INDIGENOUS LOCAL WISDOM-DRIVEN SMART VILLAGE ENTREPRENEURSHIP MODEL FOR RURAL MSME DIGITAL TRANSFORMATION

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ABSTRACT

Rural micro, small, and medium enterprises (MSMEs) face a dual challenge: they need to exploit digital technologies to expand markets and improve business processes while preserving the cultural legitimacy, social relationships, and locally embedded knowledge that shape rural economic life. Existing Smart Village studies emphasize infrastructure, governance, participation, and rural development, whereas SME digital transformation research emphasizes capabilities, organizational change, and technology adoption. Research on local wisdom, meanwhile, frequently focuses on identity, cultural products, or community participation. These streams remain insufficiently integrated into a single model explaining how indigenous local wisdom can become a foundation for rural MSME digital transformation. This study develops an Indigenous Local Wisdom-Driven Smart Village Entrepreneurship (ILW-SVE) model through an integrative literature synthesis and design-oriented conceptual modeling approach. The proposed architecture consists of five interconnected layers: indigenous local wisdom, Smart Village enablers, entrepreneurial capabilities, digital transformation capabilities, and rural MSME outcomes. Indigenous local wisdom is positioned as a design foundation that informs governance, participation, trust, collaboration, cultural protection, and sustainability. The model further proposes seven relationships for future empirical testing and a five-level maturity pathway for implementation. The contribution is a culturally grounded, capability-oriented framework that links Smart Village development with rural entrepreneurship and MSME digital transformation.

KEYWORDS indigenous local wisdom; Smart Village; rural entrepreneurship; MSMEs; digital transformation

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INTRODUCTION

Digital transformation has moved beyond the adoption of isolated digital tools and increasingly involves changes in organizational capabilities, business processes, value propositions, stakeholder relationships, and decision-making. For micro, small, and medium enterprises (MSMEs), digital transformation can create opportunities to overcome geographic distance, access wider markets, improve customer engagement, strengthen information management, and respond to environmental uncertainty. Nevertheless, SMEs do not experience transformation in the same way as large firms because they typically operate with limited financial resources, small teams, informal routines, and high dependence on owner-manager decisions. Recent research confirms that dynamic capabilities and digital transformation are closely related to resilience among Indonesian MSMEs, indicating that the ability to sense, seize, and reconfigure resources matters for the conversion of technology into organizational outcomes (Nurhayati & Astono, 2024; Putritamara et al., 2023).

Rural MSMEs face an additional layer of complexity. Their business activities are embedded in village economies, local supply chains, family networks, community institutions, and culturally specific forms of knowledge. Digital technologies can reduce some forms of geographic disadvantage, but they do not automatically eliminate infrastructure constraints, digital literacy gaps, financing limitations, or institutional barriers. Research on rural entrepreneurship indicates that digital transformation can improve entrepreneurial performance, while financial literacy can strengthen the relationship between digital transformation and rural entrepreneurial outcomes (Li et al., 2024). These findings imply that technology should be examined as part of a broader capability and ecosystem configuration.

Smart Village has emerged as one response to the need for digitally enabled rural development. A systematic review by Junaidi et al. (2025) shows that Smart Village scholarship encompasses multiple models, dimensions, and measurement approaches rather than one universally accepted architecture. Earlier conceptual work also identified economy, information and communication technology, people, governance, environment, living, and energy as important Smart Village dimensions (Mishbah et al., 2019). In Indonesia, systematic review evidence emphasizes the need to adapt Smart Village dimensions to local village conditions rather than simply transferring Smart City concepts into rural areas (Susilowati et al., 2024). Thus, a Smart Village should be viewed as a contextual socio-technical system.

The socio-technical character of rural digital transformation is especially important because technology adoption depends on social legitimacy and institutional arrangements. Recent evidence from indigenous communities in Indonesia shows that digital transformation pathways can be culturally mediated: customary elders may legitimize reforms, young people can function as digital champions, and rituals or partnerships can support acceptance. At the same time, infrastructure gaps, limited digital literacy, and distrust can become barriers (the study by the Frontiers research team, 2025). This evidence suggests that a technology-first model is incomplete when the transformation context includes indigenous or culturally embedded communities.

Indigenous local wisdom provides an important theoretical and practical entry point. Local wisdom can include knowledge, values, norms, practices, narratives, production techniques, resource-management principles, and social mechanisms that have developed within communities. It may contribute to product authenticity, differentiation, trust, collective action, and sustainability. Recent research specifically examining local wisdom and digital innovation among Indonesian creative MSMEs identifies integration between

cultural knowledge and digital innovation as a promising pathway for strengthening business resilience (Mulia et al., 2025). Research on Bali MSMEs similarly examines local wisdom together with digital strategies and product innovation as determinants of competitiveness (Astawa et al., 2026).

However, the existing literature reveals an important fragmentation. Smart Village studies tend to emphasize rural development, infrastructure, governance, and sustainability. SME digital transformation studies focus on technology adoption, dynamic capabilities, organizational competence, and performance. Local wisdom studies often emphasize cultural identity, product differentiation, marketing, or preservation. Although these perspectives are individually valuable, they do not adequately explain the mechanism through which local wisdom can shape the design and governance of digital entrepreneurship within a Smart Village ecosystem.

The research gap is therefore not simply the absence of another Smart Village model. The deeper gap concerns the absence of a model that explicitly treats indigenous local wisdom as a foundational design logic connecting rural governance, entrepreneurial capabilities, digital transformation, and MSME outcomes. In other words, the key question is not whether culture is relevant to digital transformation, but how culturally embedded values can be translated into operational principles, governance mechanisms, entrepreneurial routines, digital processes, and measurable outcomes.

This study responds to that gap by proposing the Indigenous Local Wisdom-Driven Smart Village Entrepreneurship (ILW-SVE) model. The model integrates five layers: (1) indigenous local wisdom; (2) Smart Village enablers; (3) entrepreneurial capabilities; (4) digital transformation capabilities; and (5) rural MSME outcomes. The model is designed as a layered and feedback-oriented architecture. Indigenous local wisdom provides normative and cultural foundations; Smart Village enablers provide infrastructure and ecosystem conditions; entrepreneurial capabilities convert resources into action; digital capabilities convert action into transformed processes; and outcomes generate learning that feeds back into the ecosystem.

The study has four objectives. First, it identifies and synthesizes the conceptual dimensions required to connect Smart Village development, indigenous local wisdom, rural entrepreneurship, and MSME digital transformation. Second, it explains how local wisdom can be translated from an abstract cultural concept into operational design principles. Third, it proposes a theoretically coherent model and research propositions for subsequent empirical testing. Fourth, it develops an implementation and maturity logic that can be used by village governments, MSMEs, universities, and development partners.

The research questions are: RQ1: Which dimensions from Smart Village, indigenous local wisdom, rural entrepreneurship, and digital transformation should be integrated into a rural MSME transformation model? RQ2: How can indigenous local wisdom be translated into governance and digital-business design principles? RQ3: What mechanisms connect Smart Village enablers and entrepreneurial capabilities to MSME digital transformation? RQ4: How can the proposed model be operationalized and evaluated in rural contexts?

The novelty is therefore positioned at the intersection of theory integration and design logic. The study does not claim that local wisdom automatically improves digital performance. Instead, it proposes that local wisdom can influence digital transformation when it is institutionalized through participation, governance, trust, collective action, cultural protection, and sustainability principles. This distinction is critical for avoiding cultural essentialism and for making the model empirically testable.

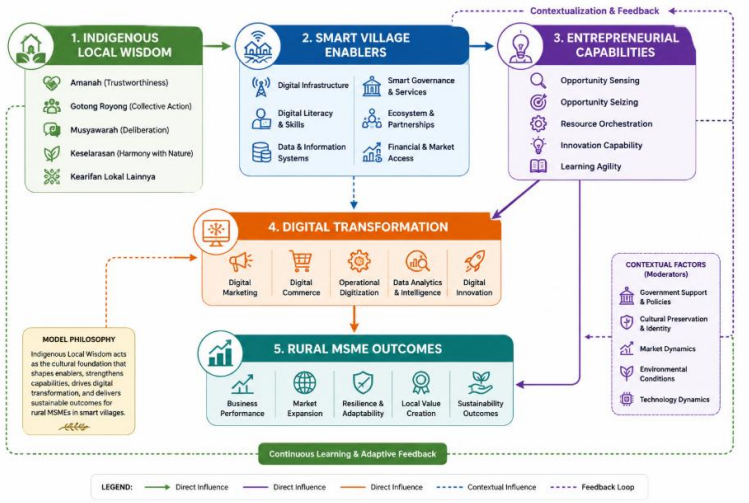


Figure 1. Integrated conceptual architecture of the Indigenous Local Wisdom-Driven Smart Village Entrepreneurship (ILW-SVE) model.

RESEARCH METHOD

This study uses an integrative literature synthesis combined with design-oriented conceptual modeling. The method is appropriate because the research objective is to develop a theoretically grounded conceptual artifact rather than to estimate the causal effect of a treatment. The methodological logic is inspired by design science reasoning: identify a relevant problem, synthesize existing knowledge, define constructs and relationships, integrate them into an artifact, assess theoretical coherence, and establish a pathway for empirical validation.

The literature synthesis was organized into five streams: Smart Village development; indigenous and local knowledge in digital contexts; rural entrepreneurship; SME/MSME digital transformation and dynamic capabilities; and digital governance or socio-technical transformation. Priority was given to peer-reviewed sources published between 2021 and 2026, while seminal sources were retained where necessary for theoretical definitions. The resulting evidence base includes recent systematic reviews, empirical MSME studies, conceptual Smart Village studies, and research on culturally mediated digital transformation.

Source extraction focused on four fields: construct, definition, mechanism, and implication for rural digital transformation. Similar constructs were consolidated. For example, digital readiness and technology readiness were treated as related but distinguished from entrepreneurial capability. Local wisdom was separated from cultural content because the model requires observable governance and behavioral implications rather than symbolic representation.

The synthesis proceeded in four stages. Stage 1 was conceptual mapping, in which recurring concepts were grouped by theoretical function. Stage 2 was mechanism mapping, in which potential pathways between constructs were identified. Stage 3 was architectural integration, in which constructs were positioned into five layers. Stage 4 was proposition development, in which theoretically plausible relationships were expressed as propositions for future empirical testing.

To improve research accountability, the study distinguishes source-derived findings from model-derived propositions. Statements about what prior research found are supported by citations. The ILW-SVE architecture, the seven propositions, and the maturity

model are contributions of the present conceptual synthesis and therefore require future empirical validation.

Future empirical validation is proposed as a sequential mixed-method program. Expert assessment can examine content relevance and conceptual completeness. Qualitative fieldwork can identify culturally appropriate local-wisdom dimensions and test whether the proposed translations are meaningful to community members. A pilot survey can assess measurement reliability and validity. A larger survey can then test structural relationships using an appropriate SEM approach. Longitudinal case studies can complement quantitative analysis by examining how governance, capabilities, and outcomes evolve over time.

Table 1. Design-oriented analytical workflow.

Stage	Analytical activity	Quality criterion	Output
1	Problem and gap mapping	Relevance and traceability	Research gap
2	Integrative literature synthesis	Source credibility and conceptual coverage	Evidence matrix
3	Construct abstraction	Definition clarity and non-redundancy	Construct map
4	Mechanism mapping	Logical plausibility	Relationship map
5	Model integration	Completeness and contextual fit	ILW-SVE architecture
6	Proposition development	Testability and theoretical grounding	P1–P7
7	Validation design	Measurability and ethical feasibility	Future empirical protocol

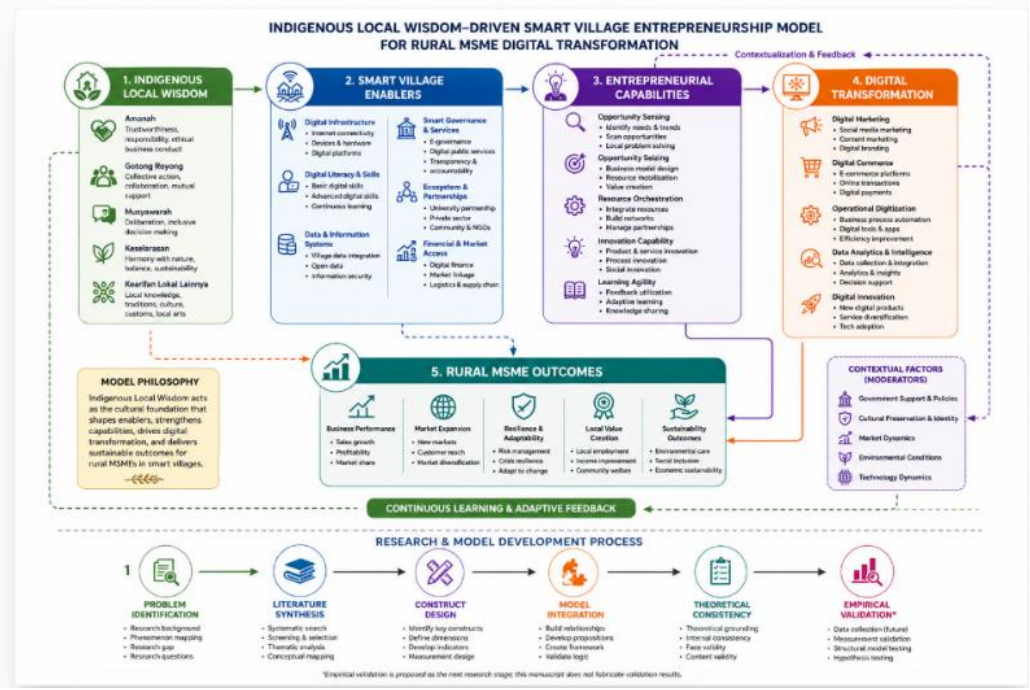


Figure 2. Design-oriented model development and future empirical validation pathway.

RESULT AND DISCUSSION

1. Smart Village as a Contextual Socio-Technical System

The first finding of the synthesis is that Smart Village should not be reduced to digital infrastructure. Junaidi et al. (2025) show that Smart Village research encompasses diverse models and metrics, while Susilowati et al. (2024) emphasize the need to adapt Smart Village dimensions to Indonesian village conditions. This supports a contextual rather than universal technology architecture.

The ILW-SVE model consequently defines Smart Village enablers through five dimensions: digital infrastructure, human capability, governance, ecosystem connectivity, and sustainability. Infrastructure includes connectivity, devices, platforms, and technical support. Human capability includes digital literacy, information literacy, data awareness, and the ability to use technology for productive tasks. Governance includes role clarity, accountability, participation, decision rights, and data stewardship. Ecosystem connectivity concerns relationships among village government, MSMEs, communities, universities, financial institutions, technology providers, logistics actors, and markets. Sustainability includes financing, maintenance, local ownership, and continuous improvement.

The key implication is that the presence of a digital platform should be treated as an input, not an outcome. A platform that is technically available but poorly governed, rarely updated, or disconnected from business processes does not constitute successful Smart Village transformation. This interpretation is consistent with the broader literature that treats Smart Village as an integrated rural-development approach rather than an application deployment project (Junaidi et al., 2025; Mishbah et al., 2019).

2. Indigenous Local Wisdom as the Normative and Design Foundation

The second finding is the need to distinguish indigenous local wisdom from cultural decoration. When local wisdom is used only for storytelling or branding, it may contribute to differentiation but does not necessarily shape how digital systems are governed. The proposed model takes a stronger position: local wisdom should influence decision rules, participation mechanisms, trust formation, collaboration patterns, knowledge protection, and sustainability principles.

Four illustrative value clusters are proposed for Indonesian village contexts: amanah (trustworthiness), gotong royong (mutual cooperation), musyawarah (deliberative participation), and keselarasan (harmony). These are analytical examples, not universal attributes of every village. Empirical fieldwork must determine which values are locally meaningful, how they are expressed, and whether community members recognize the proposed interpretation.

Amanah can be translated into truthful product information, transparent pricing, responsible handling of customer data, accountable platform administration, and clear complaint mechanisms. Gotong royong can be translated into collective catalogues, joint promotion, shared logistics, peer learning, and mutual support. Musyawarah can be translated into participatory platform governance, community consultation, joint prioritization, and deliberative conflict resolution. Keselarasan can be translated into balance between economic growth, social cohesion, cultural integrity, and environmental sustainability.

This interpretation is supported by recent evidence showing that digital transformation in indigenous communities can be culturally mediated. In Indonesian cases, customary authorities, youth digital champions, rituals, and partnerships influenced

acceptance, while infrastructure gaps, limited digital literacy, and distrust acted as barriers (Jabbar et al., 2026). The implication for the ILW-SVE model is that cultural legitimacy should be treated as a mechanism that shapes adoption and sustainability rather than as a static background characteristic.

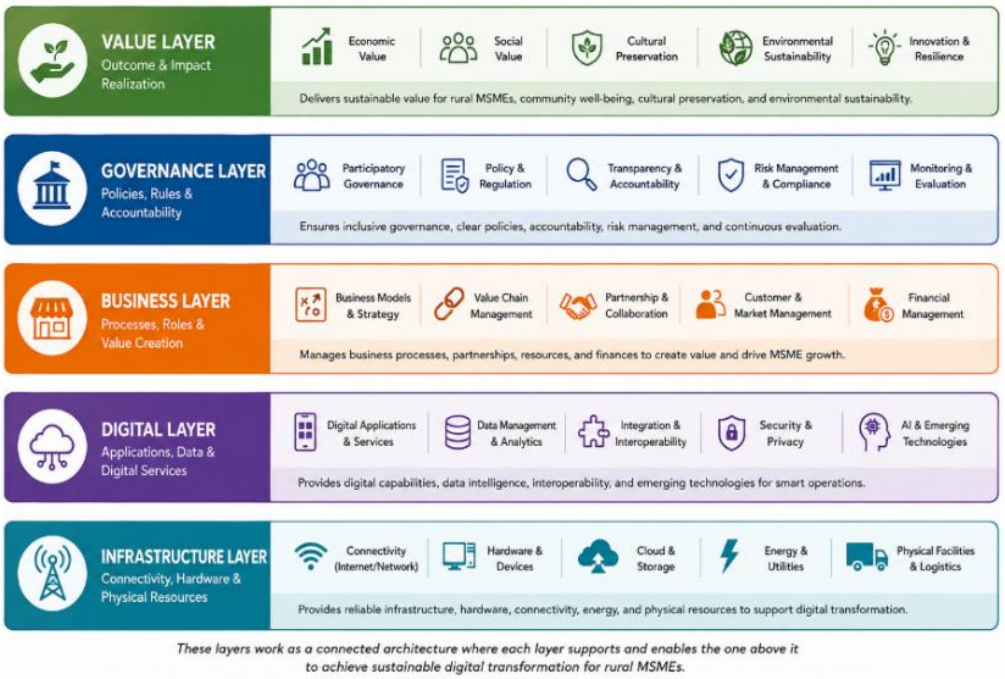


Figure 3. Translation pathway from indigenous local wisdom to governance and digital-business design principles

3. Entrepreneurial Capabilities as the Conversion Mechanism

The third finding is that Smart Village resources and local values require an entrepreneurial conversion mechanism. Dynamic capabilities provide a useful theoretical lens because they explain how organizations sense changes, seize opportunities, and reconfigure resources under changing conditions (Teece, 2007). In SMEs, dynamic capabilities have been linked to digital transformation processes, including the development of digital literacy and responses to technological threats (Civelek et al., 2023).

For rural MSMEs, sensing includes recognizing market trends, customer needs, digital opportunities, emerging competitors, and changes in local supply. Seizing includes selecting digital channels, mobilizing resources, developing products, creating partnerships, and allocating investment. Reconfiguring includes changing business processes, product portfolios, marketing routines, distribution channels, and partnership structures.

Empirical evidence from Indonesian MSMEs supports this mechanism. Putritamara et al. (2023) found that dynamic capabilities play an important role in improving MSMEs' digital transformation, while Nurhayati and Astono (2024) found positive relationships among dynamic capabilities, digital transformation, and business resilience. These findings do not prove the ILW-SVE model, but they strengthen the theoretical rationale for placing entrepreneurial capability between enabling conditions and digital transformation.

Table 2. Entrepreneurial capability interpretation in rural MSMEs

Capability	Rural MSME manifestation	Expected digital implication
Sensing	Customer listening; trend scanning; competitor observation	Faster identification of digital opportunities
Seizing	Channel selection; resource mobilization; product experimentation	More purposeful technology investment
Reconfiguring	Process redesign; new partnerships; channel diversification	Higher digital transformation capability
Learning	Reflection on data and experience	Continuous improvement

4. Digital Transformation as a Capability, Not a Technology Inventory

Digital transformation should be distinguished from simple technology adoption. Vial (2019) conceptualized digital transformation as a process in which digital technologies trigger changes that can alter value creation and organizational structures. For MSMEs, the practical challenge is to translate technology into repeatable capabilities. Civelek et al. (2023) and Putritamara et al. (2023) reinforce the importance of organizational and dynamic capabilities in the transformation process.

The ILW-SVE model proposes five digital transformation capability domains: digital marketing, digital commerce, digital operations, data and analytics, and digital innovation. Digital marketing covers content, storytelling, social commerce, customer engagement, and reputation. Digital commerce covers catalogues, ordering, payment, and fulfillment. Digital operations covers bookkeeping, inventory, customer records, and workflow coordination. Data and analytics cover monitoring, segmentation, demand analysis, and performance evaluation. Digital innovation covers experimentation with products, services, channels, and business models.

Table 3. Rural MSME digital transformation capability architecture.

Domain	Core capability	Illustrative KPI	Risk if poorly implemented
Digital marketing	Create and distribute relevant content	Reach; engagement; qualified inquiries	Content inconsistency
Digital commerce	Manage digital ordering and payment	Digital order completion	Transaction errors
Digital operations	Digitize internal routines	Record completeness; cycle time	Digitalizing inefficient processes
Data & analytics	Use data for decisions	Data-based decision frequency	Poor data quality
Digital innovation	Experiment with new value propositions	Validated experiments	Technology novelty without value

5. Rural MSME Outcomes and Value Creation

The model defines outcomes beyond short-term sales. The first outcome is market access, including the ability to reach customers beyond local geographic boundaries. The second is business resilience, defined as the ability to absorb, adapt to, and recover from disruption. The third is local economic value, referring to value creation and retention within the rural ecosystem. The fourth is sustainability, including economic continuity, social inclusion, cultural integrity, and environmental responsibility.

Recent evidence supports the relevance of these outcomes. Li et al. (2024) found that digital transformation promotes rural household entrepreneurship performance, with

financial literacy moderating the relationship. Nurhayati and Astono (2024) reported that digital transformation and dynamic capabilities are positively related to business resilience among Indonesian MSMEs. These studies suggest that transformation should be evaluated through capability and outcome measures rather than through technology adoption alone.

Local wisdom adds another outcome dimension: cultural continuity. This does not mean that every cultural practice should be commercialized. Rather, digital transformation should allow communities to decide which knowledge, stories, symbols, and practices can be shared, commercialized, protected, or kept private. Research on indigenous knowledge preservation emphasizes the importance of protecting knowledge while developing appropriate technological mechanisms for transmission and access (Mthethwa, 2025).

6. Integrated ILW-SVE Architecture

The integrated architecture is shown in Figure 1. Indigenous local wisdom provides the normative foundation; Smart Village enablers provide environmental conditions; entrepreneurial capabilities provide the conversion mechanism; digital transformation capabilities provide the operational mechanism; and rural MSME outcomes capture the resulting value. The architecture is not intended to imply a simple linear chain. Feedback is necessary because outcomes produce learning, and learning can alter governance, capability development, and technology priorities.

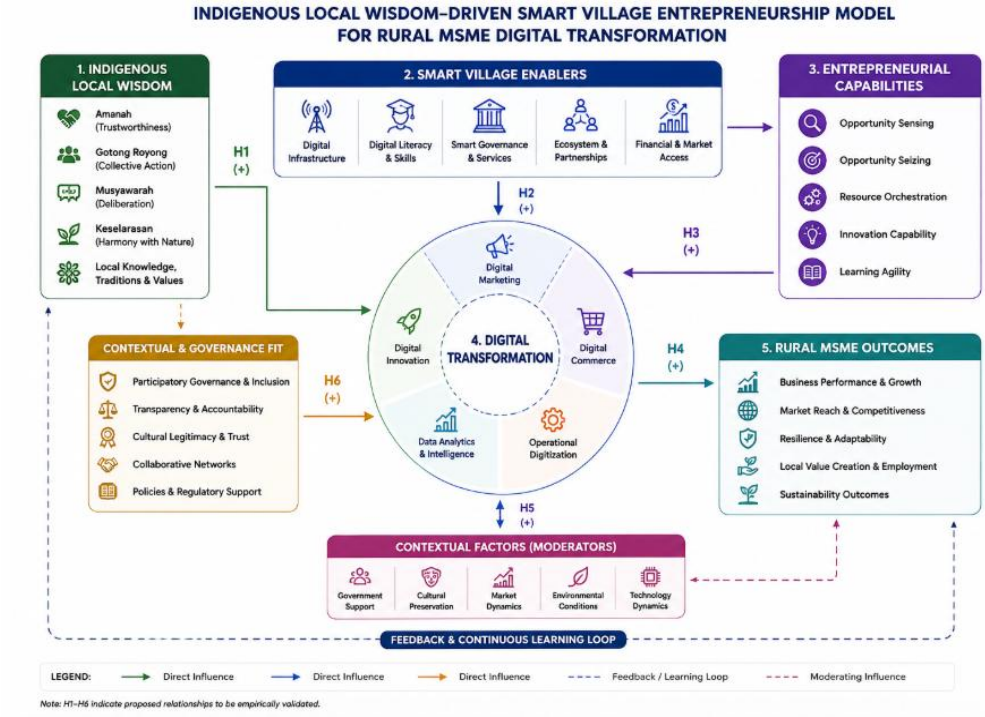


Figure 4. Detailed ILW-SVE model with proposed relationships and feedback logic.

The model's central proposition is therefore: culturally legitimate governance and locally grounded values create conditions for trusted participation; Smart Village enablers provide resources; entrepreneurial capabilities convert resources into action; digital capabilities transform action into new processes and value propositions; and outcomes generate feedback for continuous improvement. This proposition integrates the Smart Village, dynamic capability, and local-wisdom perspectives into a single architecture.

7. Research Propositions

a. P1. Indigenous local wisdom positively contributes to cultural and governance fit when local values are explicitly translated into participation, transparency, collective action, and cultural-protection mechanisms.
b. P2. Smart Village enablers positively contribute to entrepreneurial capabilities because infrastructure, literacy, governance, partnerships, and sustainability support increase the resources available for opportunity recognition and action.
c. P3. Cultural and governance fit positively contributes to entrepreneurial capabilities by strengthening trust, collective participation, and legitimacy of digital business initiatives.
d. P4. Entrepreneurial capabilities positively contribute to digital transformation capabilities because sensing, seizing, reconfiguring, and learning enable MSMEs to convert digital resources into business-process change.
e. P5. Indigenous local wisdom strengthens the alignment between digital transformation capabilities and sustainable rural MSME outcomes when digital practices preserve cultural legitimacy and community value.
f. P6. Digital transformation capabilities positively contribute to rural MSME outcomes through improved market access, operational capability, innovation, and resilience.
g. P7. Rural MSME outcomes generate feedback that improves Smart Village governance, capability development, and subsequent digital transformation decisions.

8. Measurement Architecture

The proposed constructs should be operationalized only after qualitative validation. A major methodological risk is measuring local wisdom through generic attitudinal questions that do not capture actual practices. The model therefore recommends behavioral and governance-oriented indicators.

Table 4. Proposed construct-operationalization framework.

Construct	Dimensions	Illustrative measurement indicators
Indigenous local wisdom	Amanah; gotong royong; musyawarah; keselarasan	Transparency; collective action; participatory decisions; cultural-sustainability alignment
Cultural & governance fit	Legitimacy; trust; consent; accountability	Perceived legitimacy; trust in platform; consent mechanism; complaint resolution
Smart Village enablers	Infrastructure; literacy; governance; ecosystem; sustainability	Connectivity; digital skills; role clarity; partnerships; maintenance resources
Entrepreneurial capabilities	Sensing; seizing; reconfiguring; learning	Opportunity recognition; resource mobilization; process redesign; learning routines
Digital transformation	Marketing; commerce; operations; analytics; innovation	Digital process integration; data use; channel diversification; validated experiments
Rural MSME outcomes	Market; resilience; local value; sustainability	Customer reach; adaptive capacity; local value retention; continuity

A future survey instrument can use multi-item Likert scales after expert review. Content validity should assess whether indicators adequately represent each construct. Exploratory or confirmatory factor analysis can be used depending on the stage of instrument development. For structural testing, PLS-SEM may be suitable when the objective is prediction and model development, whereas covariance-based SEM may be appropriate when theory confirmation and model fit are central. The choice should be justified by research design rather than convenience.

9. Implementation Roadmap

The implementation pathway begins with baseline assessment. The village should map its MSME structure, market conditions, digital readiness, infrastructure, stakeholder relationships, local wisdom, and governance capacity. The second stage is co-design, in which community representatives, MSMEs, village authorities, and technical partners define priorities and rules. The third stage is pilot implementation with a limited number of users and clearly defined KPIs. The fourth stage is scaling through standardization, training, partnerships, and financing. The fifth stage is optimization using data, evaluation, and continuous improvement.

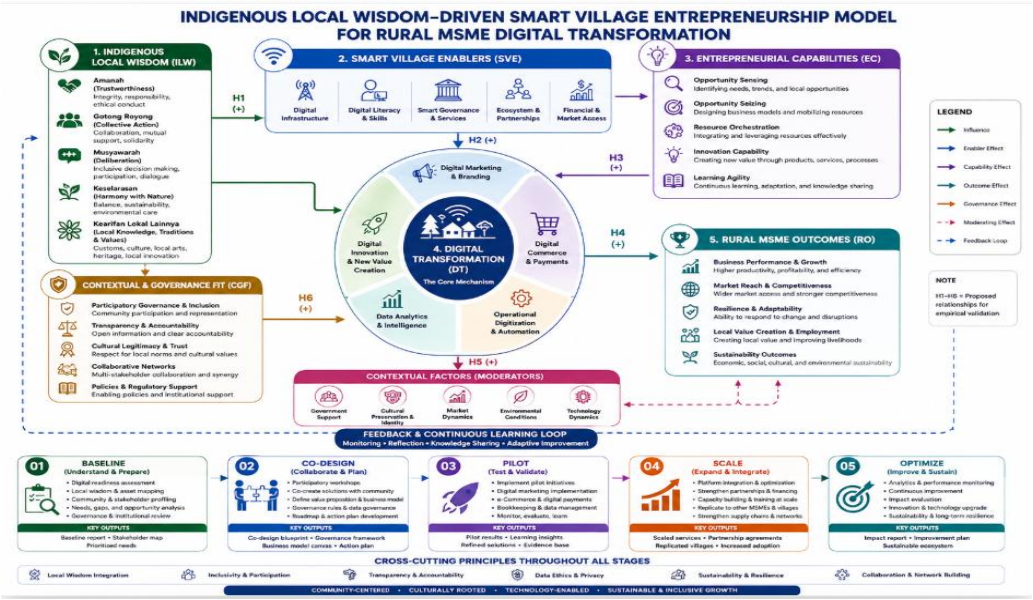


Figure 5. Five-stage implementation roadmap for ILW-SVE-based rural MSME transformation.

Table 5. Implementation roadmap and decision gates.

Stage	Key activity	Decision gate	Example KPI
Baseline	Assess readiness, MSMEs, local wisdom, stakeholders	Is the problem clearly evidenced?	Baseline completeness
Co-design	Agree values, governance, service priorities	Is there community and MSME legitimacy?	Participation rate
Pilot	Test minimum viable digital services	Does the service create usable value?	Active-user rate
Scale	Standardize processes and partnerships	Can the ecosystem sustain expansion?	Adoption and service reliability

Optimize	Use analytics and feedback	Is improvement institutionalized?	Improvement cycle completion

10. Five-Level Maturity Model

The maturity model is designed as a diagnostic tool rather than a ranking system. Level 1, Ad hoc, describes sporadic digital activity dependent on individuals. Level 2, Aware, indicates recognition of digital opportunity but limited process integration. Level 3, Defined, introduces documented processes, roles, and basic governance. Level 4, Managed, uses KPIs, data, and regular review. Level 5, Optimized, institutionalizes continuous improvement, experimentation, learning, and adaptive governance.

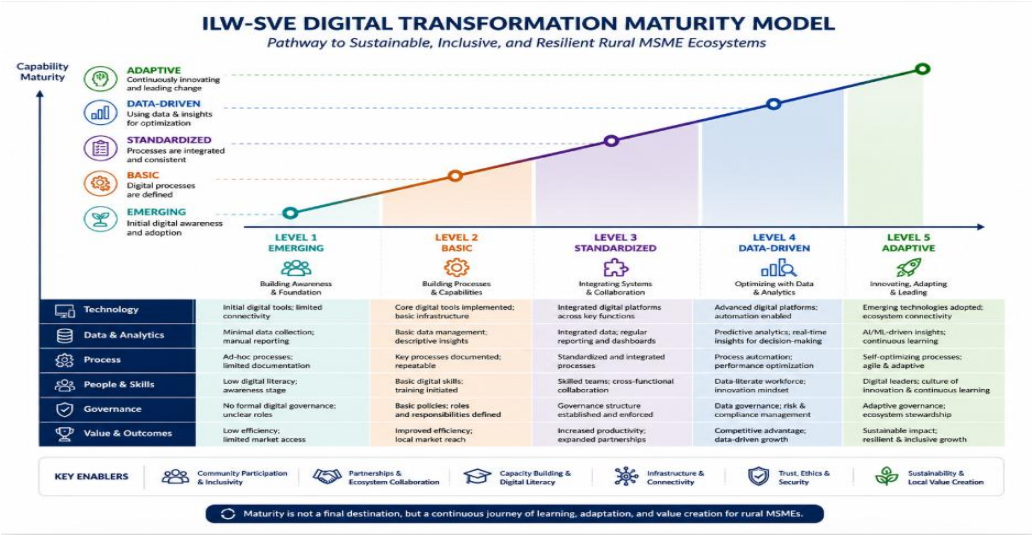


Figure 6. Five-level ILW-SVE digital transformation maturity model.

Maturity should be evaluated across multiple domains rather than with a single score. A village may be Level 4 in governance but Level 2 in analytics. Such a profile is more informative than a single aggregate number because it identifies specific capability gaps.

11. Comparative Positioning and Novelty

The proposed model is differentiated from three common approaches. First, a technology-centric Smart Village model treats infrastructure and digital services as the primary drivers. ILW-SVE instead treats technology as an enabler within a culturally and institutionally embedded ecosystem. Second, a conventional SME digital transformation model emphasizes organizational capabilities but may not explicitly account for village-level governance and indigenous knowledge. ILW-SVE introduces those contextual layers. Third, a local-wisdom marketing model may use cultural identity to differentiate products but does not necessarily explain governance, entrepreneurial capability, and digital transformation. ILW-SVE connects these dimensions.

Table 6. Conceptual positioning of the ILW-SVE model.

Approach	Primary emphasis	Main limitation addressed by ILW-SVE
Technology-centric Smart Village	Infrastructure and digital services	May under-specify cultural legitimacy and MSME capability

SME digital transformation	Technology, organization, capabilities	May under-specify rural governance and local wisdom
Local-wisdom marketing	Identity, authenticity, product differentiation	May under-specify ecosystem and digital transformation mechanisms
ILW-SVE	Culture + governance + entrepreneurship + digital transformation	Integrated rural MSME architecture

12. Theoretical Contributions

The first contribution is to Smart Village theory. The model adds a culturally grounded foundation to existing multi-dimensional Smart Village architectures. Rather than treating local culture as one dimension among many, it proposes that local wisdom can shape the rules through which other dimensions are designed.

The second contribution is to dynamic capability research in rural MSMEs. The model places sensing, seizing, reconfiguring, and learning between enabling conditions and digital transformation. This clarifies why two villages with similar infrastructure may experience different transformation outcomes.

The third contribution is to digital transformation research. The model extends the unit of analysis beyond the individual firm by incorporating village governance, community legitimacy, partnerships, and collective resources. This is particularly relevant where MSMEs are embedded in dense social networks.

The fourth contribution is methodological. The model provides an explicit path from culturally grounded constructs to measurable indicators, propositions, implementation stages, and maturity assessment. This makes the framework suitable for future empirical testing rather than remaining a purely normative discussion.

13. Practical Implications

For village governments, the model suggests that digital transformation programs should begin with problem and stakeholder mapping rather than procurement of applications. Governance rules should identify data ownership, responsibilities, content approval, platform administration, and dispute resolution. For MSMEs, the model suggests prioritizing capabilities that directly support customers, transactions, operations, and decision-making.

For universities and development partners, the model supports a role as capability builders rather than only technology suppliers. Training should combine digital skills with entrepreneurship, financial literacy, data literacy, and cultural-context awareness. For technology providers, the model implies that platforms should support configurable governance, local-language or culturally appropriate content, simple workflows, and data portability.

For researchers, the most important implication is the need to validate local-wisdom constructs empirically. The four illustrative values in this study should not be imposed on communities. They should be tested, refined, or replaced according to local evidence.

14. Ethical and Cultural Governance

Digital transformation can create new risks when indigenous knowledge becomes a digital asset without appropriate community governance. Knowledge may be copied, commercialized, or represented out of context. Therefore, an ILW-SVE implementation should define consent, access rights, attribution, data stewardship, benefit-sharing

principles, and restrictions on sensitive knowledge. The objective is not to maximize digitization but to maximize appropriate and community-legitimate value creation.

This ethical dimension is consistent with recent scholarship on indigenous knowledge systems, which emphasizes the importance of governance and community participation in the digital transition of indigenous knowledge (Mthethwa, 2025). It also aligns with recent evidence that culturally mediated digital transformation requires trust, customary legitimacy, and collaboration (Jabbar et al., 2026).

15. Limitations and Future Research

The principal limitation is that the present paper is conceptual. It does not report original field observations, survey responses, experimental results, or statistical effect sizes. Consequently, the seven propositions should be treated as researchable propositions rather than validated causal relationships. The model also uses four illustrative local-wisdom values that require contextual validation.

Future research should use a multi-stage design. Stage 1 can employ interviews and focus groups to identify locally legitimate wisdom dimensions. Stage 2 can use expert assessment to establish content validity. Stage 3 can develop and pilot a measurement instrument. Stage 4 can conduct quantitative testing across multiple villages. Stage 5 can use longitudinal evidence to assess whether capability and outcome changes persist.

Cross-village comparison is especially important because Smart Village configurations may vary according to economic base, infrastructure, institutional capacity, geography, and cultural context. A model that is robust across different contexts should demonstrate measurement invariance or, where appropriate, explicitly model contextual differences rather than treating them as statistical noise.

CONCLUSION

This study develops the Indigenous Local Wisdom-Driven Smart Village Entrepreneurship (ILW-SVE) model as a context-sensitive architecture for rural MSME digital transformation. The model integrates indigenous local wisdom, Smart Village enablers, entrepreneurial capabilities, digital transformation capabilities, and rural MSME outcomes into a feedback-oriented system.

The central theoretical proposition is that local wisdom should function as a design foundation rather than as a decorative cultural attribute. When translated into governance principles such as trustworthiness, mutual cooperation, deliberative participation, cultural protection, and harmony, local wisdom can shape the legitimacy and sustainability of digital initiatives. Smart Village enablers provide resources, entrepreneurial capabilities convert resources into action, and digital transformation capabilities convert action into new processes and value propositions.

The proposed model offers seven research propositions, a construct-operationalization framework, a five-stage implementation roadmap, and a five-level maturity model. These components provide a basis for future empirical validation. However, the study does not claim causal effectiveness until field data are collected and analyzed. Future research should validate the model across diverse Indonesian rural contexts using qualitative, quantitative, and longitudinal approaches.

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