and Business Sustainability—Evidence from Indonesian SMEs in the Traditional Market. *Sustainability*, 15(16), 55–86. <https://doi.org/10.1111/1911-3838.12309>
- Kusumawardhani et al. (2023). Investigating Digital Financial Literacy and its Impact on SMEs' Performance: Evidence From Indonesia. *International Journal of Professional Business Review*, 8(12), e04097. <https://doi.org/10.26668/businessreview/2023.v8i12.4097>
- Lahat, L., & Sher-Hadar, N. (2020). A threefold perspective: conditions for collaborative governance. *Journal of Management and Governance*, 24(1), 117–134. <https://doi.org/10.1007/s10997-019-09465-1>
- Lavee, E., & Itzchakov, G. (2023). Good listening: A key element in establishing quality in qualitative research. *Qualitative Research*, 23(3), 614–631. <https://doi.org/10.1177/14687941211039402>
- Ligita et al. (2022). Developing codes from the interview: reading versus listening. *Nurse Researcher*, 30(4), 31–38. <https://doi.org/10.7748/nr.2022.e1851>
- Malterud et al. (2016). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, 26(13), 1753–1760. <https://doi.org/10.1177/1049732315617444>
- Mancheva et al. (2024). Institutional accountability: the differentiated implementation of collaborative governance in two EU states. *West European Politics*, 47(3), 619–644. <https://doi.org/10.1080/01402382.2022.2158639>
- McCloskey et al. (2023). Quality of reporting for qualitative studies in pediatric urology—A scoping review. *Journal of Pediatric Urology*, 19(5), 643–651. <https://doi.org/10.1016/j.jpuro.2023.04.027>
- Mittal et al. (2020). A smart manufacturing adoption framework for SMEs. *International Journal of Production Research*, 58(5), 1555–1573. <https://doi.org/10.1080/00207543.2019.1661540>
- Mortelmans, D. (2019). Analyzing Qualitative Data Using NVivo. In *The Palgrave Handbook of Methods for Media Policy Research* (pp. 435–450). https://doi.org/10.1007/978-3-030-16065-4_25
- Natow, R. S. (2020). The use of triangulation in qualitative studies employing elite interviews. *Qualitative Research*, 20(2), 160–173. <https://doi.org/10.1177/1468794119830077>
- Paendong et al. (2023). Feasibility Study of Digital Administration and Digital Marketing of SMEs Products at The Investment Gallery of Manado State Polytechnic. *Asian Journal of Logistics Management*, 2(2), 54–63. <https://doi.org/10.14710/ajlm.2023.20223>
- Pierce, C. (2014). Materialization of Policies into Technology: Exploring Policy Constraints & Technology Flexibility. *Academy of Management Proceedings*, 2014(1), 17570. <https://doi.org/10.5465/ambpp.2014.17570abstract>
- Rautenbach et al. (2022). Data Science for Small and Medium-Sized Enterprises: a Structured Literature Review. *South African Journal of Industrial Engineering*, 33(3), 83–95. <https://doi.org/10.7166/33-3-2797>
- Rozikin et al. (2023). The Collaborative Governance in Digital Infrastructure Development in Indonesia: A Public Policy Perspective. *International Journal of Membrane Science and Technology*, 10(3), 449–459. <https://doi.org/10.15379/ijmst.v10i3.1553>
- Salemink et al. (2017). Rural development in the digital age: A systematic literature review on unequal ICT availability, adoption, and use in rural areas. *Journal of Rural Studies*, 54, 360–371. <https://doi.org/10.1016/j.jrurstud.2015.09.001>
- Skritsovali et al. (2023). Missing Attention to Power Dynamics in Collaborative Multi-Actor Business Models for Sustainability. *Sustainability (Switzerland)*, 15(3), 2022. <https://doi.org/10.3390/su15032022>
- Suyanto et al. (2023). Digital literacy and survival mechanism of micro-small enterprises in practicing sharing economy. *Cogent Social Sciences*, 9(2). <https://doi.org/10.1080/23311886.2023.2245691>
- Vaismoradi et al. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice*, 6(5). <https://doi.org/10.5430/jnep.v6n5p100>
- Vrontis et al. (2022). Adoption of Digital Technologies by SMEs for Sustainability and Value Creation: Moderating Role of Entrepreneurial Orientation. *Sustainability (Switzerland)*, 14(13), 7949. <https://doi.org/10.3390/su14137949>
- Yaacoub, E., & Alouini, M. S. (2020). A Key 6G

Challenge and Opportunity-Connecting the Base of the Pyramid: A Survey on Rural Connectivity. Proceedings of the IEEE, 108(4), 533–582. <https://doi.org/10.1109/JPROC.2020.2976703>

Zolnoori et al. (2022). Audio Recording Patient-Nurse

Verbal Communications in Home Health Care Settings: Pilot Feasibility and Usability Study. JMIR Human Factors, 9(2), e35325. <https://doi.org/10.2196/35325>