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Resilience of MSMEs in Surakarta City: Integrating digital transformation and local economic resilience based on Javanese cultural values

Rohmad Suryadi*, Lusi Oktaviana, Kholid Syaifulloh, Anita Maulani Yusnia, Ratih Ayu Rafiaulia

Politeknik Bisnis dan Perpajakan Indonesia, Jl. Veteran, Singopuran, Kartasura, Sukoharjo, Jawa Tengah, Indonesia

*e-mail: rohmad@poltekbpi.ac.id

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in sustaining local economies in Indonesia, particularly in culturally embedded cities such as Surakarta. Despite their growing number and contribution to employment, many MSMEs remain vulnerable to economic shocks, technological disruption, and unequal access to digital resources. This study aims to examine the resilience of MSMEs in Surakarta by analyzing the interaction between digital transformation, Javanese cultural values, and the legal-institutional environment that shapes the digital economy. Using a qualitative descriptive approach, this study employs a literature review methodology drawing on peer-reviewed journal articles, government reports, and policy documents related to MSME resilience, digitalization, and local economic development. The findings indicate that Javanese cultural values, including *gotong royong*, *nrimo ing pandum*, *tepa slira*, and *ajining dhiri*, function as social capital that strengthens social cohesion, psychological endurance, and ethical business practices among MSME actors. Digital transformation contributes positively to business resilience by expanding market access and improving operational efficiency; however, its impact remains uneven due to disparities in digital literacy, human resource capacity, and institutional support. Furthermore, the study highlights the importance of adaptive state regulation and legal certainty in ensuring inclusive digital transformation for MSMEs. This research concludes that MSME resilience in Surakarta emerges from the integration of cultural capital, digital capability, and responsive governance, underscoring the need for context-sensitive and collaborative policy approaches to support sustainable local economic development.

Keywords: MSMEs; economic resilience; digital transformation; Javanese cultural values; local economy

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RESEARCH & PUBLISHING



1. INTRODUCTION

1.1. Background

In the past five years, Micro, Small, and Medium Enterprises (MSMEs) in Indonesia have faced unprecedented structural pressures arising from three interrelated transformations: post-pandemic economic recovery, accelerated digital platform expansion, and intensifying market competition within the digital economy. Nationally, MSMEs account for more than 99% of business units and contribute significantly to employment and GDP. However, despite their quantitative dominance, many remain structurally vulnerable because of limited capital, informal management systems, and uneven digital capabilities (Trieu et al., 2023; Hillmann & Guenther, 2021). This vulnerability has become increasingly visible in the context of economic shocks, supply chain disruptions, and rapid technological change.

Within this national landscape, Surakarta City represents a particularly important setting for examining MSME resilience. Known as a culturally embedded urban center with a strong tradition of community-based commerce, such as the batik clusters in Laweyan and Kauman, Surakarta combines cultural heritage industries with emerging digital entrepreneurship. MSMEs play a pivotal role in sustaining local economic circulation and employment absorption. Recent data indicate continuous growth in the number of MSMEs in Surakarta, reflecting their strategic position in supporting regional economic stability (Wibowo, 2024; Hasanudin, 2024). In 2023, the number of MSMEs reached 13,203 business units, absorbing more than 16,348 workers (8,903 women and 6,708 men), underscoring their central contribution to local economic resilience (Wibowo, 2024; Balitbangda Kota Surakarta, 2023).

Nevertheless, quantitative growth does not necessarily guarantee sustainability. During the COVID-19 crisis, 328 MSMEs in Surakarta ceased operations, revealing structural fragility despite overall numerical expansion (Balitbangda Kota Surakarta, 2023). Although the number of MSMEs rebounded from 3,600 units in 2021 to 11,100 units in 2022 and continued to increase in 2023 (Balitbangda Kota Surakarta, 2023; Hasanudin, 2024), post-crisis recovery has not been uniform across sectors and enterprise scales. This pattern suggests the presence of adaptive capacity; however, it also highlights uneven resilience among MSME actors.

Economic resilience has therefore emerged as a critical analytical framework for understanding MSME sustainability. Resilience is not merely the ability to survive a crisis, but also the capacity to adapt, reorganize, and recover from external disturbances while maintaining core economic functions (Pike et al., 2010). Empirical studies further demonstrate that employment and business resilience are strongly influenced by local economic structures and the adaptive capacity of small enterprises, particularly during crises (Doran & Fingleton, 2016). From an organizational perspective, resilience refers to firms' ability to absorb shocks, respond flexibly to uncertainty, and sustain operational continuity under adverse conditions (Hillmann & Guenther, 2021). In MSMEs, resilience is closely tied to managerial capability, human resources, and learning capacity. Studies in Surakarta reveal persistent internal constraints, particularly in strategic management and skill development, which limit adaptive capacity in the face of rapid digital market competition (Haryanti, 2022).

Digital transformation has increasingly been recognized as a strategic mechanism for strengthening MSME resilience. The adoption of digital technologies enables enterprises to expand market access, improve operational efficiency, and respond more effectively to changing consumer behavior (Urbach et al., 2019). Systematic reviews and empirical studies indicate that digitalization positively contributes to MSME resilience when supported by adequate human capital, digital literacy, and inclusive policy frameworks (Lestari & Choirunnisa, 2025; Trieu et al., 2023). However, digital transformation is not inherently equalizing. Without institutional facilitation and capacity-building mechanisms, it risks widening resilience gaps among enterprises.

In Surakarta, digital adoption shows measurable progress alongside significant disparities. Approximately 56.52% of MSMEs have adopted mobile payment systems, and 34.78% utilize online marketplaces. Additionally, 43.48% independently develop digital-oriented product packaging, indicating emerging innovation capabilities (Balitbangda Kota Surakarta, 2023). However, structural limitations persist: nearly 88% do not operate official websites, 21.74% lack registered trademarks, only 11.59%

actively use online stores, approximately 39.6% are not registered on major e-commerce platforms, and nearly half remain inactive on social media marketing (Balitbangda Kota Surakarta, 2023). These figures illustrate a digital paradox: transformation is expanding, yet digital inequality remains. Such disparities reinforce the argument that digitalization enhances resilience only when supported by human resource capacity and institutional facilitation (Muharam et al., 2024; Trieu et al., 2023).

Beyond economic and technological dimensions, MSME resilience in Surakarta is deeply embedded in socio-cultural contexts. Javanese cultural values, such as *gotong royong* (mutual cooperation), *nrimo ing pandum* (acceptance with perseverance), *tepa slira* (empathy), and *ajining dhiri* (self-respect), shape ethical conduct, trust-based transactions, and collective solidarity among MSME actors. These values function as social capital that strengthens cooperation, psychological endurance, and ethical business practices (Pradana & Mas'ud, 2020; Kabanti, 2022; Nurhayati & Widodo, 2021). The role of social capital in strengthening resilience among small enterprises has been widely recognized (Doran & Fingleton, 2016; Pike et al., 2010); however, limited studies have explicitly integrated local cultural philosophy into MSME resilience analysis.

In addition to cultural and technological factors, MSME resilience in the digital era is shaped by the legal and institutional environments governing digital economic activities. The expansion of e-commerce and digital platforms has transformed the state's role from that of a conventional regulator to an adaptive authority responsible for ensuring legal certainty, fair competition, and protection for small economic actors within digital ecosystems. Suryadi et al. (2025) argue that state authority in the digital society must function responsively to balance innovation and regulation, particularly in safeguarding MSMEs from structural inequality in digital markets. This regulatory function is closely connected to civil society's participation in strengthening law enforcement and legal compliance (Nurhayati & Suryadi, 2019). Moreover, reflections on legal philosophy in industrial and post-industrial societies emphasize the need to reorient legal norms toward social justice, inclusivity, and ethical economic practices in the context of technological transformation (Nurhayati et al., 2018).

Taken together, the dynamics observed in Surakarta indicate that MSME resilience cannot be understood solely through economic growth indicators or digital adoption rates. Rather, it emerges from the integration of cultural capital, digital capability, organizational capacity, and adaptive governance within a localized economic ecosystem. What is unfolding in Surakarta today is not merely digital adoption but a structural transformation in which technology, culture, and governance intersect. When these dimensions are aligned, MSMEs are better positioned to achieve sustainable resilience than short-term survival. This underscores the importance of context-sensitive and integrative strategies in strengthening local enterprises amid ongoing digital transformation.

1.2. State of the Art

Numerous previous studies have examined the relationship between digitalization and MSME resilience. Muharam et al. (2024), in their study entitled "The Role of Digitalization and Human Resources in Local MSME Resilience", evaluated the impact of digital transformation and human resource management on MSME resilience in Garut Regency, West Java. The study revealed that human resource factors, particularly managerial competence and technological adaptability, make a substantial contribution to MSME resilience in facing economic pressure and market changes. MSME actors with cohesive work teams, innovation-oriented mindsets, and active participation in training programs demonstrated significantly higher business resilience than those lacking adequate human resource capacity.

Another study by Lestari and Choirunnisa (2025), entitled "Digital Transformation and MSME Resilience: A Systematic Literature Review," reviewed more than 20 scholarly articles addressing the relationship between digital transformation and MSME resilience. The authors concluded that digitalization can serve as a key lever for business resilience, provided it is accompanied by inclusive public policies, strong synergy among stakeholders, and sufficient innovative capacity on the part of business actors. Collaborative models, such as the pentahelix framework (academia, business, community, government, and media), were recommended as effective mechanisms for accelerating digital transformation with tangible impacts on local economic resilience.

Haryanti (2022) in her study ‘MSME Resilience in Manahan, Surakarta: Whose Effort?’ focused on MSME actors in the Manahan area of Surakarta and highlighted the role of digital training in shaping business resilience. The findings indicate that MSMEs with access to training, mentoring, and institutional support are better prepared to face market pressures and shifts in consumer behavior. MSME actors who participated in the training programs were more capable of developing digital strategies, optimizing social media use, and expanding their market networks.

Drawing on these previous studies, the present research entitled “Resilience of MSMEs in Surakarta City: Integrating Digital Transformation and Local Economic Resilience Based on Javanese Cultural Values” responds to the need for a more contextual and comprehensive understanding of MSME resilience dynamics in Surakarta amid rapid digital transformation and post-pandemic economic challenges. Although existing research has addressed the link between digitalization and MSME resilience, much of it remains general in scope or focuses primarily on technological aspects. This study seeks to fill this gap by specifically examining how MSMEs in Surakarta—as a cultural city and a center of local economic growth—manage business resilience through the integration of local values, digital adaptation, and supportive regional policies.

Unlike previous studies that predominantly employ quantitative approaches or focus on other regions, this article adopts a literature review methodology that integrates diverse scholarly sources, regional policy documents, government research reports, and empirical findings from field studies. This approach allows for a broader analytical space to evaluate resilience patterns from multiple theoretical and practical perspectives. Furthermore, this study incorporates Javanese local cultural dimensions, such as Javanese philosophical principles, as a value-based framework shaping MSME resilience, an aspect that has received limited attention in prior literature (Table 1).

Table 1. Comparison of Previous Studies on MSME Resilience and the Positioning of This Study

No.	Author(s) & Year	Title / Focus	Method & Context	Key Findings	Limitations / Research Gap
1	Muharam et al. (2024)	The Role of Digitalization and Human Resources in Local MSME Resilience	Empirical study on MSMEs in Garut Regency, West Java	Human resource capacity, particularly managerial competence and technological adaptability, significantly strengthens MSME resilience. MSMEs with cohesive teams and active training participation show higher resilience.	Focuses mainly on HR and technology; does not incorporate cultural or local value dimensions.
2	Lestari & Choirunnisa (2025)	Digital Transformation and MSME Resilience: A Systematic Literature Review	Systematic literature review of 20+ scholarly articles	Digitalization is a key driver of MSME resilience when supported by inclusive policies, stakeholder synergy, and innovation capacity. Thus, pentahelix collaboration is recommended.	Conceptual and general in scope; lacks contextual and cultural analysis at the local level.
3	Haryanti (2022)	MSME Resilience in Manahan, Surakarta: Whose Effort?	Case-based qualitative study of MSMEs in Manahan, Surakarta	Digital training, mentoring, and institutional support improve MSME readiness in facing market pressure and consumer behavior changes.	Limited to training aspects; cultural values and broader governance dimensions are not deeply explored.
4	This Study	Resilience of MSMEs in Surakarta City: Integrating Digital	Integrative literature review combining	MSME resilience is shaped by the integration of digital transformation, Javanese	Addresses gaps by integrating cultural values, digital

	Transformation and Local Economic Resilience Based on Javanese Cultural Values	academic studies, policy documents, government reports, and empirical findings	cultural values, and adaptive local governance. Local values function as social and psychological capital supporting sustainable resilience.	adaptation, and policy context in a single analytical framework.
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1.3. Research Objectives and Contributions

Although previous studies have examined MSME resilience and digital transformation, several gaps remain.

First, a contextual gap exists. Studies such as [Muharam et al. \(2024\)](#) and [Trieu et al. \(2023\)](#) emphasize digital capability and human resource factors but focus primarily on technological and managerial determinants. Cultural dimensions are rarely integrated systematically into resilience frameworks.

Second, a theoretical gap persists in linking economic resilience theory with socio-cultural capital and digital transformation simultaneously. Resilience literature ([Pike et al., 2010](#); [Hillmann & Guenther, 2021](#)) tends to conceptualize resilience in structural and organizational terms, whereas studies on Javanese cultural values examine ethical or anthropological aspects without embedding them within economic resilience models.

Third, a methodological gap is evident. Many empirical studies rely on cross-sectional quantitative surveys that measure digital adoption levels but provide limited analytical depth regarding how cultural norms shape adaptive strategies. Conversely, literature reviews on digital transformation often remain generalized and not contextually grounded in specific local ecosystems.

This study contributes to the literature in four ways: (1) *New Contextual Contribution* – It provides an in-depth analysis of MSME resilience in Surakarta, a culturally embedded urban economy undergoing digital transition; (2) *New Theoretical Integration* – It integrates economic resilience theory, digital transformation literature, and Javanese cultural philosophy into a unified analytical framework; (3) *New Analytical Mechanism* – It conceptualizes local cultural values as social and psychological capital that moderates the impact of digital transformation on MSME resilience; (4) *Governance Perspective Extension* – It incorporates adaptive legal–institutional governance as a structural enabler of inclusive resilience.

By doing so, this study moves beyond purely technological explanations and proposes a culturally grounded resilience model relevant for emerging economies.

2. METHODOLOGY

2.1. Research Design

This study employs a qualitative integrative literature review design. Unlike a narrative review, this research follows structured review procedures to ensure transparency, replicability, and analytical rigor ([Snyder, 2019](#)). The unit of analysis is scholarly discourse and documented empirical findings related to MSME resilience, digital transformation, and socio-cultural capital within the Surakarta context.

2.2. Research Setting

The geographical focus is Surakarta City, Central Java, Indonesia. Surakarta was selected due to: (1) Its strong MSME concentration, (2) Cultural embeddedness in Javanese traditions, (3) Measurable digital adoption progress, (4) Availability of documented government data on MSME digitalization.

2.3. Data Sources and Population of Literature

The population of literature consisted of peer-reviewed journal articles published between 2020–2025 addressing: (1) Economic resilience, (2) MSME resilience, (3) Digital transformation in small enterprises, (4) Social capital and cultural values in entrepreneurship.

Databases used: (1) Scopus-indexed journals, (2) Web of Science journals, (3) Google Scholar (filtered to peer-reviewed articles), (4) National SINTA-accredited journals. Government documents were included only when providing contextual statistical data.

2.4. Inclusion Criteria

Articles were included if they: (1) Were peer-reviewed journal publications, (2) Addressed MSME resilience, digital transformation, or socio-cultural capital, (3) Provided empirical or conceptual frameworks relevant to emerging economies, (4) Were published in English or Indonesian.

2.5. Exclusion Criteria

Articles were excluded if they: (1) Were opinion pieces or non-academic commentary, (2) Focused solely on macroeconomic indicators without MSME relevance, (3) Did not clearly define resilience or digital transformation constructs.

2.6. Sampling Technique

A purposive sampling strategy was applied to select literature most relevant to the analytical framework. From an initial pool of approximately 120 publications identified via keyword search, 18 articles met inclusion criteria and were analyzed in depth.

2.7. Data Collection Procedure

Data collection was conducted between January–November 2025. The procedure involved: (1) Keyword search (“MSME resilience”, “economic resilience”, “digital transformation MSMEs”, “social capital entrepreneurship”, “Javanese cultural values entrepreneurship”), (2) Screening titles and abstracts, (3) Full-text eligibility review, (4) Thematic coding.

2.8. Data Analysis

Content analysis was conducted using thematic categorization. Literature was coded into four analytical clusters: (1) Organizational and economic resilience theory, (2) Digital transformation and technological capability, (3) Social capital and cultural embeddedness, (4) Governance and institutional support. Cross-theme synthesis was then performed to construct the integrated resilience model.

2.9. Bias Minimization

Bias was minimized through: (1) Structured inclusion/exclusion criteria, (2) Prioritization of peer-reviewed journal sources, (3) Avoidance of overreliance on media reports, (4) Cross-referencing multiple empirical studies, (5) Transparent documentation of search and screening process. No primary human subjects were involved; therefore, ethical risk was minimal.

3. RESULT AND DISCUSSION

3.1. The Role of Javanese Cultural Values in Shaping MSME Resilience in Surakarta

At the micro level, resilience is influenced by social capital and local culture. For MSMEs in Surakarta, Javanese cultural values and teachings serve as a social foundation that strengthens business actors’ capacity to endure uncertainty. A study by [Haryanti \(2022\)](#) demonstrates that MSME actors with strong social networks—whether with fellow entrepreneurs, local communities, or supporting institutions—tend to have a higher likelihood of survival in the face of economic disruption. In this sense, resilience is not solely an individual attribute but is also rooted in collective strength within the MSME ecosystem.

Javanese cultural values play a significant role in shaping the work ethic of MSME actors across regions, including Surakarta. Values such as *gotong royong* (mutual cooperation), *tepa slira* (empathy), *nrimo ing pandum* (acceptance with perseverance), and *ajining dhiri* (self-respect) function not only as moral guidelines but also as determinants of responsible, persistent, and socially conscious work attitudes. Pradana and Mas'ud (2020), in their study of MSMEs in Surakarta and Boyolali, argue that *gotong royong* fosters the formation of social networks and mutual support among entrepreneurs, while values such as *ngajeni* and *tepa slira* promote harmonious communication and cooperation within business environments. These attitudes reinforce the social resilience of MSMEs and encourage collaboration as an adaptive strategy in response to business challenges.

Moreover, *nrimo ing pandum*, understood as acceptance accompanied by maximum effort, serves as an inner strength that shapes the psychological resilience of business actors. Rakhmawati (2022) explains that *nrimo* should not be interpreted as passive resignation, but rather as a spiritual work ethic that enables MSME actors to better confront risks and failures, as business activities are perceived not merely as profit-oriented endeavors but also as forms of dedication. Consequently, this philosophy cultivates stable work attitudes that are less susceptible to market fluctuations while upholding honesty and patience in business processes.

The aforementioned Javanese cultural values also shape a distinctive form of resilience among MSME actors in Surakarta. This resilience is reflected not only in economic survival but also in social and moral strength that enables recovery from pressure and failure. According to Rakhmawati (2022), *nrimo ing pandum* represents acceptance after exerting maximum effort rather than passive surrender, thereby helping entrepreneurs remain emotionally stable and persistent.

Gotong royong as a communal value fosters solidarity among MSME actors in Surakarta, encouraging mutual assistance during times of crisis. Nurhayati and Widodo (2021) show that the practice of *gotong royong* strengthens social networks and accelerates post-pandemic business recovery. This phenomenon is also evident in the Laweyan batik MSME community, which continues to thrive by promoting distinctive local Javanese products supported by long-standing traditions of shared markets and intergenerational knowledge exchange.

The Javanese principle of *sak madya*, which promotes balance and simplicity, helps MSME actors in Surakarta avoid excessive risk-taking and instead adopt rational and proportional business strategies. This approach enhances resilience in facing competitive pressures and local economic fluctuations. Consistent with the findings of Pradana and Mas'ud (2020), local cultural values provide ethical and strategic frameworks that guide business decision-making.

Overall, Javanese cultural values not only shape the individual character of MSME actors in Surakarta but also foster a collaborative, ethical, and resilient business climate (Kabanti, 2022). This indicates that local culture does not hinder modernization; rather, it constitutes essential social capital in creating competitive and sustainable MSMEs amid ongoing digital transformation.

3.2. The Impact of Digital Transformation on MSME Resilience and Sustainability

In the context of Surakarta, MSMEs play a central role in supporting local economic resilience. Local economic resilience is often associated with a region's ability to reduce vulnerability to external pressures and sustain economic activities based on local resources. This includes the adaptive capacity of local economic actors, labor market flexibility, and the diversity of economic structures capable of absorbing external shocks. According to Pike et al. (2010), local economic resilience is not merely reactive but also proactive, involving the creation of socio-economic systems that are prepared to adapt and anticipate long-term disturbances.

Beyond inclusive economic structures, interregional connectivity is another crucial pillar of local resilience. As a city surrounded by satellite regions, Surakarta benefits from relatively strong logistics networks, integration with regional and national markets, and increasing access to digital technologies, which contribute to faster recovery from crises. The availability of basic infrastructure, vocational education, and a stable investment climate further supports the local economy in withstanding external shocks such as pandemics or global inflation.

Digital transformation in Surakarta has shown a significant increase in technology adoption among MSMEs, although the process remains uneven. According to the Surakarta Regional Research and Development Agency (Balitbangda, 2023), approximately 34.78% of MSMEs have utilized online marketplaces, while 56.52% have adopted mobile payment systems. These figures indicate that digital adoption is becoming mainstream in small and medium business activities within the city.

Lestari and Choirunnisa (2025) argue that digital transformation positively affects business sustainability when supported by adequate human resource capacity, access to training, and supportive regulations. The digital transformation process in Surakarta demonstrates the importance of collaboration among government, private sector actors, and local communities to ensure successful digitalization. This approach aligns with the Surakarta municipal government's strategy of developing the UMKM Kita digital platform as part of a broader digital ecosystem.

Nevertheless, digital transformation in Surakarta faces several structural challenges. MSMEs continue to encounter limitations in digital marketing skills, digital financial recording, and access to stable internet infrastructure. Business actors also tend to prioritize production over technology-based innovation, resulting in suboptimal business model transformation. Limited digital literacy among human resources further constrains the enhancement of technology-based MSME competitiveness.

3.3. Supporting and Constraining Factors of MSME Resilience in Surakarta

MSME resilience in Surakarta, particularly in responding to digital transformation, is shaped by both supporting and constraining factors.

3.3.1. Supporting Factors of MSME Resilience in Surakarta

MSME resilience in Surakarta is not determined solely by internal strengths such as entrepreneurial spirit, but is also strongly supported by a conducive external environment. One of the main supporting factors is the presence of local business communities that foster solidarity and collaboration among MSME actors. These communities serve as platforms for information exchange, cross-promotion of products, and moral support, thereby strengthening business resilience, especially during market shocks or crises such as the COVID-19 pandemic.

Access to government programs—including training, business mentoring, and financial assistance—also constitutes a critical foundation for strengthening MSME adaptive capacity. The Surakarta municipal government has launched various initiatives, such as digitalization training, the UMKM Kita platform, and partnerships with the private sector to support digital transformation (Balitbangda, 2023). The availability of training and financial support enables MSME actors to enhance competencies in managerial, financial, and technological aspects.

Another crucial factor is the persistence of Javanese cultural values among MSME actors in Surakarta, such as *gotong royong*, *nrimo ing pandum*, *ajining dhiri*, and *tepa slira*. These values establish a strong ethical foundation for business practices, reinforce psychological resilience, strengthen cooperation, and sustain business continuity in an inclusive and integrity-driven manner. As emphasized by Rakhmawati (2022) and Pradana and Mas'ud (2020), local cultural values shape resilience that extends beyond economic dimensions to encompass social and spiritual aspects.

Furthermore, the involvement of mentoring institutions and strategic partnerships, as discussed by Muharam et al. (2024), also promotes MSME resilience in Surakarta by facilitating resource synergy, market access expansion, and the creation of collaborative innovation ecosystems. This approach aligns with the pentahelix model, which integrates government, academia, business, communities, and media in systematically supporting MSMEs.

3.3.2. Constraining Factors of MSME Resilience in Surakarta

Despite various empowerment initiatives, MSMEs in Surakarta continue to face structural challenges that hinder resilience. Limited access to finance remains a primary constraint, particularly for micro and informal enterprises lacking formal business legality. Many MSMEs struggle to access bank

credit due to insufficient collateral, financial records, or formal business track records (Muharam et al., 2024).

Additionally, regulatory bureaucracy that is not fully understood by MSMEs poses another obstacle. Digital procedures, limited information, and insufficient assistance in obtaining legal permits discourage formalization, thereby restricting access to government support programs and funding.

Low digital literacy and technological skills constitute another major barrier to MSME digital transformation in Surakarta. Putritamara et al. (2023) note that many MSME actors lack adequate understanding of digital marketing or application-based financial recording, resulting in uneven digitalization outcomes.

MSME resilience is further constrained by the weakening of work ethics rooted in Javanese cultural values among some younger or newly established entrepreneurs. Traditional cultural values are increasingly marginalized by individualistic mindsets and short-term profit orientations. When these values no longer guide business behavior, MSME actors lose ethical and social anchors in facing crises or market competition (Kabanti, 2022). A weakened value foundation can lead to reduced psychological resilience, declining collaboration, and increased internal business conflicts.

Moreover, the unequal distribution of empowerment programs—particularly affecting MSMEs in peripheral or marginalized areas of Surakarta—constitutes a significant barrier to comprehensive resilience building. Most training programs and digital facilities remain concentrated among established MSMEs with stronger formal networks, while informal and micro-scale enterprises lag behind in the transformation process. The absence of needs-based approaches and priority area mapping has resulted in empowerment programs failing to adequately reach the most vulnerable MSMEs.

Based on the above discussion, the supporting and constraining factors of MSME resilience in Surakarta can be summarized in Table 2:

Table 2. the supporting and constraining factors of MSME resilience in Surakarta

No.	Supporting Factors	Constraining Factors
1	Local business community support strengthening social networks and solidarity	Limited access to finance for small and informal enterprises
2	Access to government programs, including digital training, financial assistance, and business legalization	Regulatory bureaucracy and lack of legalization assistance
3	Availability of training and mentoring from institutions and strategic partners (pentahelix)	Low digital literacy and technological skills
4	Adoption of Javanese cultural values such as <i>gotong royong</i> , <i>nrimo ing pandum</i> , <i>tepa slira</i> , and <i>sak madya</i>	Declining work ethic based on Javanese values among younger MSME actors
5	Emerging digital infrastructure and ecosystems such as the <i>UMKM Kita</i> platform	Unequal distribution of empowerment programs, particularly in peripheral areas

Source: Processed from secondary data (2025)

4. CONCLUSION

This study concludes that MSME resilience in Surakarta is not solely determined by economic and technological factors but is strongly influenced by Javanese cultural values functioning as social capital. Values such as *gotong royong*, *nrimo ing pandum*, *tepa slira*, and *ajining dhiri* shape adaptive, ethical, and collaborative business behavior that enhances resilience in times of uncertainty. Digital transformation contributes positively to MSME sustainability by expanding market access and improving efficiency. However, its effectiveness depends on digital literacy, human resource capacity, and equitable access to support programs. Without cultural integration and institutional support, digitalization may exacerbate inequality among MSMEs rather than strengthening collective resilience.

To strengthen MSME resilience in Surakarta, policymakers should adopt an integrated strategy that aligns digital transformation initiatives with local cultural values. Community-based digital literacy programs, culturally grounded business mentoring, and inclusive multi-stakeholder collaboration are essential to ensuring sustainable and equitable MSME development.

Ethical Approval

This study did not require formal ethical approval as it is based on a qualitative descriptive literature review using secondary data sources, including peer-reviewed journal articles, government reports, and publicly accessible policy documents. No human subjects, personal data, or direct participant involvement were included. Nevertheless, this research was conducted in accordance with internationally recognized ethical standards for academic research, including principles of integrity, transparency, and proper citation

Informed Consent Statement

Not applicable.

Authors' Contributions

Conceptualization, R.S.; methodology, R.S. and L.O.; validation, K.S. and A.M.Y.; formal analysis, R.S., L.O., and R.A.R.; resources, R.S.; writing – original draft preparation, R.S.; writing – review and editing, L.O., K.S., A.M.Y., and R.A.R. All authors have read and agreed to the published version of the manuscript.

Disclosure Statement

The authors declare that there is no conflict of interest regarding the publication of this article. The research was conducted independently without any financial, personal, or institutional influence that could bias the findings.

Data Availability Statement

Data supporting the findings of this study are derived from publicly available sources, including academic journal articles, government reports, and official publications. No new datasets were generated or analyzed during the current study.

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Notes on Contributors

Rohmad Suryadi

Rohmad Suryadi is a lecturer and researcher at Politeknik Bisnis dan Perpajakan Indonesia, Central Java, Indonesia. His academic interests include the digital economy, MSME resilience, legal governance in the digital society, and socio-economic transformation. He has published and conducted research on digital regulation, consumer behavior, and local economic resilience.

Lusi Oktaviana

Lusi Oktaviana is a lecturer and researcher at Politeknik Bisnis dan Perpajakan Indonesia. Her research interests focus on MSME development, digital business transformation, and community-based economic empowerment. She is actively involved in applied research and community engagement programs related to MSME digitalization.

Kholid Syaifulloh

Kholid Syaifulloh is an undergraduate student in the Creative Business Study Program at Politeknik Bisnis dan Perpajakan Indonesia. His academic interests include entrepreneurship, MSME development, and creative economy practices, with a particular focus on business resilience and innovation in small enterprises.

Anita Maulani Yusnia

Anita Maulani Yusnia is an undergraduate student in the Digital Business Study Program at Politeknik Bisnis dan Perpajakan Indonesia. Her academic interests center on digital entrepreneurship, MSME digital transformation, and the application of digital technologies in small business development.

Ratih Ayu Rafiaulia

Ratih Ayu Rafiaulia is an undergraduate student in the Digital Business Study Program at Politeknik Bisnis dan Perpajakan Indonesia. Her research interests include digital marketing, MSME sustainability, and innovation strategies within digital business ecosystems.

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