

Government-Community Collaboration in Promoting Digital Innovation among MSMEs in Makassar City

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Abstract

Digital transformation has become a critical requirement for Micro, Small, and Medium Enterprises (MSMEs) to strengthen competitiveness in the digital economy. This study analyzes government–community collaboration in fostering digital innovation among MSMEs in Makassar City, Indonesia. A qualitative case study was conducted through in-depth interviews, observation, and document analysis involving MSME actors, government officials, and community leaders. The findings indicate that government programs mainly provide regulatory frameworks and resource support, while communities contribute social capital, participation, and locally adaptive practices. MSMEs increasingly use digital platforms for marketing, financial management, and customer networking. However, persistent challenges remain, including limited infrastructure, uneven digital literacy, and fragmented institutional coordination. This study highlights the relevance of collaborative governance in integrating state policies with community initiatives to accelerate MSME digital transformation. The practical implications include the need for more targeted digital literacy training, the establishment of community-based innovation hubs, and long-term partnership models to ensure sustainable digital ecosystems. Theoretically, the study contributes to discussions on governance and digital innovation in developing economies by contextualizing collaborative practices within a mid-sized Indonesian city.

Keywords: Collaborative Governance; Digital Innovation; MSMEs; Community Participation; Makassar City

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INTRODUCTION

The acceleration of digital transformation has become both a challenge and an opportunity for Micro, Small, and Medium Enterprises (MSMEs) in Indonesia (Anatan & Nur, 2023; Setiawan et al., 2025; Sofia, 2024; Sopandi et al., 2025). MSMEs contribute 61.07% of national GDP and provide 97% of employment (Novitasari, 2022; Ramadani et al., 2025), yet their digitalization remains uneven, particularly among informal sectors and traditional communities that face barriers to adopting technology (Kurniawan et al., 2023; Safitri, 2024). Government policies and incentives have been introduced to accelerate MSME digitalization (Koesrianti & Tanega, 2024; Setiawan et al., 2023), but implementation is often hindered by top-down approaches, low digital literacy, and limited contextual institutional support (Ramadhona et al., 2023; Saputeri et al., 2024).

In Makassar City, one of the economic hubs in Eastern Indonesia, these challenges are highly relevant (Sahid et al., 2020; Sahid & Hazan, 2024). The city hosts active digital communities, technology volunteers, and MSME support networks (Sahrudin, 2024; Suyuti & Siraj, 2025), yet collaboration between local government and communities to promote digital innovation remains suboptimal (Karunia et al., 2024; Wikansari et al., 2024). Existing studies have mostly examined individual adoption of digital marketing or e-commerce but have rarely addressed how government-community collaboration can strengthen the local digital innovation ecosystem (Coman et al., 2020; Saura et al., 2023).

Collaborative governance offers a critical approach to bridging the gap between national policy and local realities (Ansell & Gash, 2008) by emphasizing multi-actor partnerships, trust, communication, and facilitative leadership (Stewart, 2004; Torfing, 2013). Complementary frameworks such as the digital ecosystem (Zahra & Nambisan, 2012) and adaptive governance (Chaffin et al., 2014) view digital transformation not only as technological adoption but as a collective process of building innovation ecosystems rooted in local needs (Nambisan et al., 2019; Purnomo et al., 2024). While prior research shows that cross-sector collaboration can accelerate technology adoption (Fauzi et al., 2023; Luthra et al., 2022), most evidence comes from large industries or metropolitan cities, with limited attention to non-metropolitan contexts like Makassar (Compagnucci & Spigarelli, 2018; Guerrero & Hansen, 2018).

In addition, MSMEs contribute significantly to the national economy, accounting for 61.07% of Indonesia's GDP and providing employment for 97% of the national workforce (Novitasari, 2022; Ramadani et al., 2025). Nevertheless, the digitalization process remains uneven, with traditional and informal sectors often lagging due to technology adoption barriers (Kurniawan et al., 2023; Safitri, 2024). The government's various policy interventions and incentives have been rolled out to accelerate SME digitalization (Koesrianti & Tanega, 2024; Setiawan et al., 2023), but these are frequently hampered by top-down policy approaches, low digital literacy, and a lack of tailored institutional support (Ramadhona et al., 2023; Saputeri et al., 2024).

Based on this reality, the research questions of this study include: (1) what forms of collaboration exist between the government and local communities in promoting digital innovation among MSMEs in Makassar; (2) what are the challenges and adaptive strategies in such collaboration; and (3) how does collaboration contribute to digital transformation and increased competitiveness of MSMEs. The urgency of this research lies in the need to bridge the gap between SME digitalization policies and on-the-ground realities, emphasizing the importance of digital literacy, technology adaptation, and participatory and inclusive community empowerment (Rupeika-Apoga & Petrovska, 2022).

RESEARCH METHODS

This study uses a qualitative approach with an exploratory case study design to gain an in-depth understanding of the dynamics of collaboration between local government and local communities in promoting digital innovation among MSMEs in Makassar City. The study focuses on the processes, actors, interactions, and strategies that shape the synergy between the government, the digital community, and MSME actors. The main data collection was conducted through in-depth interviews with 18 purposively selected key informants, including officials from the cooperative and SME agencies, managers of the city government's digitalization program, representatives of digital communities (such as Makassar Digital Valley and technology volunteer

communities), local SME activists, and several SME actors who are actively involved in digital innovation.

Each interview lasted between 40 and 75 minutes, was recorded with permission, and supported by field notes to capture non-verbal dynamics and situational context. Interview questions were developed based on the problem statement and theoretical framework of collaborative governance and digital ecosystems, exploring perceptions, collaboration experiences, challenges, and expectations regarding SME digitalization policies and programs.

The researchers also observed several events, training sessions, and discussion forums facilitated by the government and digital communities to strengthen data triangulation. They reviewed policy documents, program reports, and online media content related to MSME digital innovation in Makassar. All interview transcripts were transcribed verbatim and imported into NVivo software. The coding process followed three stages: open coding (identification of key issues), axial coding (grouping codes into categories), and selective coding (refining main themes and building conceptual models).

To ensure coding reliability, two researchers independently coded a subset of transcripts, and inter-coder agreement was established with more than 85% consistency. Discrepancies were discussed until consensus was achieved, and a refined codebook was used for the remaining data. Reflexive notes and analytic memos were maintained throughout the analysis to minimize researcher bias. While, data validity was further supported through source triangulation (cross-checking interview, observation, and document data), member checking (reconfirming interpretations with several informants), and peer debriefing with SME experts and community representatives.

All research procedures adhered to ethical standards, including obtaining informed consent, ensuring anonymity, and protecting participants' personal data. Ethical approval was granted by Research and Community Service Institution of Universitas Cahaya Prima.

RESULTS AND DISCUSSION

Results

Theme 1: Participation and Forms of Collaboration

MSME actors in Makassar actively participate in digital collaboration, whether through their own initiative, community invitations, associations, or direct involvement from the city government. The forms of collaboration are diverse, including digital marketing training, mentoring, business incubation, and facilitated access to marketplace platforms by the Cooperative and SME Agency as well as local communities. Through these activities, MSMEs acquire technical knowledge, business networks, joint promotion opportunities, and practical experience within the digital ecosystem.

Illustrative experiences confirm this pattern: *"I started participating in the digitalization program when invited by a community friend, then continued with training from the Cooperative Department. There were many new insights for my business"* (NA). Another actor emphasized the impact of mentoring: *"I participated in digital marketing mentoring from a technology volunteer community. After that, my sales turnover increased"* (SR).

These accounts highlight that collaboration in Makassar is not symbolic but grounded in tangible practices. Participation enables MSMEs to learn, build networks, and share experiences with peers, mentors, and facilitators. The impacts are visible in improved knowledge, higher sales, expanded market reach, and greater confidence in pursuing digital innovation. Overall, collaboration in Makassar emerges as a dynamic, bottom-up process that continuously adapts to the real needs of businesses, positioning it as a catalyst for sustainable digital transformation of MSMEs.

Theme 2: Design and Adaptation of Collaboration Policies

The design of digitalization policies in Makassar has shifted from a top-down approach to a more participatory and collaborative model. Instead of unilaterally imposing programs, the city government now organizes regular forums with MSME associations and digital communities,



making formulation, implementation, and evaluation more responsive to grassroots needs. Policy adaptation is marked by dialogue, joint decision-making, and the creation of working teams that include both government and community actors.

As one official explained: *"The city government has involved the digital community since the initial program design. There are regular forums and joint working teams" (DS)*. Similarly, an MSME association leader noted: *"We once proposed shipping incentives for digital MSMEs, and this year it was included in the city government's program" (RN)*. These experiences illustrate a growing sense of ownership among MSMEs, as policies are perceived as the result of dialogue rather than directives from above.

Such openness to feedback has strengthened trust and increased participation in training and collaboration programs. Schedules, materials, and incentive schemes are now tailored to actual business needs, encouraging greater enthusiasm among MSMEs. Overall, the shift toward participatory and responsive policy design has laid the groundwork for a more inclusive and resilient digital ecosystem in Makassar. By integrating local input and shared responsibility, these policies enhance not only the effectiveness of digitalization programs but also the legitimacy and sustainability of governance processes.

Theme 3: Community Involvement and Contribution

Digital communities, MSME associations, and technology volunteers have become central actors in Makassar's digital innovation ecosystem, functioning simultaneously as facilitators, mentors, and advocacy partners. Their contributions include organizing technical training, producing tailored educational materials, assisting MSMEs with marketplace onboarding, and connecting grassroots needs with government officials.

As one community representative explained: *"We from the digital community usually go directly to the field, adapting materials to the literacy levels of SME actors" (HW)*. Similarly, a volunteer noted: *"The mentoring we provide involves new entrepreneurs as well as medium-sized SMEs; everyone can ask questions directly" (AP)*. Associations also act as intermediaries: *"Associations serve as the primary link between SMEs and the government, especially when there is a need for new training or digital events" (RN)*.

These examples highlight how community actors accelerate the adaptation of MSMEs to technological change by fostering trust, providing tailored mentoring, and building strong peer networks. Beyond technical assistance, they strengthen the bargaining power of MSMEs in policy advocacy, ensuring that programs remain relevant and inclusive. By building solidarity, enhancing MSME confidence, and ensuring wider participation, communities in Makassar not only transfer knowledge but also sustain innovation within the urban MSME ecosystem.

Theme 4: Collaboration, Adaptation Strategies, and Challenges

Digital collaboration for MSMEs in Makassar faces several structural and cultural challenges. The most common is the digital literacy gap, particularly among older entrepreneurs and small business owners unfamiliar with technology. This gap creates a divide between SMEs already comfortable with digital tools and those just beginning to adopt them. Other obstacles include time constraints—as noted by one participant: *"The biggest obstacle for me is time; sometimes training conflicts with production hours" (FS)*—and resistance to long-established business practices.

Stakeholders described these barriers in practice: *"The main challenge is the digital knowledge gap, especially among older SME operators" (DS)*. To address these, the community and government adopted adaptive strategies such as differentiated training: *"We address difficulties by dividing classes into beginner and advanced levels" (HW)*. Tailored mentoring and patience were also emphasized: *"Digital literacy among business actors is not yet evenly distributed, so patience and a personal approach are needed" (AP)*. Flexible formats, including online training and video tutorials, further expand access: *"Online training and video tutorials are beneficial for MSMEs that cannot attend offline" (RM)*.

Beyond technical skill-building, the process is about cultivating a new learning culture, encouraging solidarity, and gradually shifting mindsets toward openness to digital innovation. In

this way, adaptation strategies in Makassar highlight how collaboration is not uniform but must evolve from the specific realities of local MSMEs.

Theme 5: Impact and Effectiveness of Collaboration

Cross-actor collaboration in Makassar has generated tangible outcomes for MSMEs, particularly in digital adoption and market expansion. Entrepreneurs reported significant improvements in turnover and access to wider markets: *"After participating in the digitization program, my turnover increased and I started to get many customers from outside the city"* (NA). Likewise, local incubation initiatives have stimulated new enterprises: *"The digital business incubation program in Makassar has successfully launched new businesses that have gone online"* (DS).

The effectiveness of collaboration is assessed not merely by program outputs, but by concrete transformations—from revenue growth to the formation of sustainable networks. As one stakeholder noted: *"Our success indicator is the number of SMEs that have successfully sold their products on marketplaces after the training"* (HW). Others emphasized broader benefits: *"Digital training not only improves skills but also expands business networks"* (RM); *"I am satisfied with this collaboration because I learned a lot and new opportunities for cooperation have opened up"* (SR).

These findings highlight that collaboration produces collective rather than individual gains. MSMEs now perceive themselves as part of a supportive ecosystem built on mentoring, forums, and joint promotion, rather than isolated business actors. Ultimately, the success of incubation and marketplace onboarding strengthens Makassar's innovation ecosystem, enhancing the city's MSME competitiveness in the national digital economy. Collaboration thus acts as a catalyst for sustainable innovation, linking individual capacity-building to systemic transformation.

Theme 6: Supporting and Hindering Factors

The process of digital collaboration in Makassar is shaped by a combination of supporting assets and structural barriers. Informants consistently emphasized the role of active communities and policy openness as key enablers: *"The supporting factor is the active digital community that accompanies SMEs"* (HW); *"If the government supports it, collaboration is usually easier"* (AP). These factors strengthen trust and foster a culture of continuous learning, reflecting the collaborative governance principle that inclusive participation enhances legitimacy (Ansell & Gash, 2008).

Conversely, obstacles such as bureaucracy, limited budgets, weak infrastructure, and cultural resistance continue to constrain effectiveness. As one stakeholder noted, *"The obstacles are sometimes bureaucracy and limited funds for training"* (DS). Others highlighted the persistence of traditional business practices: *"There are MSME players who are still reluctant to change, preferring the old ways"* (FS). Limited internet infrastructure in parts of the city also remains a challenge: *"Limited internet infrastructure in several areas of Makassar is also a challenge"* (RM).

These findings confirm that collaboration depends not only on internal motivation within MSMEs, but also on the resilience of the surrounding ecosystem. Consistent mentoring and community facilitation reduce the risks of uneven adoption, while unresolved structural barriers slow progress and reinforce inequality among SMEs. In short, sustaining digital collaboration in Makassar hinges on balancing institutional support with grassroots adaptation. Without this balance, the momentum of innovation risks being undermined by systemic barriers and uneven capacities.

Theme 7: Community Adaptation and Sustainability of Collaboration

The sustainability of digital collaboration in Makassar depends heavily on the adaptive capacity of communities and MSME associations. Informants noted that communities routinely evaluate members' needs, update mentoring materials, and adjust approaches to remain relevant: *"We regularly evaluate the needs of our members and update our mentoring materials"* (HW); *"The digital community adjusts its approach each year to remain relevant"* (AP).

Incentives and open spaces for dialogue also emerged as critical drivers of sustainability. As one association leader explained, *"For collaboration to be sustainable, incentives from the government and open discussion spaces are needed"* (RN). Similarly, others emphasized the role of

motivation and shared responsibility: *“The sustainability of collaboration depends heavily on the motivation and commitment of all parties” (SP).*

These reflections illustrate that sustainability is not merely about continuing programs, but about building flexible partnership structures that foster ownership and inclusion. The active expansion of networks ensures that digital innovation continues to grow: *“We continue to invite new MSMEs to get involved so that the network can expand” (RM).*

In short, sustaining collaboration requires three interlinked elements: (1) continuous evaluation and material updates to match MSMEs’ evolving needs, (2) institutional and community incentives that motivate long-term engagement, and (3) expanding participation to maintain diversity and solidarity. These mechanisms ensure that the digitalization of SMEs in Makassar does not stagnate, but evolves dynamically with market and technological changes.

Discussion

This study examines the dynamics of collaboration between the government and communities in promoting digital innovation in the MSME sector in Makassar City, offering new insights into multi-actor collaboration practices that are beginning to shift traditional top-down approaches to more participatory, adaptive, and field-based models. The field findings indicate that the acceleration of SME digitalization does not occur linearly or automatically but instead results from complex interactions between policies, community roles, business adaptation, and enabling and inhibiting factors at both macro and micro levels.

The active participation of Makassar MSMEs, individually and through communities and associations, underscores the importance of collaborative governance theory (Ansell & Gash, 2008; Stewart, 2004; Torfing, 2013). This theory emphasizes that solving contemporary public problems—including accelerating MSME digitalization—requires synergistic cross-sectoral involvement. In this context, collaboration involving government, SME associations, digital communities, and technology volunteers has effectively expanded access to knowledge, networks, and market opportunities. Empirical evidence in Makassar confirms this, with clear increases in revenue, market expansion, and the transformation of business behaviors among local SMEs.

Supporting these findings, studies by Karunia et al. (2024) in urban SME environments confirm that active community and government involvement in training, mentoring, and joint forums can accelerate the diffusion of digital innovation and build solidarity across business actors. Similarly, Wikansari et al. (2024) found that collaboration with digital communities is the primary catalyst for SMEs’ onboarding into the marketplace ecosystem. However, critical studies (Hendrawan et al., 2024; Yuliasari et al., 2025) remind us that without transparent and inclusive governance designs, collaborative models risk creating “elite capture,” where only certain SMEs reap optimal benefits. In Makassar, open sharing forums and mentoring mechanisms—as found in this study—can reduce the risk of exclusion and expand the distribution of benefits more evenly.

Field findings regarding policy design and adaptation further show a clear shift from a top-down approach to one of policy co-creation (Purnomo et al., 2024; Ramadhona et al., 2023). The government no longer acts solely as a policy maker but also as a facilitator of dialogue, mediator of interests, and coordinator of resources with the community. The openness of the Makassar government to input from community groups and MSME associations in designing digitalization programs reinforces the relevance of the theory of collaborative public management (Sahid & Hazan, 2024), which emphasizes the importance of two-way communication, trust, and shared ownership of public policy.

This shift in governance is supported by studies such as Hendrawan et al. (2024) and Sahrudin (2024), who found that changes in bureaucratic culture and adaptive policies can accelerate the success of SME digitalization, especially in highly dynamic urban settings. Responsive policy design, field-based needs assessment, and citizen participation increase a sense of belonging, program legitimacy, and minimize resistance to change. However, Koesrianti & Tanega (2024) caution that co-creation policies may falter without political commitment, consistent implementation, and accountable oversight. In Makassar, the effectiveness of policy adaptation is enhanced by joint policy forums, working teams, and periodic evaluations, demonstrating that real commitment at the operational level is as crucial as symbolic participation.

A notable strength in the digitalization process of MSMEs in Makassar is the role played by digital communities, SME associations, and technology volunteers as knowledge brokers (Saharuddin, 2024; Sapriyadi et al., 2025). These actors take on dual roles—as facilitators, mentors, connectors of aspirations, and even producers of educational content tailored to the needs of SME actors. The function of intermediary organizations in the innovation ecosystem underlines that intermediaries are crucial in knowledge transfer, innovation diffusion, and creating a business environment responsive to technological change (Dwiyanti et al., 2024).

While critical voices such as Yuliasari et al. (2025) have found that communities are often only active in the early stages of programs, the findings in Makassar demonstrate the ability of communities to maintain their involvement, update mentoring materials, and advocate for ongoing policy improvements. Adaptive mentoring practices and technical assistance, especially in promotional content creation, show that these communities are not merely “event organizers,” but sustainable learning partners for SMEs. This sustained engagement is a critical component for long-term transformation.

Challenges remain significant, with digital literacy gaps, generational divides, time constraints, and resistance from traditional business cultures all presenting hurdles. These challenges are consistent with studies by Kumar et al. (2022), who found similar issues in other major Indonesian cities. In Makassar, the needs mapping, class segmentation, and blended learning approaches have increased training inclusivity and effectiveness. Hendrawan et al. (2024) affirm that local needs assessments and personalized programs reduce dropout rates and increase the success of SME digital adoption.

These findings also reinforce literature critiques (Purnomo et al., 2024) that standardized digitalization initiatives often fail to reach the most vulnerable SMEs. The Makassar case shows that beginner and advanced classes, personalized mentoring, and online training solutions help address such issues. However, as Karunia et al. (2024) noted, cultural resistance remains a barrier—digital transformation is not solely a technological matter, but also requires changes in mindset and organizational culture. SMEs are reluctant to shift to digital models due to their comfort with traditional practices, which need not just training but also role models, peer support, and tangible incentives to change.

Given these realities, capacity building and intensive mentoring are crucial for driving long-term behavioral change. The effectiveness of collaboration in Makassar is evidenced by increased turnover, the emergence of new digital-based businesses, and successful onboarding to marketplaces. This aligns with findings by Coman et al. (2020) and Saputra et al. (2024), who highlight that the effectiveness of digital innovation ecosystems is measured not only by training outputs, but also by long-term outcomes such as competitiveness, resilience, and the formation of business networks.

Indicators such as participant satisfaction, mentoring success, and the emergence of new business collaborations all show that digital transformation in Makassar is moving beyond individual achievements toward developing a collective business ecosystem. This is consistent with the innovation ecosystem models proposed by Silva et al. (2022) and Sofia (2024), which assert that innovation thrives through sustained interaction, collaboration, and multi-actor support. In Makassar, routine evaluations, updated materials, and government incentives have been pivotal in maintaining the energy and sustainability of collaboration.

Nonetheless, persistent issues—such as disparities in internet access, resistance from established business actors, and bureaucratic barriers—underscore that SME digitalization requires cross-sector solutions, not just technical fixes. The literature emphasizes the superiority of multi-level partnership models (government, private sector, universities, communities) over linear models (Stewart, 2004; Torfing, 2013) for addressing these complex challenges. Furthermore, government commitment to providing incentives, funding, and policy dialogue forums will be decisive in accelerating SME digitalization.

The importance of sustained adaptation and regular evaluation is highlighted by findings from Purnomo et al. (2024) and Wikansari et al. (2024), which suggest that continuous adaptation and incentives for communities are key to maintaining the sustainability of innovation ecosystems. Dynamic digital communities, open discussion spaces, and government incentives have proven

effective in strengthening a sense of ownership and innovation consistency. However, critical studies (Ansell & Gash, 2008; Karunia et al., 2024) warn that collaboration can lose momentum without sustainable incentive schemes. The active inclusion of new SMEs and network expansion practices observed in Makassar may serve as a model for other large cities seeking to build community-based digital innovation ecosystems.

From a theoretical perspective, this study affirms the validity of collaborative governance, policy co-creation, innovation ecosystems, and the role of knowledge brokers in driving digital adoption among urban MSMEs. The evidence demonstrates that open, flexible, and needs-based partnerships are more effective than traditional bureaucratic approaches, especially in dynamic urban environments.

In conclusion, the findings suggest that SME digitalization policies and programs should strengthen participatory design, provide spaces for dialogue, offer tangible incentives, adaptive mentoring, and expand access to infrastructure and innovative financing. Collaboration must be maintained as a dynamic process, not just a temporary event or program. The government, communities, associations, and businesses must be part of a collaborative learning ecosystem, sharing risks and evaluating success regularly to ensure that SME digitalization truly contributes to inclusive and sustainable local economic growth.

CONCLUSION

This study highlights that collaboration between the government, digital communities, and MSME actors in Makassar has played a pivotal role in accelerating digital transformation. The findings reveal that participation, responsive policy design, and strong community involvement have contributed to building a more inclusive and adaptive digital ecosystem for SMEs. However, challenges such as limited digital literacy, infrastructure gaps, and bureaucratic constraints persist. Addressing these requires targeted interventions, including segmented training, digital literacy programs, and sustained government incentives that align with local needs.

Practically, the study recommends that policymakers institutionalize collaborative forums between government and MSME communities, expand access to digital infrastructure, and strengthen mentoring programs through public-community partnerships. For practitioners, adopting contextualized digital literacy training and developing inclusive innovation networks will ensure that SMEs remain resilient and competitive. Future research could explore comparative studies across non-metropolitan cities in Indonesia, employ mixed-methods designs, and examine the long-term impact of collaborative digital ecosystems on MSME performance.

In conclusion, the sustainability of SME digitalization in Makassar depends on maintaining collaborative governance practices, enhancing community adaptation, and embedding inclusivity in policy and practice.

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