

Research Article

Collaborative Governance in Digital Licensing Services in Batam

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Abstract: This study examines the implementation of collaborative governance in digital licensing services in Batam, a strategic investment hub and Free Trade Zone characterized by complex institutional arrangements. The research aims to analyze how collaborative governance mechanisms contribute to the effectiveness of digital licensing services and to identify factors that facilitate or constrain stakeholder collaboration. A qualitative case study approach was employed, utilizing semi-structured interviews, observations, and document analysis. Data were analyzed using thematic analysis based on the collaborative governance framework, which includes face-to-face dialogue, trust building, commitment to the collaborative process, shared understanding, and intermediate outcomes. The findings indicate that collaborative governance plays a crucial role in supporting digital licensing services by strengthening communication, fostering trust among stakeholders, improving institutional coordination, and facilitating joint problem-solving. Although challenges related to data integration, regulatory synchronization, and organizational capacity remain, collaborative practices have contributed to greater service efficiency, transparency, and accessibility. The study concludes that successful digital licensing services depend not only on technological innovation but also on effective collaboration among stakeholders, highlighting the importance of collaborative governance as a foundation for sustainable digital public service delivery.

Keywords: Collaborative Governance; Digital Government; Digital Licensing Services; Public Service Innovation; Stakeholder Collaboration.

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1. Introduction

The emergence of digital technologies has fundamentally reshaped public sector governance, prompting governments worldwide to modernize administrative systems and improve service delivery through digital transformation initiatives. In recent years, digital government has become an essential strategy for enhancing efficiency, transparency, accountability, and responsiveness in public administration (Dellyana et al., 2023). The integration of information and communication technologies into government operations is increasingly viewed as a means of addressing bureaucratic inefficiencies while improving the quality and accessibility of public services (Bellone et al., 2021; Djatmiko et al., 2025). Among the various areas undergoing digital transformation, business licensing services have become a critical focus because of their direct influence on investment activities, economic growth, and regional competitiveness.

Recognizing the importance of a conducive business environment, the Indonesian government has implemented significant regulatory and administrative reforms in licensing services through the Online Single Submission Risk-Based Approach (OSS-RBA) (Salsabila & Purnomo, 2017). This system was introduced as part of broader efforts to streamline bureaucratic procedures, reduce regulatory complexity, and create a more investment-friendly environment. By utilizing a risk-based framework, OSS-RBA seeks to simplify permit issuance

processes while ensuring regulatory compliance according to the level of business risk. The adoption of this digital licensing platform reflects Indonesia's commitment to strengthening public service innovation and accelerating digital governance across multiple sectors.

The effectiveness of digital licensing systems is particularly important in regions that rely heavily on investment-driven economic development. Batam City represents a notable example due to its strategic position as one of Indonesia's leading industrial and trade centers. As a Free Trade Zone (FTZ) located near major international markets such as Singapore and Malaysia, Batam plays a significant role in attracting domestic and foreign investment (Fan et al., 2024; Negara & Hutchinson, 2020). The city has consistently demonstrated strong economic performance, supported by manufacturing industries, logistics activities, and international trade. The increasing volume of investment entering Batam has intensified the demand for licensing services that are efficient, transparent, and capable of accommodating the needs of business actors in a rapidly evolving economic environment.

To support investment facilitation, various digital licensing initiatives have been implemented in Batam through the integration of the national OSS-RBA platform with local licensing systems managed by relevant authorities. The involvement of multiple institutions, including the Batam Indonesia Free Trade Zone Authority (BP Batam), local government agencies, investment service offices, and sectoral regulators, has created a complex governance environment in which coordination and collaboration are essential. Although digital platforms have improved service accessibility and reduced procedural barriers, the implementation of digital licensing services continues to face several challenges related to institutional coordination, technological adaptation, regulatory harmonization, and stakeholder engagement (Kwon et al., 2024).

Existing evidence suggests that the transition toward digital licensing systems is often accompanied by operational and governance-related obstacles (Dellyana et al., 2023; Hermana & Silfianti, 2018). These challenges include differences in institutional priorities, inconsistencies in regulatory interpretation, technical limitations of digital platforms, and varying levels of digital readiness among stakeholders. In addition, business actors frequently encounter difficulties when navigating licensing requirements that involve multiple agencies operating under different regulatory frameworks. Such conditions indicate that the success of digital licensing reforms depends not only on technological infrastructure but also on the capacity of stakeholders to work collaboratively in managing complex administrative processes.

The growing complexity of public service delivery has increased scholarly interest in collaborative governance as a framework for addressing cross-sectoral and inter-organizational challenges. Collaborative governance emphasizes collective decision-making processes that involve government agencies, private sector organizations, civil society actors, and other relevant stakeholders in pursuing shared public objectives (Li et al., 2018; Nadeau & Koebele, 2023). Rather than relying solely on hierarchical authority, collaborative governance promotes cooperation, mutual trust, information sharing, and joint problem-solving among actors who possess different resources, responsibilities, and interests. This approach is particularly relevant in policy areas characterized by institutional fragmentation and interdependence, where no single organization possesses sufficient authority or capacity to achieve desired outcomes independently.

Within the context of digital licensing services, collaborative governance provides an important analytical lens for understanding how various stakeholders coordinate their actions to deliver integrated and effective public services (Zuhdi et al., 2023). The implementation of digital licensing systems in Batam requires continuous interaction among national government institutions, local administrative agencies, BP Batam, business communities, and technology providers. Effective collaboration among these actors is necessary to ensure regulatory alignment, data integration, service interoperability, and responsiveness to user needs. Consequently, the quality of collaborative relationships may significantly influence the overall performance and sustainability of digital licensing initiatives.

Despite the growing body of literature on digital government and public service innovation, studies examining licensing reforms have predominantly focused on technological adoption, regulatory effectiveness, and service quality outcomes (Kholis et al., 2021; Vernanda Handini et al., 2024). Research addressing the collaborative dimensions of digital licensing governance remains relatively limited, particularly in regions with unique institutional arrangements such as Batam. Existing studies have provided valuable insights into the implementa-

tion of digital licensing platforms; however, insufficient attention has been devoted to understanding how collaborative processes shape service delivery outcomes and facilitate coordination among diverse stakeholders involved in licensing administration.

This gap in the literature highlights the need for a more comprehensive examination of collaborative governance within digital licensing services. Given Batam's strategic importance as an investment destination and its distinctive governance structure involving multiple authorities, the city provides a valuable setting for investigating the dynamics of collaboration in digital public service delivery. Therefore, this study aims to explore the implementation of collaborative governance in digital licensing services in Batam by analyzing stakeholder interactions, collaborative processes, and institutional arrangements that influence service performance. The findings are expected to contribute to the advancement of collaborative governance and digital government scholarship while offering practical recommendations for policymakers and public administrators seeking to strengthen digital service delivery in investment-oriented regions..

2. Literature Review

Collaborative Governance

The growing complexity of public problems has challenged the capacity of individual government agencies to independently design and implement effective solutions. Contemporary governance increasingly requires the involvement of diverse stakeholders, including public institutions, private organizations, community groups, and civil society actors (Maulana, 2020; Pasape et al., 2013). This shift has contributed to the emergence of collaborative governance as a governance paradigm that emphasizes collective action and shared responsibility in addressing public issues. Collaborative governance is founded on the assumption that sustainable policy outcomes are more likely to be achieved when stakeholders actively participate in decision-making processes and contribute their respective resources, expertise, and perspectives (Maulana, 2020). Rather than relying solely on hierarchical authority, collaborative arrangements encourage dialogue, consensus-building, and joint problem-solving among actors with different interests and institutional backgrounds. The effectiveness of such arrangements depends on the development of trust, mutual commitment, effective communication, and a shared understanding of common goals.

Scholars have argued that collaborative governance is particularly relevant in policy environments characterized by institutional fragmentation and interdependence. When multiple organizations possess overlapping responsibilities, collaboration becomes an essential mechanism for reducing coordination failures and improving policy implementation. Therefore, collaborative governance offers an appropriate theoretical framework for examining public services that involve numerous actors and interconnected administrative processes.

Digital Transformation and Public Service Delivery

The adoption of digital technologies has significantly altered the manner in which governments interact with citizens and businesses. Digital transformation within the public sector extends beyond the introduction of new technologies; it involves fundamental changes in organizational processes, service delivery mechanisms, and institutional relationships (Arantes et al., 2020). Governments increasingly utilize digital platforms to simplify administrative procedures, improve transparency, and enhance accessibility to public services. In licensing administration, digital transformation aims to replace conventional bureaucratic procedures with integrated electronic systems capable of processing applications more efficiently (Montoya et al., 2015). Such initiatives are expected to reduce transaction costs, minimize procedural delays, and improve user experiences. Furthermore, digital platforms can strengthen accountability by providing clearer information regarding licensing requirements and application status.

Although digital licensing systems provide opportunities to improve efficiency, their implementation frequently involves multiple institutions with distinct mandates and regulatory responsibilities. Licensing processes may require coordination among central government agencies, local governments, investment authorities, technical agencies, and private sector actors. This institutional complexity often creates challenges related to information sharing, regulatory consistency, and administrative synchronization. As a result, digital licensing services should not be viewed merely as technological systems but as governance networks involving continuous interaction among stakeholders. The performance of these services is therefore

influenced by the quality of collaboration established among participating organizations. Effective collaboration can enhance service integration and responsiveness, whereas weak coordination may generate administrative bottlenecks and reduce service effectiveness.

Research Gap and State of the Art

A review of the existing literature reveals three important gaps. First, studies on digital licensing have predominantly emphasized technological innovation, procedural simplification, and regulatory effectiveness, while insufficient attention has been directed toward the collaborative processes that support service delivery. Second, collaborative governance research has largely focused on sectors such as environmental governance, health administration, and community development, resulting in limited understanding of collaboration within digital licensing environments. Third, there is a lack of empirical research examining collaborative governance in special economic regions where multiple authorities operate simultaneously under interconnected regulatory frameworks. Batam presents a distinctive setting for addressing these gaps. As a strategic investment hub and Free Trade Zone, the city involves a diverse range of stakeholders in licensing administration, including local government agencies, BP Batam, national regulatory institutions, and business actors. The interaction among these stakeholders creates a governance environment that differs from conventional public service settings and therefore requires closer examination.

The contribution of this study lies in its effort to integrate collaborative governance theory with the analysis of digital licensing services. Rather than focusing exclusively on technological systems or regulatory outcomes, this research investigates how stakeholder relationships, coordination mechanisms, and collaborative practices influence the implementation of digital licensing services in Batam. By doing so, the study expands the application of collaborative governance theory within the field of digital public administration and provides empirical evidence from an investment-oriented regional context that remains underrepresented in the literature.

3. Proposed Method

This study employs a qualitative case study approach to investigate the implementation of collaborative governance within digital licensing services in Batam. A case study design was selected because it enables an in-depth examination of complex governance processes involving multiple stakeholders operating within a specific institutional setting. The approach is particularly suitable for exploring how collaboration is established, maintained, and utilized to support digital public service delivery (Brandler & Roman, 2020). The research focuses on the digital licensing ecosystem in Batam, which involves interactions among governmental institutions, investment authorities, business actors, and technology-based service providers. By examining these interactions, the study seeks to understand how collaborative governance contributes to the effectiveness of digital licensing services and identify factors that facilitate or hinder collaborative efforts.



Figure 1. Research Flow.

4. Results and Discussion

The findings indicate that the implementation of digital licensing services in Batam has transformed the way public services are delivered to business actors and investors. The adoption of digital platforms, particularly through the Online Single Submission Risk-Based Approach (OSS-RBA), has reduced administrative barriers by enabling licensing applications to be processed electronically. This transformation has improved accessibility, accelerated licensing procedures, and increased transparency in administrative processes. Nevertheless, the effectiveness of digital licensing services is not solely determined by technological infrastruc-

ture. The licensing process involves multiple stakeholders, including BP Batam, local government agencies, sectoral institutions, and business actors, creating a governance environment that requires continuous coordination and collaboration. Consequently, the success of digital licensing services depends largely on the quality of collaborative relationships established among these stakeholders.

The study reveals that communication plays a central role in facilitating collaboration within the digital licensing ecosystem. Stakeholders regularly participate in coordination meetings, technical discussions, and consultation forums to address licensing issues and ensure consistency in service delivery. These interactions provide opportunities for stakeholders to exchange information, clarify institutional responsibilities, and resolve emerging administrative challenges. The existence of communication mechanisms has contributed to reducing misunderstandings and enhancing cooperation among participating organizations. However, the findings also suggest that communication remains largely issue-driven, meaning that coordination efforts tend to intensify when specific problems arise rather than being conducted proactively as part of a long-term collaborative strategy. This condition indicates that while communication channels have been established, there is still room to strengthen institutional dialogue and promote more systematic collaboration.

Another significant finding concerns the development of trust among stakeholders involved in digital licensing services. Trust has gradually emerged through repeated interactions, shared experiences, and collective efforts to improve licensing performance. Stakeholders generally acknowledge the importance of collaboration in supporting investment activities and facilitating economic development in Batam. This mutual recognition has encouraged greater openness in information sharing and strengthened inter-organizational relationships. Nevertheless, trust remains vulnerable to institutional differences, particularly when stakeholders operate under distinct regulatory frameworks and organizational priorities. Variations in administrative procedures and interpretations of licensing regulations occasionally create uncertainty and require additional coordination efforts. These findings demonstrate that trust is not an automatic outcome of digital transformation but rather a dynamic process that must be continuously reinforced through transparency, accountability, and effective communication.

The analysis further demonstrates a strong commitment among stakeholders to support the implementation of digital licensing services. Government institutions have allocated resources to improve system performance, enhance staff capabilities, and strengthen coordination mechanisms. At the same time, business actors have increasingly adapted to digital licensing procedures despite challenges associated with technological change and regulatory adjustments. This commitment reflects a shared recognition that effective licensing services contribute to investment facilitation and regional economic growth. However, the level of commitment is not always uniform across institutions. Differences in organizational capacity, resource availability, and technical expertise influence the ability of stakeholders to actively participate in collaborative initiatives. As a result, sustaining long-term collaboration requires continuous institutional support and a collective commitment to achieving common objectives.

The findings also highlight the importance of shared understanding in strengthening collaborative governance. Most stakeholders express similar expectations regarding the purpose of digital licensing services, particularly in relation to improving efficiency, increasing transparency, and creating a more favorable investment environment. The existence of these common goals provides a foundation for cooperation and encourages stakeholders to align their activities with broader public service objectives. Nevertheless, differences occasionally emerge regarding operational priorities and procedural interpretations. Such differences are largely influenced by the unique mandates and responsibilities assigned to each institution. Although these variations do not necessarily undermine collaboration, they demonstrate the need for ongoing dialogue to ensure that stakeholders maintain a consistent understanding of their roles within the licensing ecosystem.

The collaborative processes identified in this study have generated several positive outcomes. Improved communication and coordination have enhanced the integration of licensing services and facilitated information exchange among institutions. Digital platforms have simplified administrative procedures and enabled stakeholders to respond more efficiently to licensing-related issues. Business actors generally perceive licensing services as more accessible and transparent than previous administrative arrangements. Furthermore, collaborative mechanisms have created opportunities for joint problem-solving, allowing stakeholders to

address operational and regulatory challenges more effectively. These outcomes suggest that collaboration contributes not only to administrative efficiency but also to the overall quality and responsiveness of public services.

Despite these achievements, the findings also reveal several challenges that continue to affect the implementation of digital licensing services. Issues related to data integration, institutional synchronization, and technological adaptation remain significant concerns. The involvement of multiple agencies with different systems and regulatory responsibilities often creates coordination complexities that cannot be resolved through technology alone. These challenges illustrate that digital transformation is fundamentally a governance issue as much as it is a technological one. The effectiveness of digital licensing services therefore depends on the ability of stakeholders to establish collaborative arrangements capable of managing institutional complexity and adapting to evolving administrative demands.

The findings support the central propositions of collaborative governance theory by demonstrating the interdependence of dialogue, trust, commitment, and shared understanding in achieving collaborative outcomes. The study shows that collaborative governance functions as a mechanism through which diverse stakeholders coordinate their activities, reconcile institutional differences, and pursue common objectives. The findings also extend existing literature on digital public services by illustrating that technological innovation alone is insufficient to guarantee service effectiveness. Instead, digital transformation must be accompanied by strong governance structures that facilitate cooperation and collective action among relevant actors.

The Batam case provides important insights into the governance of digital licensing services within investment-oriented regions. As a strategic economic hub characterized by multiple administrative authorities and overlapping institutional responsibilities, Batam presents a complex environment in which collaboration becomes essential for effective service delivery. The findings suggest that strengthening communication mechanisms, enhancing stakeholder trust, and improving institutional coordination can significantly contribute to the sustainability and effectiveness of digital licensing services. Consequently, collaborative governance should be viewed not merely as a supporting element but as a fundamental component of successful digital transformation in public administration.

5. Comparison

Previous studies on digital licensing services have predominantly concentrated on technological implementation, regulatory reform, and administrative efficiency. Most research evaluates the effectiveness of digital licensing platforms by examining indicators such as processing speed, service accessibility, transparency, and user satisfaction. These studies generally conclude that digitalization contributes positively to public service delivery by reducing bureaucratic procedures and simplifying administrative processes. However, the majority of existing research approaches digital licensing primarily as a technological or regulatory issue, with limited attention given to the governance mechanisms that support service implementation. The novelty of this study lies not in examining digital licensing technology itself, but in explaining how collaborative governance mechanisms influence the effectiveness of digital licensing services within a complex institutional environment. This perspective offers a more comprehensive understanding of digital transformation by highlighting the interaction between technological innovation and governance processes. Consequently, the study advances existing knowledge by positioning collaboration as a central determinant of successful digital service implementation rather than merely a supporting administrative factor.

6. Conclusions

The study demonstrates that collaborative governance serves as a critical foundation for the successful implementation of digital licensing services in Batam. As governments continue to pursue digital transformation initiatives, strengthening collaborative relationships among stakeholders will be essential for ensuring effective, inclusive, and sustainable public service delivery.

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participated in the interpretation of the results, critically reviewed the manuscript for intellectual content, approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

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