

INNOVATIVE MANAGEMENT FRAMEWORKS FOR SUSTAINABLE RURAL ENTERPRISES BASED ON DIGITAL TRANSFORMATION AND INSTITUTIONAL RESILIENCE TO ACHIEVE SUSTAINABLE LONG-TERM CHANGE

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ABSTRACT

Our study explores how Village Owned Enterprises (Badan Usaha Milik Desa, or BUM Desa) have become the paradigm for modern management that aims to reveal business sustainability. In making that transformation from mere ‘nameplates’ onto a strong position in the global market, these rural institutions utilize new means of reach through digital-savvy marketing with teaming up and assets-based growth management. Based on the evidence collected by TEKAD and from relevant case studies, we developed a management framework that balances economic and social objectives with environmental stewardship. As it turns out, the way forward for sustainable business is technological leapfrogging, inclusive governance and social versus commercial hybrid.

Keywords: Village-Owned Enterprises (BUM Desa), Digital Transformation, Institutional Resilience, Social-Commercial Hybrid Models, Sustainability (Triple-Bottom-Line)

1. Introduction

The conversation at the world level on business sustainability seems to be focusing more from empowerment of people, to optimizing local opportunities. In Indonesia, this expansion of the business is driven by a public sector institution called BUM Desa as a strategic platform for rural self-reliance-oriented business model transformation. While there has been great growth of this sector from 14,463 in 2015 to over 63,000 by 2020, the structural challenges related to poor governance and lack of market presence have yet to materialize in most of the enterprise as all sectors of it continue to struggle. Management need to embrace innovation to unlock sustainability rather than the profit-only framework, and the triple bottom line approach in the long run with its people, profits and planet to be sustainable.

1.1 Research Questions

Based on the identified challenges of governance, market access, and sustainability in Village-Owned Enterprises (BUM Desa), and grounded in the TEKAD implementation framework, this study is guided by the following research questions:

RQ1: How does digital transformation influence the market performance and sustainability of Village-Owned Enterprises (BUM Desa)?

RQ2: What role does institutional resilience—particularly inclusive governance and transparency—play in strengthening the long-term viability of rural enterprises?

RQ3: How can innovative management frameworks integrating digital transformation and institutional resilience contribute to achieving triple-bottom-line sustainability (economic, social, and environmental) in rural enterprises?

1.2. Research Hypotheses

To empirically and conceptually examine the relationships between management innovation, digitalization, institutional capacity, and sustainability outcomes, the study proposes the following hypotheses:

- H1: Digital transformation has a positive and significant effect on the market expansion and financial performance of Village-Owned Enterprises.
- H2: Institutional resilience, characterized by participatory governance, transparency, and social inclusion, positively influences the sustainability performance of BUM Desa.
- H3: Digital transformation and institutional resilience jointly enhance the achievement of triple-bottom-line sustainability in rural enterprises.
- H4: Institutional resilience mediates the relationship between digital transformation and sustainable enterprise performance.

These hypotheses are consistent with the asset-based and social–commercial hybrid models emphasized in the TEKAD framework and previous empirical findings on rural enterprise development.

1.3. Research Methodology

1.3.1 Research Design

This study adopts a qualitative–embedded mixed-methods approach, combining conceptual framework development with empirical evidence drawn from the TEKAD (Integrated Village Economic Transformation) program and selected BUM Desa case studies across Eastern Indonesia. The research design is descriptive–exploratory, aiming to develop and validate an innovative rural management framework rather than to test a purely econometric model.

1.3.2 Data Sources

The study utilizes multiple data sources to ensure analytical robustness and triangulation:

1. Secondary Data
 - TEKAD project reports (2019–2025)
 - Outcome surveys, monitoring, and evaluation documents
 - Policy documents from the Ministry of Villages, IFAD, and district governments
2. Case Study Evidence
 - Documented best practices from selected BUM Desa (e.g., Panggung Lestari)
 - Digital marketing performance indicators
 - Governance and financial transparency records (OMS–PAN TKD)
3. Stakeholder-Based Assessments
 - Analytical Hierarchy Process (AHP) data capturing stakeholder perceptions of success determinants (human resources, infrastructure, natural resources, institutions)

1.3.3 Variables and Analytical Dimensions

The analytical framework operationalizes three core dimensions:

- Digital Transformation
 - Social media marketing
 - E-commerce integration
 - Digital governance systems
 - AI-driven customer engagement
- Institutional Resilience
 - Participatory governance
 - Gender Equality and Social Inclusion (GESI)
 - Transparency and accountability
 - Social–commercial hybridity
- Sustainability Outcomes
 - Economic viability (market access, income growth)
 - Social equity (inclusive participation, community benefits)
 - Environmental stewardship (climate-smart practices, SECAP)

1.3.4 Analytical Techniques

The study employs the following analytical techniques:

- Thematic Analysis
Used to interpret qualitative evidence from policy documents, case descriptions, and governance practices.
- Descriptive and Comparative Analysis
Applied to evaluate pre- and post-intervention performance across market access, technology adoption, and institutional engagement indicators.
- Multi-Criteria Analysis (AHP)
Utilized to prioritize key determinants of successful rural enterprise sustainability based on stakeholder perceptions.

1.3.5 Ethical and Validity Considerations

All data used in this study are derived from publicly available reports and institutional program documentation. Analytical validity is strengthened through methodological triangulation and cross-referencing multiple data sources. No individual-level confidential data were utilized.

2. Literature Review

Innovative management aspects in rural sustainability. In rural enterprise management, innovation is a shift from reactive, top-down initiatives towards participatory and social-based, asset-based ones.

2.1. Asset-Based Community-Driven Development (ABCD)

Sustainability is about how community resources (human, social, natural, physical and financial) are organized in the workplace as well as which sectors can be exploited to create wealth and development. The ABCD cycle (Discovery, Dream, Design, Define, and Destiny) is based on the idea that we are examining institutional strengths more than

they are about looking to solve problems alone (which we all know). For long-term businesses, this management innovation helps establish communal ownership—this kind of management is what we should always have; it’s the bedrock for long-term resilience of the company.

In the context of the TEKAD management model, these data points represent the weighted importance of different success determinants as perceived by village stakeholders.

Table 2.1 Analytical Hierarchy Process (AHP) Priority Weights

Success Determinant	Priority Weight	Key Indicators	Management Focus
Human Resources	0.318 (31.8%)	Education level, training, public health.	Capacity building and entrepreneurial mindset.
Infrastructure	0.288 (28.8%)	Paved roads, electrification, clean water.	Improving logistical efficiency and market access.
Natural Resources	0.236 (23.6%)	Land area, farming, plantations, forestry.	Exploiting local competitive advantages.
Institutions	0.157 (15.7%)	Participation, village regulations, GESI.	Governance, accountability, and community ownership.

Sumber: data diolah

Data Implementation Context:

Innovative management frameworks utilize these tables to transition from a top-down administrative model to a participatory-digital model. This is achieved through:

- Digital Governance: Transitioning from manual to digital bookkeeping (OMS-PAN TKD) to eliminate financial opacity.
- Asset-Based Development: Using the "Discovery" and "Dream" data from village mapping to identify derivative products with high economic value, such as the processing of Bajawa coffee for export.
- Inhibitor Mitigation: Using data on "Elite Capture" and "Stagnant Units" to mandate inclusive audits and market-driven feasibility studies.

2.2 Use of Local Governance Frameworks in Our Organizations.

Social-Commercial Hybridity And yet BUM Desa is a hybrid that has the unique dual mandate of connecting community service (i.e., clean water, waste management) and commercial efficiency. The dual mandate enables enterprises to recover from market issues with village original revenue and village revenue (PADes). Well-designed cases like BUM Desa Panggung Lestari demonstrate how social innovation (such as giving more money back to scholarships) builds community confidence and confidence in the institution.

2.3 Conceptual Framework

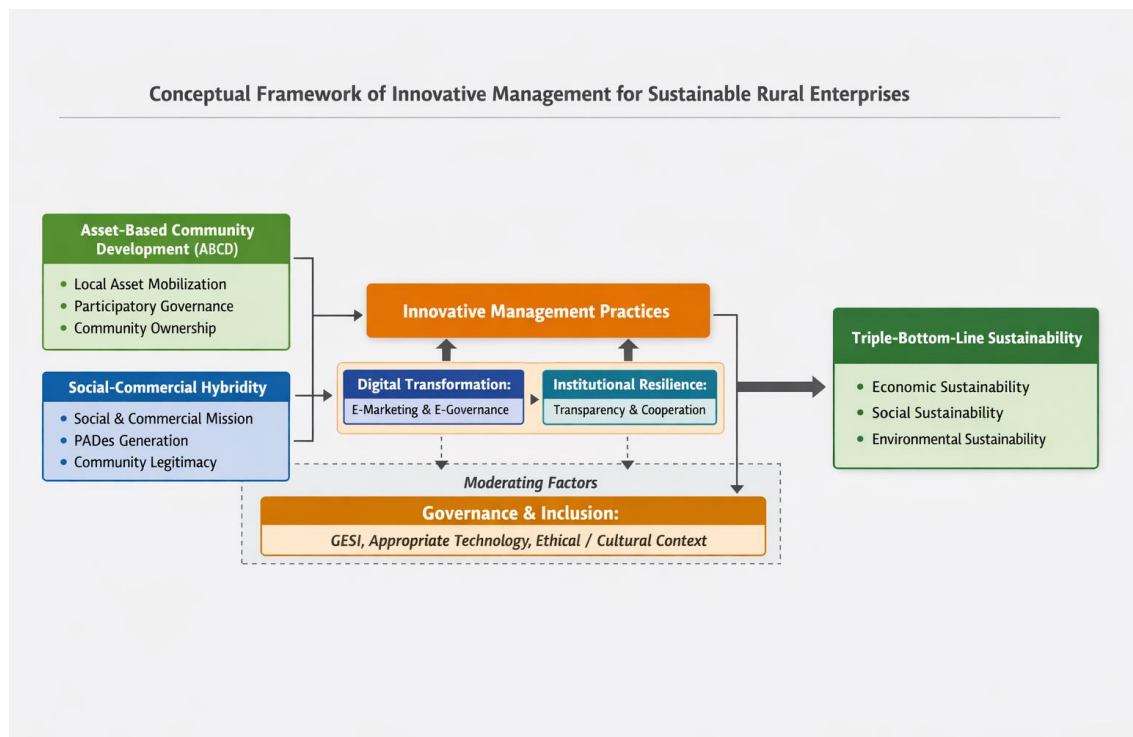


Figure 2.1 Conceptual Framework of Innovative Management for Sustainable Rural Development

This innovative management practices is operationalized through digital transformation and institutional resilience, as good management structures that help to reconcile rural business, geographic isolation, governance imperfections and market vulnerability. Digital technologies for market access and disclosure provide visibility and accountability and institutional stability, and trust. We also have to factor in good governance effectiveness and gender equality and social inclusion (GESI), technological competence and country of origin of decision making to the ecosystem with our rural company’s development as well as culture and social situation. Through the use of such three layers of interaction together, sustainable rural enterprise performance through economic viability, social equity, and environmental responsibilities is achieved.

3. Digital Evolution: Market Expansion Transformation.

One key element supporting modern management is “digital leapfrogging” by rural enterprises to get over geographical isolation.

3.1 A business can only grow if it is going a digital way, to a systematic digital model as its whole, which includes engagement using AI, interactive video marketing and integrations with larger social sites like Tokopedia, Shopee. Digitalization expands the market range

from local place and national one as well as strengthens ‘e-service quality’ quality as well as trust from your customers.

This table outlines the primary conceptual dimensions and variables associated with the digital transformation of Village-Owned Enterprises (BUMDes), as identified in the strategic frameworks and empirical case studies within the source materials.

Table 3.1 Conceptual Dimensions and Variables of Digital Marketing

Dimension	Variables	Indicators of Implementation
Social Media Marketing	Platform Utilization	Active presence and management of professional accounts on high-traffic networks such as Instagram, YouTube, Facebook, and TikTok. (,,,))
	Content Strategy	Deployment of creative storytelling, influencer collaborations, and specialized collections to drive consumer engagement. (,)
	Communication Frequency	Implementation of systematic posting schedules and regular updates to maintain consistent brand awareness and audience interaction. (,,)
E-commerce & Digital Sales	Marketplace Integration	Establishment of official digital storefronts on major marketplaces including Tokopedia, Shopee, and TikTok Shop. (,,,))
	Transactional Ease	Integration of non-cash digital payment systems and QRIS to facilitate seamless and transparent purchasing. (,,)
	Product Cataloging	Development of comprehensive e-catalogs (using tools like Canva) providing detailed specifications, pricing, and unique selling points. (,,)
Digital Branding & PR	Visual Professionalism	Production of high-quality company profile videos and visual learning tools to build consumer and investor confidence. (,,,))
	Digital Public Relations	Strategic use of press releases, online news features, and "Digital Public Relations" to manage and broadcast institutional achievements. (,,)
	Ethical Branding	Integration of "Islamic Branding" or "Halal" identities and ethical standards within digital promotional media to target specific market segments. (,,,))

Dimension	Variables	Indicators of Implementation
Technological Interaction	AI-Driven Engagement	Adoption of Artificial Intelligence interaction tools to enhance customer service responsiveness and personalize guest experiences. (.)
	Interactive Media	Deployment of video marketing and multi-media presentations as persuasive tools superior to static advertising.

Contextual Significance of Table above:

- Mapping the Transformation: Table A provides the taxonomy for the "Digital Transformation" pillar of the innovative management framework, moving BUMDes from sporadic internet use to a systematic digital marketing strategy.
- Overcoming Isolation: These variables are designed to counteract the geographic isolation of rural enterprises, expanding their market outreach radius from local subsistence to national supply chain integration.
- Enhancing Trust: Indicators such as "Visual Professionalism" and "Transactional Ease" directly impact the mediating variable of "Consumer Trust," which empirical data confirms is a primary driver of purchase decisions for village-produced goods.
- Operational Readiness: The table serves as a baseline for the "Digitalization of BUMDes Governance," where marketing efforts are supported by internal digital bookkeeping and reporting systems.

3.2. Digital Governance and Transparency

For the IT world: Digital governance and transparency. Innovation extends to enterprise accounts and Online Monitoring (OMS-PAN TKD). These methods alleviate the threat of “elite capture” and a lack of transparency in terms of auditing the earnings and expenditure of the village and all the data of financial reporting systems (i).

4. Securing Sustainability: And What Is a triple bottom line solution?

In Table we have mapped the sustainability objectives that are aimed at achieving: 30% of the framework would be about increasing income and 80% would be about getting advanced on technology. A comprehensive review for assessment of the economic, social and environmental components of our organization. Putting this at the very beginning of this section makes reference of what all the follow-up and sub-sections (Economic, Social, Environmental Sustainability) will refer back to the targets to a future horizon.

These metrics are used to measure the effectiveness of innovative management in achieving sustainable socioeconomic transformation within the TEKAD framework.

Table 4.1 Strategic Targets and Performance Indicators (2024-2026)

Performance Dimension	Target Metric	Latest Reported Status	Sustainability Goal
Market Expansion	30% increase	30.9% achieved	Transition from local isolation to external supply chains.
Financial Access	30% increase	33.4% achieved	Reducing dependency on grants via banking/microfinance linkages.
Technology Adoption	80% of HHs	80% to 99%*	Adoption of improved inputs and sustainable practices.
Innovation Units	50 RITD Units	50 Established	Peer-to-peer learning and technological leapfrogging.
Village Fund Strategy	30% for Econ.	27.37% (Cumulative)	Shifting fund use from basic infra to productive ventures.
Household Outreach	412,300 HHs	154,975 active	Ensuring social inclusion and broad benefit distribution.

Sustainability in business is not a static state but a dynamic equilibrium across three dimensions.

- **Economic Sustainability:** Achieved through business diversification and the development of high-value derivative products. For example, transitioning from raw fish sales to value-added processing (fish floss) can significantly increase household income.
- **Social Sustainability:** Emphasized through Gender Equality and Social Inclusion (GESI) strategies. Programs that actively involve women and youth in decision-making and production roles ensure that economic gains are equitably distributed.
- **Environmental Sustainability:** Integrated via climate-smart agriculture and the Social, Environmental, and Climate Assessment Procedures (SECAP). BUM Desa are increasingly acting as agents of "Green Structural Transformation," promoting renewable energy and sustainable resource use.

As identified in the strategic planning for the Integrated Village Economic Transformation (TEKAD) program, market expansion is measured through several key indicators focusing on physical access, marketed volume, and institutional linkages.

Table 4.2 Market Expansion and Access Data

Variable Category	Indicator	Target	Reported Status / Achievement	Source
Physical Market Access	Households reporting improved physical access to markets, processing, and storage facilities (%)	30%	30.9% (Outcome Survey 2024)	”

Variable Category	Indicator	Target	Reported Status / Achievement	Source
Physical Market Access	Total number of households reporting improved physical access to markets	49,611	121,505 households	
Marketed Output	Average increase in marketed volume and value of sales of agricultural/marine products (%)	30%	10% (Mid-Term Report)	”
Market Facilitation	Number of districts facilitated with marketing access to national off takers	N/A	7 districts	,
Market Promotion	Number of unique products promoted to potential buyers	N/A	41 products	,
Transaction Value	Transaction value generated from market promotion/business matching	N/A	Rp. 21,973,000	,
Institutional Linkages	Participating districts integrating investment financing for target villages in district plans	20 districts	23 districts	
Economic Scaling	Total additional Output from economic diversification simulation (20-year aggregate)	N/A	Rp 199.5 trillion	

Contextual Analysis of Table above

The data reflects a significant shift from local, isolated production toward integrated market participation. Key findings include:

- **Access Surpassing Targets:** The program has already exceeded its target for physical access to markets, with 30.9% of households reporting improvements against an initial 30% goal,. This is supported by the reach to 121,505 households, significantly higher than the baseline expectation of 49,611.
- **Commercial Vitality:** Strategic marketing efforts have successfully promoted 41 unique village products, generating an initial transaction value of Rp. 21.9 million through business matching.
- **Long-Term Diversification:** Simulation data suggests that over a 20-year period, these diversification and expansion efforts could generate an additional Rp 199.5 trillion in total output for the region.
- **Institutional Commitment:** The engagement of 23 districts in integrating village investment into their formal planning (exceeding the target of 20) ensures the sustainability of these market linkages beyond the initial program intervention.

5. Future Enlightenment Approaches for 2026 and Beyond

The future outlook towards sustainable business in rural sectors for sustainable businesses will be influenced by several key organizational and technological aspects.

5.1 Village Technology Innovation Houses (RITD)

RITD units provide a separate learning space for “Appropriate Technology.” These units support peer-to-peer learning and the adoption of breakthrough technologies such as advanced irrigation techniques and organic fertilizer manufacturing to maintain productivity.

5.2. Integrated Cooperative Systems

The reform by the government in 2026 to design policy based on a "Red and White Village Cooperatives (KDMP) model in rural areas to develop a supply chain to ensure sustainability of the food supply base. In integrating BUM Desa and these cooperatives, the government aims to establish independent food and energy supply chains, thus strengthening the country’s resilience.

5.3. Ethical Branding and Islamic Social Entrepreneurship

On a socio-cultural angle, "Islamic Branding" and philanthropic instruments (Zakat, Waqf) provide more alternative means of funding and ethical difference. It’s through this religiously based framework that we find “economic Jihad,” the purpose of resource quality optimizing and promoting public good.

6. Conclusion

Investing in innovative management is an important process to unpack the meaning and meaning of sustainability in the business. BUM Desa not only has to scale, but has to scale as an international player: but must come to the top when and where it comes to digital literacy, inclusive governance, and ethical innovation. The lesson for all about the future lies in how technology must integrate with a strong belief in human and environmental justice. These kinds of enterprises ultimately serve as a model for inclusive rural transformation and sustainable economic growth throughout government policy and are replicable in every state’s rural community when it comes to rural development and long-term rural development.

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