4% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Quoted Text
- Cited Text
- Small Matches (less than 8 words)

Match Groups

30 Not Cited or Quoted 4%
Matches with neither in-text citation nor quotation marks

0 Missing Quotations 0%
Matches that are still very similar to source material

0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

4% Internet sources
2% Publications
2% Submitted works (Student Papers)

Match Groups

- **30** Not Cited or Quoted 4%
  Matches with neither in-text citation nor quotation marks
- **0** Missing Quotations 0%
  Matches that are still very similar to source material
- **0** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

4% Internet sources
2% Publications
2% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Student papers	
	Liberty University on 2026-08-03	<1%
2	Internet	
	file.techscience.com	<1%
3	Internet	
	www.un.org	<1%
4	Internet	
	arxiv.org	<1%
5	Internet	
	repo.uum.edu.my	<1%
6	Internet	
	pubmed.ncbi.nlm.nih.gov	<1%
7	Student papers	
	The University of Manchester on 2025-08-27	<1%
8	Internet	
	www.mdpi.com	<1%
9	Internet	
	esj.eastasouth-institute.com	<1%
10	Internet	
	www.mairaj.pk	<1%

11	Student papers	Robert Kennedy College on 2026-05-08	<1%
12	Publication	Atsuhisa Tamura, Miki Ikeda, Masahiro Shimada, Akira Yamane. "Tuberculosis du...	<1%
13	Internet	www.ijsser.com	<1%
14	Internet	journals.kmanpub.com	<1%
15	Internet	www.jmir.org	<1%
16	Internet	ajtranslationstudies.de	<1%
17	Internet	e-journal.kemensos.go.id	<1%
18	Internet	ilomata.org	<1%
19	Publication	Mogana S. Flomo, Vinay Kumar Sharma. "Validation of the CEPRES National Trans...	<1%
20	Student papers	University College London on 2025-08-21	<1%
21	Student papers	Universität Bayreuth on 2026-07-13	<1%
22	Student papers	Washington University of Science and Technology on 2026-07-23	<1%
23	Internet	changing-sp.com	<1%
24	Internet	cuadernosdeciencia.blogspot.com	<1%

25 Internet

e-jurnal.staimuttaqien.ac.id <1%

26 Internet

juna.nusantarajournal.com <1%

Adaptive Cooperative Governance Framework: Integrating Law, Society, and Digital Ecosystems for Sustainable and Democratic Governance

Septiana Dwiputrianti[1*], Rozita Arshad[2], Hye Kyoung Lee[3], Nanda Ravenska[4], Reni Wijayanti[5]

*Correspondence Email: septiana.dwiputrianti@poltek.stialanbandung@ac.id

[1,4,5] Department of Administrative Sciences, STIA LAN Bandung Polytechnic, Bandung City, West Java, National Institute of Public Administration of the Republic of Indonesia.
[2] School of Government, College of Law, Government and International Studies Universiti Utara Malaysia 06010, Sintok City, Kedah Darul Aman, Malaysia
[3] Department of Law & Public Administration Myongji University, Republic of Korea 34 Geobukgol-ro, Seodaemun-gu, Seoul City, South Korea

Abstract

Contemporary governance challenges, including institutional fragmentation, social inequality, and rapid digital transformation, require governance approaches that integrate legal and policy institutions, societal participation, and digital innovation. However, existing studies predominantly examine adaptive governance, collaborative governance, digital governance, evidence-based policymaking, and cooperative development as separate domains, providing limited understanding of how these dimensions interact to support sustainable and democratic governance. This study addresses this gap by developing the Adaptive Cooperative Governance Framework (ACGF), an integrated governance framework that connects law, society, and digital ecosystems through cooperative governance. Using a qualitative comparative design based on the Most Different Systems Design (MDSD) approach, the study analyses secondary data from government policy documents, official statistics, international governance indicators, and academic literature across Indonesia, Malaysia, and South Korea. The findings demonstrate that effective governance emerges from the complementary interaction of governance institutions and regulatory frameworks, community empowerment and multi-stakeholder collaboration, and digital ecosystems that enhance transparency, policy coordination, evidence-based decision-making, and cooperative innovation. These interconnected dimensions strengthen inclusive participation, institutional resilience, and democratic accountability while supporting sustainable development. The study advances governance scholarship by proposing the ACGF as a novel conceptual framework that integrates legal, societal, and digital perspectives into a coherent governance architecture. Beyond its theoretical contribution, the framework provides a transferable policy reference for governments and cooperative institutions seeking to strengthen adaptive, participatory, and digitally enabled governance across the Global South and other emerging governance contexts.

Keywords: Adaptive Cooperative Governance Framework (ACGF); Sustainable Governance; Democratic Governance; Digital Ecosystems; Cooperative Governance; Community Empowerment.

1. Introduction

The rapid advancement of digital technology has changed the governance system in various countries in the world (Aryal, 2026; Muttaqin, 2025; Sanduan et al., 2026; Shan, 2026). The government is increasingly relying on digital platforms, big data, artificial intelligence, and integrated information systems to improve policy quality and provide better and transparent public services (Liu et al., 2026; Powell, 2026; Ruggiu & Özdemir, 2025; Sarmas et al., 2026; X. Wang & Xie, 2025). The advent of digital governance has created opportunities for government agencies that are more efficient, transparent, professional and responsive (Chen et al., 2025; Kostka & Bogs, 2026; Stuart et al., 2025; Y. Wang et al., 2026).

Many countries in the Global South continue to struggle with structural poverty, inequality, unemployment, and unequal development (Chen et al., 2025; Kostka & Bogs, 2026; Stuart et al., 2025; Y. Wang et al., 2026). Despite significant investments in digital transformation, the benefits of digitalization often fail to reach vulnerable communities, especially in rural areas (Chen et al., 2025; Kostka & Bogs, 2026; Stuart et al., 2025; Y. Wang et al., 2026). The nexus between digital governance and inclusive development remains a critical challenge for policymakers. Governance models have been developed in a disciplinary tradition rarely tested in the context of public policy. This is characterized by simultaneous poverty, digital inequality, institutional fragmentation, and local economic vulnerability. Contemporary governance is increasingly challenged by the simultaneous pressures of digital transformation, institutional fragmentation, social inequality, and demands for sustainable and democratic governance. Although governments have expanded digital public services and community-based development initiatives, many countries continue to struggle to translate these reforms into inclusive, transparent, and resilient governance outcomes. These challenges are particularly evident in the Global South, where weak institutional coordination, uneven digital capacity, and fragmented policy implementation often limit sustainable development.

The core governance problem is not the absence of digital technologies, community participation, or governance reforms individually, but the lack of an integrated governance architecture capable of connecting legal and policy institutions, societal actors, and digital ecosystems into coherent governance arrangements (Vigoda-Gadot & Mizrahi, 2024). Consequently, governments frequently implement fragmented interventions that improve individual dimensions of governance without addressing their interdependence.

Although these perspectives have significantly advanced governance scholarship, they remain conceptually fragmented. None explicitly explains how governance institutions and policy frameworks (law), community empowerment and stakeholder collaboration (society), and digital ecosystems interact to generate sustainable and democratic governance. This fragmentation limits the capacity of existing theories to explain complex governance challenges that require simultaneous institutional adaptation, social participation, and digital transformation. Recent scholarship also highlights that electronic governance has become an important institutional mechanism for advancing sustainable development by strengthening transparency, policy coordination, and citizen engagement (Lubis et al., 2024).

Indonesia provides an important case to examine this issue. Statistics show the national poverty rate, where around 23.36 million Indonesians are still below the poverty line (2025), with rural poverty rates exceeding urban areas (BPS, 2026). Structural poverty is affected not only by economic limitations but also by institutional weaknesses, unequal access to productive resources, and governance failures. At the same time, Indonesia is experiencing a period of demographic bonus in which the productive age population dominates the national demographic structure. This demographic transition creates opportunities for economic growth but also generates significant pressure on job creation and inclusive development.

Table 1 Indicators of Structural Poverty in Indonesia in 2025

Indicator	Value
Poor Population	23.36 million
National Poverty Rate	8.25%
Rural Poverty	10.72%
Urban Poverty	6.60%

Source :

1. Central Statistics Agency of the Republic of Indonesia (2025)
2. Deputy of the Ministry of Cooperatives of the Republic of Indonesia (2026)

17

Table 1 presents the latest poverty indicators (2025) in Indonesia, where poverty remains a significant development challenge despite continued economic growth. The number of poor people in Indonesia reaches 23.36 million, or 8.25% of the national population. The rural-urban gap is shown with the poverty rate in rural areas reaching 10.72%, compared to only 6.60% in urban areas. These data show that poverty is disproportionately concentrated in rural areas, as access to economic opportunities, public services, infrastructure, and social protection is still relatively limited. Table 2 illustrates the comparative management and maturity of development in the context of 3 countries in Asia, namely Indonesia, Malaysia, and South Korea. Each country faces different but interconnected challenges within existing governance frameworks. Therefore, the selection of the three countries can be described as follows: representing the development spectrum of emerging cooperative governance (Indonesia), to institutionalized cooperative governance (Malaysia), and advanced digital governance (South Korea).

7

Data show that the benefits of economic development have not been evenly distributed across regions and social groups. As a result, the current development model has not achieved fully inclusive growth, especially for vulnerable populations in rural areas. This situation highlights the need for a more adaptive, evidence-based, and collaborative approach to governance that can better address territorial gaps. Therefore, these poverty indicators provide a strong empirical justification for the development of new governance models that aim to promote inclusive and sustainable development outcomes.

Table 2 illustrates the comparison between Indonesia, Malaysia, and South Korea with different levels of socioeconomic development and digital governance maturity. Indonesia faces rural poverty and relatively high development gaps, while Malaysia experiences regional inequality and uneven digital adoption despite stronger economic performance. In contrast, South Korea has achieved advanced digital governance and high human development, but faces challenges related to population aging and rural sustainability. These differences show that development challenges vary in each country; However, all three require a governance system that is adaptive, evidence-based, collaborative, and able to respond to changing socioeconomic conditions. Therefore, comparative evidence supports the need for an integrated governance framework that combines digital transformation, institutional adaptability, and community-based development to achieve inclusive and sustainable development outcomes.

Table 2 Comparative Indicators of Poverty and Development (2024–2025)

Indicator	Indonesia	Malaysia	South Korea
Poverty Rate (%)	8.25	±5.6 *	±14.9**
IPM	0.728	0.807	0.929
GNI per Capita (USD)	±5,000	±13,000	±36,000
Rural Population (%)	42	22	18
Unemployment (%)	4.9	3.2	2.7

Sources:

1. United Nations Development Programme (UNDP, 2024)
2. World Development Report (World Bank, 2024)
3. OECD Economic Outlook (OECD, 2025)

Notes:
*The average national poverty line (Poverty Line Income) is set at RM 2,705 per month (Rp.11,627,258.56/month)
*Income less than 50% of the national median income of KRW 2.78 million to KRW 3.5 million per month (approximately $1,840 to $2,600 USD) or equivalent to IDR 40,530,000 to IDR 41,050,000, especially for the elderly group (66 years and above)

Recognizing these challenges, the Indonesian government has promoted cooperative development as a strategic instrument for community empowerment and poverty alleviation. The Merah Putih Village/Village Cooperative Initiative is one of the most ambitious efforts to strengthen local economic institutions while supporting sustainable rural development. The literature has established some important findings. First, studies on digital governance show that data-driven decision-making can improve policy effectiveness, transparency, and accountability. Second, the evidence-based policy literature emphasizes the importance of integrating reliable data and research findings into the policy-making process. Third, collaborative governance research shows that complex public issues require cooperation between government agencies, communities, private actors, and civil society organizations. Fourth, the cooperative development literature highlights the role of cooperatives in promoting economic inclusion, social capital formation, and community resilience.

The existing literature has examined this domain largely separately and there has been no research on digital governance involving cooperatives as actors in their governance. A key gap in the literature is the absence of an integrated governance framework capable of linking: adaptive governance, collaborative governance, digital governance, evidence-based policy and cooperative development (Zhao et al., 2024). The novelty of this study is digital governance that uses cooperative institutions as the main actors of governance, and incorporate adaptive governance theory; and evidence-based policies on community-based cooperative institutions in rural contexts.

This research is guided by two research objectives. First, it analyzes governance integrating digital transformation, cooperative development, and evidence-based policymaking for poverty alleviation and comparative sustainable development in Indonesia, Malaysia, and South Korea. Second, identify what integrated governance frameworks can be synthesized from comparative lessons in these three countries to address structural poverty and inclusive development challenges in the Global South. To answer these questions, this study uses the Adaptive Cooperative Governance Framework (ACGF) as a new conceptual model that synthesizes Digital Governance, Adaptive Governance, Collaborative Governance, Evidence-Based Policy, and Cooperative Development into an integrated and transferable governance architecture.

Contemporary governance challenges are increasingly characterised by institutional complexity, rapid technological change, and growing demands for inclusive and democratic decision-making. Addressing these challenges requires more than the application of a single governance perspective, as institutional effectiveness depends on the interaction between legal and policy frameworks, societal participation, and digital transformation. Although previous studies have significantly advanced understanding of adaptive governance, collaborative governance, digital governance, evidence-based policymaking, and cooperative development, these perspectives have largely evolved as separate streams of scholarship. Consequently, existing governance theories provide limited explanation of how governance institutions, community actors, and digital ecosystems interact as an integrated system to address multidimensional governance challenges (Lianos et al., 2024). This conceptual fragmentation motivates the development of the Adaptive Cooperative Governance Framework (ACGF) as an integrated governance architecture.

The first foundation of the framework is law, represented by governance institutions, regulatory arrangements, and public policy. Governance institutions establish the formal rules, organisational structures, and accountability mechanisms that shape public decision-making and policy implementation. Within this institutional setting, adaptive governance explains how governments respond to dynamic social, economic, and environmental changes through institutional learning, policy flexibility, and cross-sector coordination. While adaptive governance strengthens institutional resilience, it primarily focuses on governmental capacity and organisational adaptation, offering limited explanation of how community institutions and digital technologies contribute to governance transformation. Therefore, adaptive governance constitutes the institutional pillar of the proposed framework rather than a complete governance solution.

The second foundation is society, where governance is understood as a collaborative process involving governments, communities, civil society organisations, cooperatives, and private actors. Collaborative governance provides the theoretical basis for stakeholder engagement, shared decision-making, and collective problem-solving, recognising that complex public problems cannot be addressed by governments alone. However, collaboration requires institutional mechanisms that empower communities to participate meaningfully in governance processes. In this regard, community empowerment becomes the operational dimension through which social capital, local knowledge, and cooperative participation strengthen governance legitimacy, accountability, and social inclusion. Cooperatives play a particularly important role as intermediary institutions that connect citizens with government while facilitating participatory governance and local development.

The third foundation is digital ecosystems, which enable governance actors to interact through interconnected digital technologies, shared information infrastructures, and data-driven decision-making. Digital governance extends beyond the digitalisation of public services by creating integrated platforms that improve transparency, interoperability, and citizen engagement. Complementing this perspective, evidence-based policymaking ensures that governance decisions are informed by reliable data, continuous monitoring, and systematic policy learning. Together, digital governance and evidence-based policy establish the technological and analytical capabilities required for adaptive governance, allowing institutions to respond more effectively to emerging societal needs while improving policy coordination and accountability.

Building upon these institutional, societal, and technological foundations, cooperative development functions as the integrative mechanism that connects governance institutions, community participation, and digital ecosystems into a coherent governance system. Rather than viewing cooperatives solely as economic organisations, this study conceptualises them as intermediary governance institutions that facilitate collaboration among governments, citizens, and digital platforms. Through their embeddedness within local communities and their capacity to mobilise collective action, cooperatives translate public policies into participatory development processes while simultaneously generating feedback for institutional learning. This intermediary role enables cooperative governance to bridge legal frameworks, societal engagement, and digital innovation within a unified governance architecture.

Accordingly, this study proposes the Adaptive Cooperative Governance Framework (ACGF) as a novel conceptual framework that repositions governance as the dynamic interaction of law, society, and digital ecosystems rather than as isolated institutional or technological interventions. Unlike previous governance models that examine adaptive governance, collaborative governance, digital governance, evidence-based policymaking, or cooperative development independently, the ACGF explains how these dimensions operate as complementary governance mechanisms to foster inclusive, transparent, resilient, and democratic governance. By integrating governance institutions and policy frameworks, community empowerment and stakeholder collaboration, and digitally enabled evidence-based decision-making within cooperative governance, the ACGF advances governance scholarship while providing a transferable framework for addressing complex governance challenges across the Global South and other emerging governance contexts.

Indonesia, Malaysia, and South Korea were selected because they represent contrasting governance contexts while sharing common commitments to cooperative development and digital transformation. Indonesia represents an emerging governance system characterised by large-scale community cooperatives and ongoing digital transformation. Malaysia provides a mature cooperative governance model supported by comprehensive legal and institutional arrangements. South Korea represents an advanced digital governance ecosystem with highly integrated public institutions and technology-enabled cooperative systems. These contrasting characteristics provide an analytically rich basis for identifying complementary governance mechanisms and synthesising a transferable governance framework.

The novelty of this study lies not merely in combining five governance perspectives but in conceptualising cooperatives as intermediary governance institutions that connect legal and policy frameworks, societal participation, and digital ecosystems within a single governance architecture. Unlike previous studies that focus on individual governance dimensions, the Adaptive Cooperative Governance Framework (ACGF) explains how these interconnected mechanisms collectively foster inclusive, transparent, resilient, and democratic governance. This study aims to develop the Adaptive Cooperative Governance Framework (ACGF) by synthesising comparative governance evidence from Indonesia, Malaysia, and South Korea to explain how governance institutions, community empowerment, and digital ecosystems interact to strengthen sustainable and democratic governance.

2. Research Methods

2.1 Research Design

This study employs a qualitative comparative research design to develop the Adaptive Cooperative Governance Framework (ACGF). A qualitative approach was selected because the research seeks to explain the complex interactions among governance institutions, societal actors, and digital ecosystems rather than to test causal relationships or estimate statistical effects. Since the study aims to synthesise governance concepts across different institutional contexts, a qualitative design provides greater flexibility for interpreting governance mechanisms, institutional arrangements, and policy practices that cannot be adequately captured through quantitative indicators alone.

The comparative analysis adopts the Most Different Systems Design (MDSD), which compares countries with distinct political, institutional, and socioeconomic characteristics while identifying governance mechanisms that consistently contribute to sustainable and democratic governance. Indonesia, Malaysia, and South Korea were selected because they represent contrasting stages of governance development, cooperative institutionalisation, and digital transformation, providing an analytically rich basis for developing a transferable governance framework.

2.2 Data Sources

The study relies exclusively on secondary data obtained from credible and authoritative sources to ensure the breadth and reliability of comparative evidence. Data were collected from five categories of sources: (1) national laws, public policies, and official government reports related to cooperative governance and digital transformation; (2) official statistics published by national statistical agencies and government institutions; (3) international governance indicators and development reports produced by organisations such as the United Nations, OECD, and the World Bank; (4) policy documents and institutional reports issued by cooperative organisations; and (5) peer-reviewed academic literature on governance, digital transformation, cooperative development, and evidence-based policymaking. Sources were selected according to four criteria: relevance to the research objectives, institutional credibility, cross-country comparability, and publication recency. The combination of policy documents, statistical evidence, international reports, and scholarly literature enables methodological triangulation while providing complementary perspectives on governance institutions, societal participation, and digital ecosystems.

2.3 Data Analysis

Data analysis was conducted through four sequential stages. The first stage involved qualitative document analysis, in which policy documents, institutional reports, and official publications were systematically reviewed to identify governance arrangements, regulatory frameworks, institutional roles, and digital governance initiatives within each country. The second stage consisted of a structured literature review using peer-reviewed studies to identify the principal concepts, governance theories, and empirical findings related to adaptive governance, collaborative governance, digital governance, evidence-based policymaking, and cooperative development. This stage established the theoretical foundation for the study while identifying conceptual gaps within existing governance literature. The third stage employed thematic analysis to synthesise empirical and conceptual evidence across the three countries.

Governance practices were coded into recurring themes representing institutional governance (law), societal participation (society), and digital ecosystems. Cross-country comparison was then undertaken to identify complementary governance mechanisms, common governance patterns, and context-specific institutional characteristics that informed the development of the proposed framework. The final stage involved conceptual synthesis and framework development. Findings from the comparative analysis were integrated to construct the Adaptive Cooperative Governance Framework (ACGF). Rather than combining governance theories mechanically, the synthesis identified the functional relationships among governance institutions, community empowerment, stakeholder collaboration, digital governance, evidence-based policymaking, and cooperative governance, resulting in an integrated governance architecture that explains how these dimensions collectively strengthen sustainable and democratic governance.

2.4 Framework Validation

The credibility of the proposed framework was enhanced through methodological triangulation, integrating multiple forms of evidence, including policy documents, official statistics, international governance indicators, institutional reports, and peer-reviewed literature. Conceptual consistency was assessed by comparing empirical findings across Indonesia, Malaysia, and South Korea and examining their alignment with established governance theories. The iterative comparison between empirical evidence and theoretical interpretation ensured that the Adaptive Cooperative Governance Framework (ACGF) was grounded in both comparative practice and contemporary governance scholarship, thereby strengthening its analytical robustness and transferability to other governance contexts. To improve the credibility and validity of the conceptual synthesis, the study uses source triangulation by cross-referencing findings from three different data streams: official government documents and national statistics, peer-reviewed academic literature, and international comparative reports from multilateral organizations such as the United Nations Development Programme, the World Bank, and the OECD. Convergence across these independent sources is used as an indicator of analytical reliability. If inconsistencies are identified between data sources, these are explicitly noted and interpreted rather than resolved through selective reporting (United Nations, 2024) .

Table 3 Most Different System Designs

Selection Dimensions	Indonesia	Malaysia	South Korea
Cooperative Development Stage	Large-scale village cooperative initiative (Kopdes Merah Putih)	Institutions, 16,000+ registered cooperatives, a mature regulatory framework	A sophisticated and digitized digital cooperative ecosystem (NACF)
Primary Development Challenges	Rural poverty and institutional fragmentation	Regional productivity gap and uneven digital adoption	Population ageing and rural depopulation
HDI Levels	Medium (0.728)	High (0.807)	Very High (0.929)
Geographical & Cultural Relevance	Southeast Asia, the Global South context	Southeast Asia, a middle-income transition	East Asia, a comparative benchmark of developed economies
Justification for Participation	Represent the key policy context and	Provide a mid-level governance model with	Provide advanced digital governance benchmarks for

Selection Dimensions	Indonesia	Malaysia	South Korea
	empirical anchor of the research	transferable institutional lessons	aspirational comparisons

Source: BPS (2026); World Bank (2024); Hamzah & Yusoff (2025); OECD (2024)

The selection of Indonesia, Malaysia, and South Korea follows the logic of Most Different Systems Design (MDSD), as proposed by (Brown & Cumbers, 2026). In MDSD, cases were deliberately chosen because they differed across key structural dimensions, in this study, the level of economic development, digital governance maturity, and cooperative institutional capacity, but it had the same governance challenge: the need for an adaptive, inclusive, and evidence-based institutional response to development pressures. The underlying logic is that if governance patterns or lessons are found to converge in a variety of structurally different cases, they are more likely to be strong and transferable to other contexts in the Global South.

3. Results and Discussion

3.1 Divergent Governance Contexts and Shared Institutional Challenges

The comparative findings reveal that Indonesia, Malaysia, and South Korea possess markedly different levels of economic development, institutional capacity, cooperative maturity, and digital governance. Nevertheless, all three countries face a common governance problem: existing institutional arrangements do not consistently translate national policy capacity into inclusive and sustainable outcomes at the local level. The significance of this finding lies not merely in the presence of different development challenges, but in the institutional mechanisms that reproduce them.

Indonesia combines a large cooperative movement and extensive village-based development initiatives with persistent rural poverty, fragmented information systems, and uneven implementation capacity. These gaps arise partly from the dispersion of authority across government levels, variation in local administrative capacity, weak interoperability among public databases, and the limited managerial capability of many community-based organisations. Consequently, national programmes may achieve broad organisational coverage without ensuring equivalent quality, accountability, or economic performance across locations. This condition reduces the effectiveness of cooperative development because formal institutional expansion is not always accompanied by adaptive learning, reliable monitoring, or meaningful community participation.

Table 4 Comparative Socioeconomic and Governance Contexts

Dimension	Indicator	Value
Poverty	National poverty rate	8.25%
Territorial inequality	Rural poverty	10.72%
Territorial inequality	Urban poverty	6.60%
Demography	Productive-age population	64.61%
Cooperative capacity	Active cooperatives	131,617
Cooperative participation	Members	Approximately 30 million
Village initiative	Kopdes Merah Putih target	83,369 villages/urban villages

Source: Compiled by the authors from the World Bank (2025), United Nations Development Programme (2025), United Nations E-Government Survey (2024), Badan Pusat Statistik (BPS, 2025), Department of Statistics Malaysia (DOSM, 2024), and Statistics Korea (KOSTAT, 2024).

Table 4 demonstrates that the three countries differ substantially in socioeconomic development and institutional maturity. However, these differences do not correspond directly to governance effectiveness. Indonesia continues to experience rural poverty despite an extensive cooperative movement, Malaysia exhibits institutional stability alongside regional disparities, while South Korea combines advanced digital governance with demographic decline. These findings indicate that governance performance depends not solely on economic development but on the interaction among institutional capacity, community participation, and digital ecosystems (Vigoda-Gadot & Mizrahi, 2024).

Malaysia presents a more institutionalised cooperative governance system supported by established regulation, supervision, auditing, and capacity-building arrangements. However, the persistence of regional productivity gaps and uneven digital adoption demonstrates that regulatory maturity alone does not guarantee equitable outcomes. Cooperatives in less developed and rural areas frequently operate with weaker digital infrastructure, lower managerial capacity, limited financial literacy, and narrower market access. The underlying problem is therefore not an absence of policy, but unequal organisational capacity to use existing policy and digital opportunities. This finding suggests that standardised governance arrangements must be complemented by differentiated support, regional adaptation, and continuous evidence-based assessment.

South Korea offers the strongest digital governance and cooperative modernisation among the three cases. Its integrated information infrastructure, open-data capacity, and digitally enabled cooperative systems improve coordination, monitoring, market intelligence, and organisational responsiveness. Nevertheless, population ageing, rural depopulation, and metropolitan concentration continue to threaten the long-term sustainability of local communities. These challenges indicate that advanced technology cannot compensate entirely for declining community participation, labour shortages, and weakening local social structures. Digital governance improves institutional efficiency, but its developmental impact depends on the continued presence of capable local institutions and socially embedded forms of collaboration.

22

The comparison therefore challenges a linear assumption that institutional maturity or digital advancement automatically produces inclusive governance. Indonesia demonstrates the limits of large-scale community mobilisation without sufficiently integrated institutions and data. Malaysia demonstrates the limits of regulatory institutionalisation without equal adaptive and digital capacity. South Korea demonstrates the limits of advanced digitalisation when demographic and territorial conditions weaken the social foundations of local governance. Across the three cases, governance effectiveness depends on the alignment of formal institutions, societal capacity, and digital ecosystems rather than on the strength of any single component.

These contrasting governance contexts provide the analytical foundation for examining how different governance mechanisms contribute to the development of the Adaptive Cooperative Governance Framework.

3.2 Structural Development Challenges as Governance Failures

The development challenges identified in the three countries should not be interpreted solely as economic or demographic problems. They also reflect failures of coordination, representation, adaptation, and institutional learning. In Indonesia, persistent rural poverty indicates that economic growth and national poverty-reduction programmes have not fully addressed unequal access to productive assets, markets, finance, public services, and digital infrastructure.

The urban–rural poverty gap therefore reveals a territorial governance problem: public interventions remain insufficiently integrated with locally embedded institutions capable of identifying community needs, mobilising resources, and sustaining collective economic activity.

Indonesia's demographic structure further illustrates this governance challenge. A large working-age population may create opportunities for productivity and entrepreneurship, but the demographic dividend is conditional rather than automatic. Without employment creation, skills development, access to finance, and viable local economic organisations, demographic potential may instead intensify unemployment, informal work, and inequality. Cooperatives can help connect productive-age populations with markets and collective enterprises, but only when they possess adequate management, accountable leadership, digital access, and policy support. Thus, demographic opportunity strengthens the rationale for cooperative governance while simultaneously exposing the weaknesses of treating cooperatives merely as programme-delivery units.

Table 5 Cooperative Capacity and Kopdes Merah Putih Implementation

Dimension	Indicator	Value
Cooperative base	Active cooperatives	131,617
Membership	Cooperative members	Approximately 30 million
Economic capacity	Cooperative assets	IDR 293 trillion
Economic activity	Business volume	IDR 214 trillion
Institutional scope	Target villages and urban villages	83,369
Programme base	Existing cooperative units	79,402
Infrastructure target	Planned development sites	35,000
Implementation progress	Completed sites	6,083

7

Source: Compiled by the authors from the Ministry of Cooperatives of the Republic of Indonesia (2025) and Badan Pusat Statistik (2025).

The Indonesian experience demonstrates that expanding cooperative numbers alone is insufficient to strengthen governance. Large-scale institutional expansion without adaptive management, accountability, digital monitoring, and community participation risks producing organisational fragmentation rather than sustainable development. Indonesia therefore contributes the community empowerment dimension of the proposed ACGF.

Malaysia's regional disparities similarly demonstrate that national institutional strength can coexist with uneven local development. Central regulation creates policy consistency, yet a uniform framework may inadequately respond to differences in infrastructure, economic structure, organisational readiness, and digital capability. The implication is that institutionalisation must be accompanied by adaptive governance. Policy authorities need mechanisms to identify regional differences, allocate support according to organisational need, and revise interventions based on performance evidence rather than applying identical instruments across heterogeneous settings.

In South Korea, rural ageing and depopulation represent a different form of structural governance pressure. These trends reduce the membership base, leadership regeneration, labour supply, and social capital required to sustain local cooperative institutions. Although digital platforms can reduce transaction costs and improve service access, they cannot independently recreate community trust or replace declining local participation. This finding highlights the societal boundary of digital governance: technology is most effective when it reinforces, rather than substitutes for, functioning community institutions.

Taken together, these findings demonstrate that complex development problems arise from interactions among institutional, social, technological, economic, and demographic factors. Sectoral approaches are therefore unlikely to be sufficient. Poverty policy without community institutions may remain administratively fragmented; cooperative policy without accountability may permit elite capture; digitalisation without inclusion may reinforce existing disparities; and collaboration without reliable data may produce symbolic rather than effective participation. The ACGF is developed in response to this interdependence.

3.3 Cooperatives as Intermediary Governance Institutions

A central finding of the study is that cooperatives should not be understood exclusively as economic organisations. Across the three cases, cooperatives potentially perform an intermediary governance function by connecting government policy, community interests, market opportunities, and digital systems. Their locally embedded membership structures enable them to mobilise collective resources, communicate community needs, organise economic participation, and provide institutional channels through which policies can be translated into locally relevant action.

Indonesia demonstrates the potential scale of this intermediary role. The extensive cooperative movement and the development of village cooperatives create institutional access points for employment generation, enterprise development, financial inclusion, and public programme delivery. However, scale also increases governance risks. Rapid organisational expansion without strong member participation, professional management, independent oversight, and digital monitoring may produce inactive organisations, administrative compliance without economic viability, or local elite domination. Accordingly, the Indonesian case contributes community-based reach to the ACGF but also establishes the need for accountability safeguards and adaptive capacity-building.

Malaysia contributes the importance of legal and institutional consolidation. Its cooperative system illustrates how regulation, auditing, national policy, supervision, and structured development programmes can strengthen organisational continuity and public legitimacy. Yet the uneven capacity of cooperatives to respond to digital transformation shows that regulation must not become static or excessively uniform. The Malaysian experience therefore informs the ACGF by demonstrating that law and governance institutions provide necessary stability, while adaptive and differentiated implementation is required to maintain inclusion across regions.

South Korea contributes the digital and evidence-based dimensions of cooperative governance. Digitally integrated cooperative systems support financial transactions, market information, supply-chain coordination, organisational monitoring, and faster institutional response. These capabilities show how digital ecosystems can strengthen the intermediary function of cooperatives by linking local members to national information and market systems. However, the demographic pressures affecting rural areas confirm that technological sophistication remains dependent on social participation and institutional legitimacy. The South Korean case therefore offers both an advanced benchmark and a warning against technological determinism.

The comparative evidence consequently supports a reconceptualization of cooperative development. Cooperatives become governance institutions when they do more than conduct collective business: they create mechanisms for participation, accountability, resource coordination, policy implementation, and feedback between communities and public institutions. Their effectiveness depends on whether these mechanisms are legally supported, socially legitimate, managerially capable, and digitally connected.

Table 6 Institutional Characteristics of Cooperative Governance

Dimension	Indonesia	Malaysia	South Korea
Governance model	Community-based	Institutionalised	Federated
Legal arrangement	Decentralised	Centralised	Integrated
Digital integration	Emerging	Moderate	Advanced
Community participation	High	Moderate	High
Institutional role	Community empowerment	Regulatory coordination	Market integration

Source: Developed by the authors based on the Ministry of Cooperatives of the Republic of Indonesia (2025), Malaysia Cooperative Societies Commission (SKM, 2024), National Agricultural Cooperative Federation (NACF), Republic of Korea, and relevant cooperative governance literature.

Table 6 demonstrates that cooperative governance across Indonesia, Malaysia, and South Korea is characterised by distinct institutional arrangements rather than different stages of a single governance model. Indonesia relies on community-based cooperatives operating within a decentralised governance structure, providing broad opportunities for local participation but also creating variations in institutional capacity, accountability, and implementation quality. Malaysia adopts a more institutionalised and centrally coordinated cooperative system supported by comprehensive regulatory oversight, although regional disparities in organisational readiness and digital adoption remain evident. In contrast, South Korea has developed a highly integrated cooperative governance model in which cooperatives operate as strategic intermediary institutions supported by advanced digital ecosystems, strong legal frameworks, and coordinated public institutions. These institutional differences indicate that cooperative effectiveness is shaped not only by organisational scale or regulatory maturity but also by the capacity to integrate legal institutions, community participation, and digital governance into coherent governance arrangements. Consequently, the comparative evidence suggests that cooperative governance should be understood as an adaptive institutional mechanism capable of connecting state, society, and digital ecosystems rather than merely as an economic organisation.

3.4 From Comparative Findings to the ACGF

The Adaptive Cooperative Governance Framework is derived from the complementary strengths and unresolved weaknesses identified across the three cases. It is not constructed by mechanically combining adaptive governance, collaborative governance, digital governance, evidence-based policymaking, and cooperative development. Instead, the framework specifies how these elements perform distinct but interdependent functions within an integrated governance architecture. The law and institutional dimension respond to the need for regulatory legitimacy, policy coherence, accountability, and organisational stability. Malaysia's institutionalised cooperative system illustrates the importance of this foundation, while Indonesia's uneven local implementation shows the consequences of institutional fragmentation. However, fixed legal arrangements are insufficient under changing technological, demographic, and economic conditions. For this reason, adaptive governance is incorporated as the mechanism through which institutions learn, revise policy instruments, differentiate support, and respond to contextual change.

The societal dimension addresses the need for meaningful participation, collective ownership, and local legitimacy. Indonesia's community-based cooperative reach demonstrates the potential of locally embedded organisations, whereas the governance risks associated with low participation and elite capture reveal that formal membership does not automatically constitute democratic governance. Collaborative governance and community empowerment are therefore included to ensure that citizens, cooperative members, government institutions, civil society, and market actors participate in shared problem-solving and can influence decisions rather than merely receive programmes.

The digital ecosystem dimension responds to fragmented information, unequal service access, weak monitoring, and limited institutional learning. South Korea demonstrates how integrated digital systems can improve coordination and evidence use, while Malaysia and Indonesia reveal how unequal digital capability can reproduce territorial and organisational disparities. Digital governance and evidence-based policymaking are therefore designed as mutually reinforcing mechanisms: digital infrastructures generate and connect information, while evidence-based processes convert information into policy learning, performance assessment, and adaptive decisions.

Cooperative governance integrates these dimensions by positioning cooperatives as intermediary institutions linking formal policy systems, societal actors, and digital platforms. Within the ACGF, cooperatives are neither substitutes for government nor simple beneficiaries of policy. They operate as relational institutions that implement public objectives, organise community participation, mobilise economic resources, generate local evidence, and communicate feedback to policymakers. The framework therefore explains governance effectiveness as the outcome of alignment among three interconnected foundations:

1. legally legitimate and adaptively capable institutions;
2. empowered communities and collaborative stakeholder relationships; and
3. inclusive digital ecosystems supporting evidence-based decisions.

Where one foundation is weak, the others cannot fully compensate. Strong regulation without community capability may produce formal compliance but weak ownership. Community mobilisation without legal accountability may increase capture and organisational instability. Digital systems without accessible infrastructure and trusted institutions may widen exclusion. The novelty of the ACGF lies in explaining these complementarities and identifying cooperative governance as the institutional mechanism through which they can be connected.

Table 7 Comparative Digital-Governance Capacity and Cooperative Relevance

Country	Governance strength	Underlying governance gap	Contextual cause	Contribution to ACGF
Indonesia	Large community-based cooperative network	Fragmented data, uneven local capacity, rural poverty	Decentralised implementation and variable institutional capability	Community empowerment, adaptive capacity, integrated data
Malaysia	Mature regulation and cooperative oversight	Regional productivity and digital-capacity gaps	Unequal organisational readiness and market access	Legal stability, differentiated support, institutional adaptation
South Korea	Advanced digital governance and	Ageing, depopulation,	Demographic concentration and	Digital integration, real-time evidence,

Country	Governance strength	Underlying governance gap	Contextual cause	Contribution to ACGF
	cooperative systems	weakening rural participation	declining local social base	community regeneration

Source: Compiled by the authors from the United Nations E-Government Survey 2024, OECD Digital Government Index, official digital-government publications of Indonesia, Malaysia, and the Republic of Korea, and the National Agricultural Cooperative Federation (NACF), Republic of Korea.

Table 7 indicates that digital maturity differs considerably across the three countries. However, stronger digital infrastructure alone does not guarantee more inclusive governance. South Korea demonstrates how integrated digital ecosystems strengthen policy coordination and organisational responsiveness, whereas Indonesia and Malaysia reveal that unequal digital readiness may reinforce territorial and institutional disparities. Consequently, digital governance contributes to the ACGF not merely through technological innovation but by enabling evidence generation, institutional learning, and adaptive decision-making.

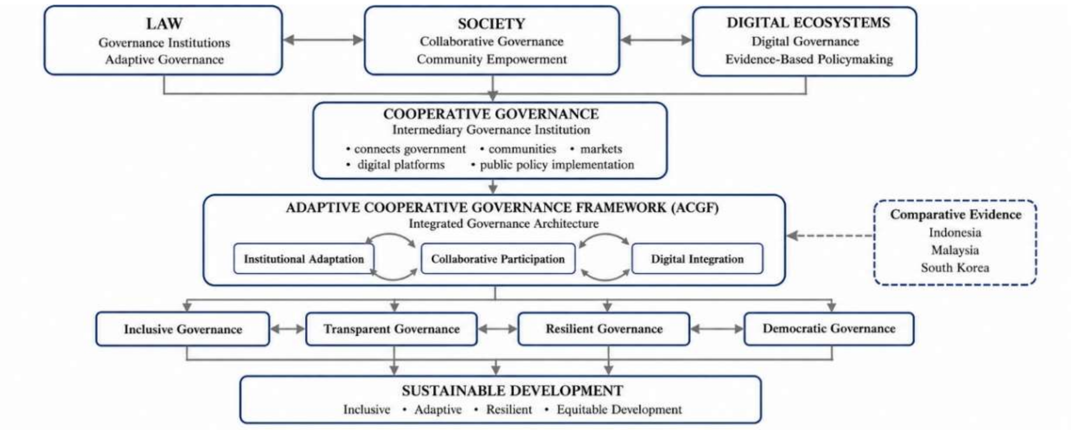

Fig. 1 Adaptive Cooperative Governance Framework (ACGF)
Source: Develop by Authors based on comparative governance findings from Indonesia, Malaysia and South Korea

Figure 1 illustrates the Adaptive Cooperative Governance Framework (ACGF) developed from the comparative analysis of Indonesia, Malaysia, and South Korea. The framework conceptualises governance as the interaction of law, society, and digital ecosystems, rather than as separate institutional dimensions. Law provides institutional legitimacy and adaptive governance, society strengthens collaborative governance and community empowerment, while digital ecosystems support digital governance and evidence-based policymaking. These three governance foundations converge through cooperative governance, which functions as an intermediary institution connecting governments, communities, markets, and digital platforms. Their integration forms the ACGF, generating inclusive, transparent, resilient, and democratic governance that collectively supports sustainable development. The framework therefore demonstrates that governance effectiveness depends on the alignment of institutional, societal, and digital capacities rather than the strength of any single governance dimension.The conceptual relationships illustrated in Figure 1 are grounded in the comparative findings of this study. To demonstrate how empirical evidence informed the development of each governance dimension, table 8 synthesises the principal governance strengths, institutional gaps, and their respective contributions to the Adaptive Cooperative Governance Framework (ACGF) across Indonesia, Malaysia, and South Korea.

Table 8 Comparative Governance Findings and Their Contributions to the Adaptive Cooperative Governance Framework (ACGF)

ACGF foundation	Institutional mechanism	Comparative evidence	Governance function	Expected governance outcome
Law	Governance institutions, regulation, adaptive policy	Malaysia's regulatory system; Indonesia's institutional fragmentation	Legitimacy, policy coherence, accountability, adaptation	Resilient and accountable governance
Society	Collaborative governance and community empowerment	Indonesia's village cooperative reach; participatory rural initiatives	Participation, local ownership, collective action	Inclusive and democratic governance
Digital ecosystems	Digital governance and evidence-based policymaking	South Korea's integrated systems; Malaysia's dashboards; Indonesia's emerging platforms	Transparency, coordination, monitoring, learning	Transparent and responsive governance
Integrative mechanism	Cooperative governance	Comparative role of cooperatives as intermediary institutions	Connecting state, community, market, and data	Sustainable and adaptive governance

15 Source: Developed by the authors based on the comparative analysis of Indonesia, Malaysia, and the Republic of Korea using official government publications, the United Nations E-Government Survey 2024, and national cooperative reports.

Table 8 demonstrates that each country contributes a distinct governance capability to the ACGF rather than representing superior or inferior governance systems. Indonesia primarily strengthens community empowerment and adaptive capacity, Malaysia contributes institutional stability and regulatory coherence, while South Korea provides digital integration and evidence-based governance. Collectively, these complementary governance capabilities illustrate that sustainable governance emerges from the interaction among legal institutions, societal participation, and digital ecosystems. The comparative synthesis therefore provides the empirical justification for positioning cooperative governance as the integrative mechanism within the proposed Adaptive Cooperative Governance Framework. These findings directly address the second research objective by demonstrating how comparative governance evidence informed the development of the Adaptive Cooperative Governance Framework.

3.5 Contributions to Sustainable and Democratic Governance

The ACGF contributes to sustainable governance by enabling institutions to respond to long-term economic, demographic, social, and technological change. Adaptive learning reduces the risk that policies remain fixed while local conditions evolve. Evidence-based monitoring supports more efficient resource allocation and earlier identification of implementation failures. Cooperative institutions support local economic resilience by retaining collective resources and organisational capabilities within communities.

Its democratic contribution derives from the integration of participation, transparency, and accountability. Cooperative membership can provide a structured channel for citizen involvement, but democratic value depends on genuine member control, open access to information, representative leadership, and mechanisms preventing elite capture. Digital platforms can widen access to organisational information and facilitate monitoring, although they must be designed to avoid excluding citizens with limited digital literacy or connectivity. Democratic governance within the ACGF is therefore substantive rather than merely procedural: it requires that affected communities possess both opportunities and capabilities to influence collective decisions. The framework also clarifies that sustainability and democracy are mutually reinforcing. Sustainable policies require social legitimacy and continued community participation, while democratic institutions require economic and organisational capacity to remain functional over time. By connecting legal authority, societal participation, and digital evidence through cooperative institutions, the ACGF offers a governance arrangement that is inclusive, transparent, resilient, and responsive.

The comparative findings demonstrate that governance effectiveness cannot be explained by institutional capacity, digital transformation, or community participation independently. Instead, sustainable governance emerges from the interaction among these dimensions.

Table 9 Governance Logic of the Adaptive Cooperative Governance Framework (ACGF)

Foundation	Core Function	Outcome
Law	Institutional legitimacy	Adaptive governance
Society	Collective participation	Inclusive governance
Digital Ecosystems	Evidence integration	Transparent governance
Cooperative Governance	Governance coordination	Institutional resilience
ACGF	System integration	Sustainable and democratic governance

Source: Authors' synthesis based on comparative analysis of Indonesia, Malaysia, and South Korea.

Table 9 explains the governance logic underpinning the Adaptive Cooperative Governance Framework (ACGF) by illustrating how each governance foundation performs a complementary institutional function within an integrated governance architecture. Rather than presenting additional comparative evidence, the table clarifies the causal pathways through which legal institutions, societal participation, digital ecosystems, and cooperative governance interact to produce sustainable and democratic governance. Law provides institutional legitimacy, adaptive regulation, and policy coherence; society contributes collaborative participation and community empowerment; while digital ecosystems enhance transparency, evidence generation, and continuous policy learning. Cooperative governance functions as the intermediary mechanism that integrates these three governance foundations by facilitating coordination among governments, communities, markets, and digital platforms. Consequently, the ACGF conceptualises governance not as a sequence of independent interventions but as a dynamic system in which institutional adaptation, collaborative participation, and digital integration reinforce one another to generate inclusive, resilient, transparent, and democratic governance outcomes. Collectively, these governance mechanisms explain why the ACGF should be understood as an integrated governance architecture rather than a combination of independent governance approaches, providing the conceptual basis for its adaptation across different governance contexts.

3.6 Contextual Conditions and Limits of Transferability

The comparative findings support the analytical relevance of the ACGF beyond the three cases, but they do not justify assuming universal or automatic transferability. Indonesia, Malaysia, and South Korea differ significantly in political-administrative systems, regulatory traditions, state capacity, digital infrastructure, economic development, social trust, demographic conditions, and cooperative history. These contextual differences affect both the feasibility and likely outcomes of implementing the framework.

First, the legal status and autonomy of cooperatives vary across national systems. In settings where cooperatives are heavily controlled by the state, their intermediary role may be weakened because community accountability is replaced by administrative dependence. Conversely, weak regulation may expose cooperatives to elite capture, financial mismanagement, and loss of public trust. Application of the ACGF therefore requires a balance between public oversight and organisational autonomy.

Second, community participation depends on cultural and institutional conditions. High levels of social trust and established traditions of collective organisation can support cooperative governance, whereas fragmented communities or histories of programme failure may reduce participation. Community empowerment must therefore be treated as a gradual institutional process rather than assumed as an existing resource.

Third, digital readiness varies substantially within and between countries. Applying the digital dimension of the ACGF requires basic connectivity, interoperable information systems, data protection, digital literacy, and institutional capability to interpret evidence. Where these conditions are absent, gradual or hybrid digital arrangements may be more appropriate than immediate platform integration.

Fourth, political commitment and administrative continuity influence institutional adaptation. Short electoral cycles, policy instability, overlapping mandates, and inter-agency competition may obstruct long-term cooperative development. ACGF implementation therefore requires clear authority, policy coherence, sustainable financing, and mechanisms that preserve learning across political and administrative transitions.

These conditions mean that the framework should be adapted rather than replicated. Countries facing severe rural poverty may initially emphasise community empowerment and cooperative economic capacity. Countries with mature institutions but regional inequality may prioritise differentiated support and collaborative regional governance. Highly digitalised countries confronting demographic decline may focus on institutional adaptation and the renewal of community participation. The ACGF consequently offers a common governance logic, but the sequence, intensity, and institutional form of its components must reflect local conditions.

8 Finally, the findings are based primarily on comparative secondary evidence and conceptual synthesis rather than uniform primary data collected within the three countries. The analysis therefore identifies plausible governance mechanisms but does not establish causal effects. Further research should test the relationships proposed by the framework through field studies, stakeholder interviews, comparative case analysis, and quantitative or mixed-method designs. Such validation is necessary before making definitive claims about the framework's effectiveness across different political and institutional settings.

4. Conclusion

This study developed the Adaptive Cooperative Governance Framework (ACGF) to address the conceptual fragmentation that characterises contemporary governance literature. Drawing upon comparative evidence from Indonesia, Malaysia, and South Korea, the findings demonstrate that sustainable and democratic governance cannot be achieved through institutional reform, community participation, or digital transformation in isolation. Instead, governance effectiveness depends on the dynamic interaction between governance institutions and legal frameworks (law), collaborative participation and community empowerment (society), and digital ecosystems that support evidence-based policymaking. These complementary dimensions are integrated through cooperative governance, which functions as an intermediary governance institution connecting governments, communities, markets, and digital platforms.

The comparative analysis further reveals that each country contributes distinct governance capabilities to the proposed framework. Indonesia highlights the importance of community empowerment and adaptive local institutions, Malaysia demonstrates the value of institutional legitimacy and regulatory coherence, while South Korea illustrates how integrated digital ecosystems strengthen policy coordination and organisational learning. Rather than representing competing governance models, these experiences collectively provide the empirical foundation for the ACGF, showing that effective governance emerges from the alignment of institutional, societal, and digital capacities rather than the dominance of any single governance dimension.

The principal theoretical contribution of this study is the reconceptualisation of cooperative governance as an intermediary governance institution rather than merely an economic organisation. Unlike previous studies that examine adaptive governance, collaborative governance, digital governance, evidence-based policymaking, and cooperative development as separate perspectives, the ACGF integrates these governance dimensions into a coherent governance architecture linking law, society, and digital ecosystems. This integrated perspective advances governance scholarship by providing a transferable conceptual framework capable of explaining how institutional adaptation, collaborative participation, and digital integration collectively strengthen inclusive, transparent, resilient, and democratic governance.

From a practical perspective, the ACGF offers a policy reference for governments, cooperative institutions, and development agencies seeking to strengthen governance in the Global South and other emerging governance contexts. Rather than prescribing a uniform governance model, the framework provides a flexible governance logic that can be adapted according to different institutional capacities, socioeconomic conditions, and levels of digital maturity while maintaining the integration of legal institutions, societal participation, and digital ecosystems.

This study is subject to several limitations. The framework is derived from comparative secondary evidence and conceptual synthesis rather than primary empirical investigation; therefore, it identifies plausible governance mechanisms without establishing causal relationships. In addition, the comparative analysis is limited to Indonesia, Malaysia, and South Korea, which, although selected through the Most Different Systems Design, cannot fully represent the diversity of governance contexts across the Global South.

Future research should empirically validate the Adaptive Cooperative

Governance Framework through comparative case studies, stakeholder interviews, and quantitative or mixed-method approaches. Further studies may operationalise the governance dimensions proposed in the ACGF to examine their relationships with governance performance, cooperative effectiveness, poverty reduction, and sustainable development outcomes across different political, institutional, and digital contexts. Such empirical validation would strengthen both the explanatory power and the practical applicability of the framework.

Acknowledgements

The authors thank Politeknik STIA LAN Bandung, Universiti Utara Malaysia, Myongji University, and the International Conference on Sustainable and Democratic Governance (ICOSDEG 2026) for their institutional and academic support. The authors also acknowledge the public institutions and international organisations that provide the official data used in this study.

Authorship Statement

All authors meet the ICMJE authorship criteria, contributed substantially to this study, approved the final manuscript, and accept responsibility for its content.

Author Contributions

Septiana Dwiputrianti contributed to the conceptualization, methodology, formal analysis, writing of the original draft, and supervision of the study. Rozita Arshad contributed to the investigation, validation, and manuscript review and editing. Hye Kyoung Lee contributed to the investigation, comparative analysis, and manuscript review and editing. Nanda Ravenska contributed to data curation, formal analysis, visualization, and manuscript review and editing. Reni Wijayanti contributed to data curation, validation, and manuscript review and editing. All authors reviewed, approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data Availability

The comparative governance data supporting this study are available in an open-access repository (Figshare/Zenodo, DOI to be provided upon publication). The repository includes processed comparative data, metadata, and methodological documentation used to develop the Adaptive Cooperative Governance Framework (ACGF).

Declarations

Ethics Approval and Consent to Participate

Ethics approval and consent to participate were not required because this study used only publicly available secondary data and official documents, with no involvement of human participants or personal data.

Consent for Publication

Not applicable.

Competing Interests

The authors declare that they have no competing interests.

References

Aryal, A. D. (2026). Federalism in Nepal: Cultural Transformation, Governance Challenges, and Opportunities for Inclusive Development. *THE ACADEMIA*, *6*(1 SE-Research Articles), 12–25. https://doi.org/10.3126/ta.v6i1.90315

BPS. (2026). *Persentase Penduduk Miskin (P0) Menurut Provinsi dan Daerah (Persen), 2025*. Badan Pusat Statistik. https://www.bps.go.id/id/statistics-table/2/MTkyIzI=/persentase-penduduk-miskin--p0--menurut-provinsi-dan-daerah.html

Brown, G., & Cumbers, A. (2026). Mobilising for local energy democracy in the United States: confronting political lock-in and private capture in the campaign for public power. *Cambridge Journal of Regions, Economy and Society*, rsag014. https://doi.org/10.1093/cjres/rsag014

Chen, Z., Celik, S. E., & Sarkis, J. (2025). A systematic review of academic literature for blockchain application in government and public service. *Journal of Enterprise Information Management*, *39*(1), 381–409. https://doi.org/10.1108/JEIM-03-2024-0150

Kostka, G., & Bogs, A. (2026). The Expanding Digital Reach of the Chinese State: Digital Governance in China. *Regulation & Governance*, *20*(1), 3–17. https://doi.org/https://doi.org/10.1111/rego.70078

Lianos, I., Eller, K. H., & Kleinschmitt, T. (2024). Towards a Legal Theory of Digital Ecosystems. In *Amsterdam Centre for Transformative private law Working Paper* (Issue 16). https://doi.org/10.2139/ssrn.4849340

Liu, M., Xiao, R., Ran, Y., & Wang, Y. (2026). Demand-driven dynamics and evolutionary patterns of graduate employment in China based on recruitment big data. *Acta Psychologica*, *263*, 106298. https://doi.org/https://doi.org/10.1016/j.actpsy.2026.106298

Lubis, S., Purnomo, E. P., Lado, J. A., & Hung, C.-F. (2024). Electronic governance in advancing sustainable development goals through systematic literature review. *Discover Global Society*, *2*(1), 77. https://doi.org/10.1007/s44282-024-00102-3

Megawati, S., Pradana, G. W., Eprilianto, D. F., Hamsinah, H., & Syamsul, M. R. (2025). Synergistic modelling of green and digital local government on sustainable development performance: a case study of booming city. *Journal of Modelling in Management*, *21*(1), 215–241. https://doi.org/10.1108/JM2-10-2024-0343

Muttaqin, M. (2025). Digital transformation – the panacea for Indonesian railway. *Journal of Public Budgeting, Accounting & Financial Management*, *38*(1), 197–215. https://doi.org/10.1108/JPBAFM-12-2024-0268

OECD. (2025). *OECD Economic Outlook: Resilient Growth but with Increasing Fragilities* (OECD Economic Outlook, Vol. 2025, Issue 118). OECD Publishing. https://doi.org/10.1787/9f653ca1-en

Powell, A. B. (2026). Deceptive Stories About Scale: Digital Technology, Public Services, and the Promise of Efficiency. *International Journal of Communication*, *20*, 397–416. https://doi.org/10.65476/65vw6a46

Ruggiu, D., & Özdemir, B. (2025). Behind the AI's Gaze: Generative Artificial Intelligence, Microworkers and Digital Slavery. *NanoEthics*, *20*(1), 2. https://doi.org/10.1007/s11569-025-00489-6

Sanduan, H. Y., Madubun, J., & Bahasoan, A. (2026). Digital Transformation and Work Culture Change in Public Administration : Evidence from Indonesia. *Jurnal Illmiah Global Education (JIGE)*, *7*(1), 278–290.

Sarmas, E., Lucas, A., Acosta, A., Ponci, F., Rodriguez, P., & Marinakis, V. (2026). A federated Artificial Intelligence testing and experimentation facility for the European energy sector. *Engineering Applications of Artificial Intelligence*, *164*, 113400. https://doi.org/https://doi.org/10.1016/j.engappai.2025.113400

Shan, Y. (2026). Digital platforms and the transformation of crime governance. *The Journal of Chinese Sociology*, *13*(1), 1. https://doi.org/10.1186/s40711-025-00252-0

UNDP. (2024). Human Development Report 2023-2024. In *UNDP (United Nations Development Programme)*. http://report2023-24.hdr.undp.org.s3-website-us-east-1.amazonaws.com/,

United Nation. (2024). *E-Government Survey 2024: Accelerating Digital Transformation for Sustainable Development*.

Vigoda-Gadot, E., & Mizrahi, S. (2024). The digital governance puzzle: Towards integrative theory of humans, machines, and organizations in public management. *Technology in Society*, *77*, 102530. https://doi.org/https://doi.org/10.1016/j.techsoc.2024.102530

Wang, X., & Xie, F. (2025). Global artificial intelligence governance research in the digital and intelligent era: advances, trends and countermeasures. *Journal of Knowledge Management*, *30*(1), 30–68. https://doi.org/10.1108/JKM-01-2025-0006

Wang, Y., Umair, M., Oskenbayev, Y., & Saparova, A. (2026). Digital government initiatives for sustainable innovations, digitalization, and emission reduction policies to balance conservation impact. *Natural Resources Forum*, *50*(1), 502–526. https://doi.org/https://doi.org/10.1111/1477-8947.12570

World Bank. (2024). *World Development Report 2024: The Middle-Income Trap*. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-2078-6

Zhao, G., Hui, X., Lu, Y., & Zhang, Y. (2024). Progress in adaptive governance research and hotspot analysis: a global scientometric visualization analysis. *Discover Sustainability*, *5*(1), 234. https://doi.org/10.1007/s43621-024-00435-8