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Collaborative Innovation and Ecosystem Engagement to Scale Micro and Small Enterprises

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Abstract

Micro and Small Enterprises (MSEs) contribute significantly to national economies but face persistent challenges in scaling up. This study aims to explore the role of collaborative innovation and ecosystem engagement in supporting MSE growth. A qualitative descriptive method with a case study approach was employed. Data were collected through in-depth interviews, participatory observation, and document analysis. Thematic analysis was conducted through data reduction, categorization, and meaning interpretation. The findings reveal that collaboration among ecosystem actors including government, businesses, communities, and financial institutions enhances MSEs' innovation capacity and market access. The study concludes that active involvement in structured ecosystems fosters shared value creation and improves the competitiveness of MSEs. Future research is recommended to develop digital-based ecosystem models and to assess their impact using quantitative approaches.

Abstrak

Usaha Mikro dan Kecil (UMK) memberikan kontribusi signifikan terhadap perekonomian nasional, namun masih menghadapi tantangan berkelanjutan dalam upaya untuk tumbuh dan berkembang. Studi ini bertujuan untuk mengeksplorasi peran inovasi kolaboratif dan keterlibatan dalam ekosistem dalam mendukung pertumbuhan UMK. Metode deskriptif kualitatif dengan pendekatan studi kasus digunakan dalam penelitian ini. Data dikumpulkan melalui wawancara mendalam, observasi partisipatif, dan analisis dokumen. Analisis tematik dilakukan melalui reduksi data, kategorisasi, dan interpretasi makna. Temuan menunjukkan bahwa kolaborasi di antara para aktor ekosistem, termasuk pemerintah, pelaku usaha, komunitas, dan lembaga keuangan, dapat meningkatkan kapasitas inovasi dan akses pasar bagi UMK. Studi ini menyimpulkan bahwa keterlibatan aktif dalam ekosistem yang terstruktur mendorong penciptaan nilai bersama dan meningkatkan daya saing UMK. Penelitian selanjutnya disarankan untuk mengembangkan model ekosistem berbasis digital serta mengevaluasi dampaknya melalui pendekatan kuantitatif.

INTRODUCTION

Inclusive and sustainable economic growth has become a central agenda in both global and national development frameworks. Within this context, the role of Micro and Small Enterprises (MSEs) is particularly vital. In many developing countries, including Indonesia, MSEs are not only the backbone of the national economy but also the main providers of employment, especially in informal sectors and rural areas (Setyanti, 2020). Despite their significant contributions to job creation and enterprise volume, MSEs often face structural challenges that hinder their growth potential, especially when attempting to scale up.

Key challenges for MSEs in achieving scale include limited access to technology, finance, markets, and inadequate managerial and innovation capacities. These issues are further exacerbated by weak integration into broader business ecosystems such as industrial supply chains and innovation networks (Riquelme-Medina et al., 2021). As the global economy transitions into a digital and knowledge-based era, the need for collaborative and systemic approaches to address these limitations has become increasingly relevant.

A foundational study by (Ofosu-Appiah et al., 2025) reviewed common barriers faced by MSEs in Sub-Saharan Africa, highlighting regulatory burdens, credit constraints, and inadequate infrastructure. While regionally distinct, their findings suggest that structural barriers to MSE development are cross-national and require multi-sectoral, cross-actor solutions. This underscores the necessity of synergies among entrepreneurs, governments, financial institutions, and innovation communities to drive sustainable MSE growth.

Subsequent research has focused more directly on scaling strategies for MSEs in response to persistent productivity stagnation. (Ireta-Sanchez, 2023) argued that most MSEs fall into a "middle growth trap" due to poor transitions from informal to formal structures and limited access to wider markets. Similarly, (Wahyudiono et al., 2024) emphasized that financial inclusion is crucial for growth, but insufficient if not accompanied by business innovation and operational efficiency improvements.

In the Indonesian context, (Wang et al., 2024) revealed that despite substantial

government support programs, MSEs still show limited growth due to the lack of collaborative approaches in program design and implementation. The (Koseoglu & Arici, 2025) highlighted that MSE success in OECD countries is largely driven by inclusive and responsive entrepreneurial ecosystems. Further, (Tereshchenko et al., 2024) noted that digitalization can accelerate MSE growth, but only when collaboration exists between private sector players and educational institutions.

These five studies converge on the notion that strategies for scaling MSEs cannot be isolated or sectoral in nature. An integrated approach is essential particularly one that leverages collaborative innovation and ecosystem engagement. This marks a paradigm shift from top-down economic interventions to a network-based and multi-stakeholder development model.

Building on this, two recent studies have focused specifically on the scaling of MSEs. (Marullo et al., 2024) examined growth factors for small firms in Spain, concluding that participation in innovation networks significantly determines their ability to scale. In Indonesia, (Trieu et al., 2025) found that scalable MSEs often demonstrate adaptability to new technologies and enjoy institutional support at the local level.

When synthesized with the earlier five studies, a strong case emerges for reorienting MSE support toward strengthening collaborative innovation and ecosystem engagement as core pillars of growth. Innovation should not be viewed as the output of isolated firms or institutions, but rather as the product of dynamic interaction across actors within mutually reinforcing systems.

Research on collaborative innovation highlights its vital role in MSE development. (Enkel et al., 2020) introduced the Open Innovation concept, emphasizing the importance of internal-external collaboration in driving innovation. This model has proven particularly beneficial for small businesses that are open to external knowledge flows. Similarly, (Arslan et al., 2021) found that MSEs engaged in cross-sector collaboration exhibit higher survival rates and better growth outcomes under uncertain market conditions.

On the topic of ecosystem engagement, (Bernardus et al., 2024) stressed the importance of entrepreneurial ecosystem structures that connect MSEs with universities, investors, incubators, and local governments. His research concludes that scaling success depends heavily on how well MSEs are embedded within and benefit from such ecosystems.

Given the complex structural challenges faced by MSEs and the empirical evidence presented above, it becomes clear that collaborative and ecosystem-based approaches are essential. Conventional top-down policy interventions or technical training alone are insufficient. What is needed is a facilitative mechanism that enables connectivity, resource sharing, and co-creation across the innovation and entrepreneurial ecosystem.

To guide this approach, two theoretical frameworks are particularly relevant. The first is Open Innovation Theory (Audretsch et al., 2023), which posits that innovation arises from intentional collaboration across organizational boundaries, enabling small firms to leverage external knowledge and networks. The second is Entrepreneurial Ecosystem Theory (Stam & de Ven, 2021), which emphasizes the systemic interdependencies among actors and institutions that collectively support entrepreneurial activity and growth.

Based on these theoretical insights and the empirical literature, this study aims to explore how collaborative innovation and ecosystem engagement function as effective strategies for scaling Micro and Small Enterprises. It seeks to offer both theoretical contributions and practical insights for policymakers, business owners, and institutional stakeholders in building inclusive and sustainable support models for MSEs in the era of digital and interconnected economies.

RESEARCH METHOD

This study employed a qualitative research approach with a descriptive-exploratory design. This approach was chosen to gain a deep understanding of the processes of collaborative innovation and ecosystem engagement in scaling micro and small enterprises (MSEs). A descriptive-exploratory study is particularly suitable for uncovering meanings, actor relationships, and social dynamics that cannot be reduced to numerical data, especially in contexts involving interactions between small business actors and various supporting institutions, innovation communities, and other stakeholders. In line with the nature of qualitative inquiry, the researcher served as the primary instrument for both data collection and analysis. The credibility and dependability of findings were ensured through prolonged engagement with the field, critical reflection, and data triangulation across sources and methods.

Data were collected through three main techniques: in-depth interviews, document

analysis, and limited participatory observation. Semi-structured interviews were conducted with key informants, including MSE owners, local government officials, business incubator managers, representatives from business associations, and members of academic institutions involved in enterprise development. Informants were selected purposively, based on their active involvement in collaborative practices and entrepreneurship ecosystems in the study region. Document analysis complemented the primary data by reviewing public policy reports, institutional publications, statistical data, and records of collaborative programs involving both public and private sectors. Limited participatory observation was carried out by attending forums, training sessions, and incubation activities to observe real-time interactions within the ecosystem.

The collected data were analyzed using thematic analysis. The process involved transcription of interviews, initial coding, categorization, and the identification of major themes related to collaboration patterns and ecosystem participation in the scaling of MSEs. Thematic analysis was conducted iteratively and interpretively, with the theoretical lens of open innovation and entrepreneurial ecosystem theory guiding the coding and interpretation stages. Throughout the analysis, attention was paid to maintaining contextual richness and preserving the subjective meanings articulated by the actors involved. The aim was to construct a nuanced, empirically grounded understanding of how collaborative innovation and ecosystem engagement operate as mechanisms for enterprise growth and sustainability.

RESULTS AND DISCUSSION

The data collection process produced rich qualitative insights derived from in-depth interviews, document analysis, and participatory observations. These findings were analyzed thematically to uncover the patterns of collaborative innovation and ecosystem engagement that influence the scaling process of Micro and Small Enterprises (MSEs). Each method contributed uniquely to understanding the phenomenon under study.

The semi-structured interviews revealed several recurring themes related to the drivers and barriers of scaling MSEs through collaboration and ecosystem participation. Respondents emphasized the importance of access to knowledge networks, institutional support, trust-based partnerships, and collaborative product development. The summary of

thematic categories derived from interview analysis is presented in Table 1.

Table 1. Key Themes from In-depth Interviews with Ecosystem Actors

Theme	Description	Supporting Quotes
Knowledge Sharing and Learning	Continuous access to training, mentoring, and knowledge exchange platforms	"We scale faster when we learn from others."
Institutional Facilitation	Role of local government and universities in linking actors	"Our district facilitated the collaboration."
Trust and Social Capital	Informal relationships build resilience and confidence	"Trust is our currency."
Joint Product Development	Co-creation of goods or services to meet larger market demand	"We develop products together for export."

Table 1 illustrates four dominant themes that emerged from interviews with MSE actors and supporting institutions. First, knowledge sharing emerged as a vital element in building innovative capacity and enhancing operational efficiency. Informants mentioned training, mentoring, and peer-learning as mechanisms that prepared MSEs to grow. Second, institutional facilitation particularly by local governments and universities was frequently cited as instrumental in enabling access to resources and networks. Third, trust and social capital were perceived as essential in building sustainable collaborations. Relationships based on mutual respect and shared goals created an enabling environment for scaling. Finally, joint product development was identified as a strategic tool for penetrating broader markets, particularly through value-added collaborations.

An analysis of documents such as policy frameworks, institutional reports, and collaborative program archives revealed various structural and policy-driven efforts to promote ecosystem-oriented scaling for MSEs. The analysis identified key enablers and limitations of current programs.

The categorized findings are shown in Table 2.

Table 2. Institutional and Policy-Based Support for Collaborative Innovation

Support Type	Description	Documented Source
Innovation Hubs	Physical infrastructure for co-working and co-creation	Government incubation reports (2023)
Public-Private Partnership	Joint programs on market access and training	Regional policy guidelines
Academic-Industry Engagement	Curriculum-based enterprise development and student-MSE collaboration	University-business collaboration data
Grant and Incentive Schemes	Financial aid for collaborative initiatives	MSME Directorate Annual Report

Table 2 outlines the institutional mechanisms that facilitate collaborative innovation. Innovation hubs provide not only physical space but also structured programs for early-stage entrepreneurs. Public-private partnerships are manifested through co-funded training and export readiness programs. Academic-industry engagement contributes through internship programs and research collaborations. However, many reports also noted bureaucratic delays and limited outreach, particularly in rural areas. Financial incentives exist but are still underutilized due to administrative barriers.

Observations were conducted during business forums, ecosystem roundtables, and training sessions. The focus was to assess real-time collaboration dynamics and the roles played by different actors.

Findings from the observation activities are summarized in Table 3.

Actor Involvement	Observed Behavior	Ecosystem Role
MSE Entrepreneurs	Actively engaged in discussions, sought mentoring	Knowledge seekers and contributors
Local Government Officials	Acted as moderators and connectors, facilitated resource linkage	Institutional brokers
Academics and Researchers	Shared insights, proposed innovation experiments	Idea generators and evaluators
Industry Representatives	Offered collaboration on procurement and distribution	Market integrators

Table 3 presents how various stakeholders interact in ecosystem events. MSE entrepreneurs were observed to be proactive in seeking solutions and partnerships, indicating a shift toward openness to collaboration. Government actors served as

institutional brokers, helping to align initiatives and connect actors. Academics contributed both theoretically and practically, often by proposing collaborative innovation models based on research. Industry players, especially from retail and logistics sectors, showed interest in absorbing MSE outputs through structured procurement systems. These interactions demonstrated a functional and evolving ecosystem with potential for deepening collaborative practices.

Cross-method triangulation affirmed that scaling MSEs is not merely a function of internal business capacity but a reflection of how well these enterprises are embedded in supportive ecosystems. Collaborative innovation emerges not only from formal partnerships but also through informal trust networks, knowledge exchange, and adaptive learning.

The three tables combined reveal a multilayered mechanism by which collaborative innovation and ecosystem engagement operate. While policy and institutional design create the structure, it is the micro-level interaction among people, ideas, and resources that determines success. The findings indicate that sustainable scaling of MSEs is best achieved when innovation is co-produced across actor boundaries and when policy frameworks actively facilitate ecosystem participation rather than control it hierarchically.

This study concludes that collaborative innovation and ecosystem engagement are critical drivers in scaling Micro and Small Enterprises. Successful scaling is achieved when MSEs are embedded within multi-actor networks that enable learning, resource sharing, joint innovation, and institutional facilitation. The findings suggest that policy interventions should move beyond isolated support schemes toward holistic ecosystem building encouraging trust-based collaboration, academic-industry partnerships, and the activation of innovation hubs. These insights align with the theoretical foundation of open innovation and entrepreneurial ecosystems, affirming that enterprise growth in the digital era is a collective, not individual, endeavor.

The findings of this study indicate that cross-actor collaboration and active engagement within entrepreneurial ecosystems play a vital role in scaling Micro and Small Enterprises (MSEs). Knowledge exchange, institutional support, and social trust were identified as key enablers of collaborative innovation. These interactions go beyond formal structures, emphasizing relational dynamics among MSE actors, government institutions, academia, and private sector stakeholders. Scaling, therefore, is not a product of isolated

interventions, but rather an emergent outcome from adaptive, network-based interactions within the ecosystem.

This aligns with the study by (Ribeiro et al., 2022), which found that MSEs in developing countries scale more effectively when embedded in local innovation networks. Their work emphasizes how connectivity and interaction between actors are essential to strengthening enterprise competitiveness. Similarly, our findings reinforce that trust-based, multi-actor engagement contributes to co-created innovation spaces conducive to scaling.

Moreover, the study by (Rai et al., 2025), examining business incubators in Southeast Asia, showed that successful MSE scaling occurred when local intermediaries particularly public and academic institutions acted as connectors between resources and market needs. This is echoed in our data, where regional government agencies and universities functioned as key facilitators in bridging capability gaps and nurturing MSE growth.

Field observations further revealed that MSEs participating in collaborative platforms demonstrated stronger innovation orientation. This resonates with (Suryani et al., 2022), who highlighted the role of community-based entrepreneurship in promoting social and commercial innovation. The present study extends that argument by showing that collective learning processes within ecosystems not only enhance product development but also build resilience in MSEs.

In a related vein, (Albats et al., 2023) found that open innovation models, particularly those involving external partnerships, significantly accelerated the digital transformation and market expansion of small enterprises. These findings were mirrored in our study through evidence of co-created product development between MSEs and industry partners, revealing how collaborative models unlock new growth pathways.

Furthermore, policy support that fosters multi-stakeholder synergy was observed to amplify innovation adoption. This outcome parallels the conclusions of (Sahu & Panda, 2024), who demonstrated that ecosystem-driven entrepreneurship enhances organizational resilience to market volatility and technological change. In our case, such policy environments enabled MSEs to respond flexibly to post-pandemic challenges while leveraging collective innovation.

In terms of novelty, this study not only maps the actors within the ecosystem but also explores the micro-level dynamics trust-building, informal exchange, and adaptive learning

that underpin effective collaboration. While previous research often prioritized structural or policy-level interventions, this study contributes a bottom-up perspective by emphasizing how MSE scaling emerges through flexible, socially embedded relationships. Such insights fill a critical gap in the literature, particularly in low-to-middle income contexts where informal interactions often shape innovation outcomes.

Theoretical implications include reaffirming that scaling is not merely a function of capital access or infrastructure but is equally a process of social and institutional orchestration. Collaborative innovation, as supported by the resource-based view (RBV) and actor-network theory (ANT), was found to be dependent on the capacity of MSEs to leverage ecosystem assets through strategic alliances and trust-based interactions. These theories reinforce the idea that value co-creation and network embeddedness are central to building scale.

The practical implications of this research suggest that efforts to enhance MSE scalability should focus not only on capital injections or standalone training, but more importantly on enabling collaborative platforms and participatory governance models. These platforms should encourage cross-sectoral dialogue, peer learning, and innovation co-creation. Government and intermediary institutions should act as enablers of collaborative capacity, not merely as resource providers.

Future research should consider expanding the actor map to include financial institutions and digital platforms as part of the ecosystem. Longitudinal approaches are also recommended to observe how collaborative dynamics evolve over time and how these changes impact measurable MSE performance. Comparative studies across regions could uncover context-specific drivers and constraints of collaboration and innovation, further enriching the theoretical and practical relevance of this emerging field.

CONCLUSION

This study reveals that the growth and scaling of Micro and Small Enterprises (MSEs) are significantly influenced by their ability to build cross-sector collaborations and engage actively within entrepreneurial ecosystems. Innovation processes within MSEs are no longer linear and isolated but are increasingly open, interactive, and co-created with various actors, including government agencies, academic institutions, private enterprises, financial

intermediaries, and community organizations. These collaborative engagements create shared platforms for knowledge exchange, joint resource utilization, and value co-creation tailored to the complexities of modern markets.

Field data demonstrate that MSEs involved in multi-actor innovation networks tend to show improvements in production capacity, product diversification, and access to wider markets. Beyond technical advantages, such collaborations also enhance social capital strengthening trust, community empowerment, and collective entrepreneurial spirit. The dynamic interactions within the ecosystem serve as adaptive mechanisms to cope with external uncertainties such as regulatory shifts, economic downturns, and technological disruption.

The effectiveness of collaborative innovation in driving MSE growth is shaped by several critical factors. These include the presence of intermediary institutions that bridge gaps among ecosystem stakeholders, as well as cultural values that emphasize transparency, mutual support, and long-term sustainability. A structured ecosystem-based approach enables synergy among actors not just for short-term gains but for durable, systemic transformation.

Therefore, fostering collaborative innovation and deeper ecosystem engagement represents a fundamental strategy for enabling MSEs to scale in a sustainable and contextually grounded manner. This approach demands multi-sectoral support and policies that promote interconnectivity, collective learning, and mutual trust. Ultimately, it opens pathways toward inclusive, adaptive, and resilient models of small enterprise development fit for the challenges of a rapidly evolving economic landscape.

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