



INFORMATION TECHNOLOGY-BASED COLLABORATIVE GOVERNANCE INNOVATION IN PUBLIC SERVICES

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Abstract :

This research endeavors to investigate and dissect innovations in information technology-enabled collaborative governance as a means to augment the caliber of public services within Indonesia. In an era characterized by digital advancements, the provision of public services that are both effective and efficient remains a paramount societal expectation, thereby underscoring the need for a collaborative governance framework bolstered by the judicious application of information technology. This inquiry adopts a systematic literature review (SLR) approach, consulting scholarly publications, policy assessments, and official governmental records. The findings suggest that the incorporation of information technology into the collaborative governance paradigm leads to a substantial improvement in citizen engagement, transparency, accountability, and the operational effectiveness of governmental services. Key advancements identified encompass unified e-government frameworks, inter-agency cooperative data systems, and digital citizen feedback mechanisms. The research further highlights significant obstacles to adoption, specifically the disparity in digital access, administrative inertia, and inadequate technological infrastructure in geographically isolated regions. These conclusions are anticipated to offer substantial contributions to the formulation of public service strategies in Indonesia that are more equitable, adaptable, and forward-thinking, while simultaneously outlining a course toward practical remedies with tangible societal benefits.

Keywords: cooperative administration, information technology, public sector services, electronic government, advancement

INTRODUCTION

In the context of expanding globalization and rapidly advancing digital capabilities, national administrations globally are tasked with providing public services that are characterized by increased speed, enhanced transparency, and greater public involvement. Indonesia, a developing country with a population exceeding 270 million and an intricate administrative framework, necessitates novel methodologies for managing public services to effectively address the continuously changing demands of its populace.

Collaborative governance represents a strategy wherein diverse stakeholders, including governmental bodies, private enterprises, non-governmental organizations, academic institutions, and the broader community, engage in joint decision-making and the provision of public services (Ansell & Gash, 2008). This paradigm posits that intricate public sector issues are beyond the capacity of any single entity to resolve, instead demanding concerted effort and alignment across various sectors.

Information technology (IT) functions as a catalyst that can strengthen the framework of collaborative governance. Digital infrastructure, interconnected



information systems, and web-based applications facilitate improved communication, synchronization, and joint efforts among stakeholders in the governance ecosystem. E-government is more than the simple conversion of services to digital formats; it signifies a profound alteration in the methods by which governmental bodies engage with both the public and other organizations (Mergel, 2016).

Nevertheless, the adoption of IT-driven collaborative governance advancements in Indonesia persists in confronting substantial impediments. The disparity in digital access between urban and rural regions, diverse skill levels among public servants, and the compartmentalization of information systems across different entities constitute considerable hurdles. This study aims not only to produce novel scholarly contributions but also to identify avenues for practical resolutions that can yield tangible advantages for the populace.

In light of the preceding information, this research proposes the subsequent inquiries: (1) What are the prevailing frameworks for IT-enabled collaborative governance innovation within Indonesia's public sector? (2) Which elements facilitate and impede its adoption? (3) What policy proposals could enhance the effectiveness of implementing these innovations?

Theoretical Framework

1. Collaborative Governance

Collaborative governance is characterized by Ansell and Gash (2008) as a framework within which public entities actively involve non-governmental parties in a structured process for shared decision-making. This process is formal, seeks agreement, encourages discussion, and is intended for policy formulation or the administration of public initiatives and resources. The definition highlights five central components: (1) the public sector initiates the platform; (2) non-governmental entities are participants; (3) participants directly contribute to decision-making; (4) the platform is established formally; and (5) the objective is to achieve decisions through mutual agreement.

A more extensive Integrative Framework for Collaborative Governance was established by Emerson, Nabatchi, and Balogh in 2012. This framework integrates the governance system, the dynamics of collaboration, and the actions taken collaboratively. The model posits that effective collaborative governance is contingent upon the caliber of discourse, the trust among participants, a collective dedication, and a unified comprehension of the matters being addressed.

2. Information Technology and E-Government

Information technology regarding governance has progressed from simply automating administrative tasks to a tool for transforming governance. The United Nations (2020) describes e-government as the application of information and communication technologies by the public sector to enhance the delivery of information and services, promote citizen engagement in decision-making, and increase government accountability, transparency, and efficiency.

Layne and Lee (2001) delineate four phases of e-government evolution: (1) cataloguing, which entails the availability of online information; (2) transactions,

which encompasses web-based public services; (3) vertical integration, relating local to national government; and (4) horizontal integration, which involves connectivity across government functions. Indonesia is presently positioned at the junction of the third and fourth stages.

3. Innovation in Public Services

Public service innovation entails deliberate and original modifications in the procedures, offerings, or organizational strategies of public organizations, aimed at enhancing effectiveness and societal influence (Bason, 2010). Innovation doesn't always mean new technological breakthroughs; it can also refer to novel methods of organizing services, involving citizens, or addressing shared challenges.

Fagerberg (2005) differentiates between incremental innovation, which involves gradual enhancements to current methods, and radical innovation, which fundamentally alters paradigms. Within the realm of digital public services, numerous innovations are incremental but produce considerable effects when incorporated into a collaborative governance framework.

RESEARCH METHOD

This research utilizes a qualitative method based on systematic literature review (SLR) techniques. This approach was chosen because it facilitates a thorough examination of existing studies to uncover patterns, trends, and knowledge gaps related to IT-driven collaborative governance innovation.

Data sources consist of scientific journals listed in Sinta, Scopus, and Web of Science published from 2015 to 2024, official policy documents from the Indonesian government, reports from international organizations (UNDP, World Bank, OECD), and case studies on e-government implementation in different areas of Indonesia. Search terms consist of combinations such as: collaborative governance, e-government, information technology, public services, digital innovation, and Indonesia.

The process for selecting literature adheres to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Out of an initial collection of 487 articles found through primary searches, selection was made based on subject relevance, research quality, and contextual suitability, resulting in 52 articles for detailed examination. Thematic analysis techniques were employed to examine data and uncover recurring key themes.

RESULTS AND DISCUSSION

Could you please provide the text you'd like me to paraphrase? Innovative Models of IT-Enabled Collaborative Governance

Through the analysis of literature, three main models of IT-driven collaborative governance innovation in Indonesian public services emerged:

1. Unified E-Government System This model is defined by the unification of multiple government services into one digital ecosystem available to citizens, government bodies, and private collaborators. The Electronic-Based Government System (SPBE), governed by Presidential Regulation

No. 95 of 2018, symbolizes the official expression of this model. In reality, public service portals like PeduliLindungi (later evolved into SatuSehat), LAPOR!, and different regional government service systems showcase the capability for cross-platform integration.

2. Collaborative Information Network Across Agencies This model highlights the importance of data sharing and interoperability of systems among government agencies. The National Data Center (PDN), which is presently being built, together with Indonesia's unified data policy established by Presidential Regulation No. 39 of 2019, creates the basis for an optimal cooperative information network. A study by Prasetyo and Wahyudi (2021) revealed that organizations adopting data sharing practices achieved a 34% increase in service efficiency.
3. Digital Citizen Engagement and Civic Technology The third model regards citizens as proactive participants in the collaborative governance framework via reporting apps, online deliberation platforms, and technology-driven feedback systems. An illustrative instance is the JAKI (Jakarta Kini) app, which allows residents of Jakarta to report urban problems instantly, later handled by appropriate authorities through an organized coordination framework.

Driving Factors of Implementation

Various elements influencing the effective establishment of IT-supported collaborative governance innovation were recognized from the literature. Initially, a firm commitment from political leadership has shown to be the key determining factor. Regional leaders possessing a distinct digital vision and ready to budget for technological transformation foster a supportive environment for innovation (Taufiq & Priyatno, 2020).

Secondly, sufficient access to technology infrastructure. Areas with elevated internet access and robust telecommunications systems show quicker rates of adopting e-government. Programs like Palapa Ring, which links fiber optic networks throughout the archipelago, act as a crucial infrastructure facilitator. Third, the human resource capabilities of civil servants. Kusumasari et al. (2022) found a notable positive relationship between civil servants' digital skills and the success of implementing IT-driven collaborative governance. Extensive digital transformation training initiatives are essential to develop this capability. Fourth, an encouraging regulatory framework and a consistent policy environment. A transparent legal structure regarding personal data protection, public information access, and system interoperability standards offers assurance for all participants in the collaborative governance network.

Barriers and Challenges to Implementation

Even with several accomplishments, the adoption of IT-driven collaborative governance innovation in Indonesia still encounters major structural obstacles. The digital gap between urban and rural regions poses the most essential difficulty. Data from the Central Statistics Agency (Badan Pusat Statistik, 2023) reveals that merely 68.5% of households in Indonesia have internet access, showing considerable differences between Java (79.3%) and Papua (42.1%).

Bureaucratic opposition represents a second obstacle that must not be disregarded. Restrictive organizational cultures, siloed thinking among agencies, and worries regarding transparency and accountability often hinder the authentic execution of collaborative governance. Cultural transformation in the bureaucracy takes significantly longer than technological transformation. Financial limitations, especially within local and municipal administrations, restrict investment in technological infrastructure and the enhancement of human resource capabilities. The division of digital budgets among different spending categories further complicates thorough strategic planning for digital transformation.

Cybersecurity risks and safeguarding data have become ever more urgent issues. Numerous occurrences of public data breaches over the past decades highlight the necessity for a more structured enhancement of information security governance.

Case Studies: Best Practices in Indonesia

Location	Innovation	Technology	Impact
DKI Jakarta	JAKI - Smart City Citizen App	Mobile App, GIS, Big Data	Complaint response < 24 hours
Surabaya	Regional Management Information System (SIMDA)	ERP, Cloud, API	40% bureaucratic efficiency gain
Bandung	Bandung Command Center	IoT, Dashboard Analytics	Real-time city management
Banyuwangi	Digital One-Stop Service Portal	Web Portal, e-Sign	Contactless public services
Surakarta	e-Musrenbang Participatory Planning	Online System, GIS	60% increase in citizen participation

Table 1. Best Practices of IT-Based Collaborative Governance Innovation in Indonesia

Development Model Framework

Drawing from a synthesis of multiple results, this research develops the IT-Based Collaborative Governance Innovation Framework (KICG-TI), which includes four interconnected dimensions. The primary dimension is digital infrastructure, which includes connectivity, data centers, cybersecurity, and standards for interoperability. The second dimension refers to actor capacity, encompassing the digital skills of civil servants, the digital literacy within communities, and the capabilities of the private sector.

The third dimension encompasses collaboration platforms, which include integrated service portals, data-sharing systems, digital participation tools, and feedback channels. The fourth dimension represents the policy ecosystem, which includes regulatory support, quality standards for services, mechanisms for oversight, and incentives for innovation. These four dimensions interact in a dynamic way and mutually support each other in establishing an effective

collaborative governance ecosystem.

CONCLUSION

Sure! Please provide the text you would like me to paraphrase. Findings This research concludes that innovation in collaborative governance through IT is essential for enent, transparency, accountability, and the effectiveness of government services.

The three recognized innovation models integrated e-government systems, inter-agency collaborative information networks, and civic technology emphasizing citizen participation show significant promise, but necessitate implementation strategies that are contextually relevant and suited to local circumstances. Success in implementation is primarily influenced by leadership dedication, infrastructure preparedness, workforce capability, and a unified policy framework.

The main obstacles recognized digital gap, bureaucratic opposition, and financial limitations require organized and cohesive policy actions. This research asserts that IT-driven collaborative governance innovation transcends a technological focus, representing a socio-technical change that requires a fundamental shift in how government perceives and fulfills its responsibilities.

Drawing from the research results, a number of strategic policy suggestions are put forward. The central government must enhance interoperability standards and data uniformity among agencies by revising and bolstering the Single Data Indonesia Presidential Regulation. Secondly, funding for digital transformation should be raised and strategically allocated, especially to districts and cities with constrained financial resources.

Third, programs for developing digital competency among civil servants should be included in the national bureaucratic reform priority agenda. Fourth, incentive systems ought to be created for local governments that effectively adopt IT-driven collaborative governance innovations, such as innovation contests and digital transformation accolades. Fifth, the civic technology ecosystem ought to be enhanced via collaborations with universities, tech communities, and civil society groups.

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