

## Research Article

# Agile Governance in the Implementation of Integrated Public Service Technology in Bone Regency

Asriadi\* and Muh Akmal Ibrahim

Doctoral Study Program of Public Administration, Faculty of Social and Political Sciences, Hasanuddin University, Indonesia

## Abstract.

The modernization of public services demands governance that is responsive and adaptive to technological change. Agile governance, with its principles of flexibility, collaboration, and iteration, emerges as a strategic approach to support digital transformation in the public sector. This study aims to explore how the principles of agile governance can be contextually adopted in Bone Regency to accelerate the implementation of technology-based integrated public services. Employing a descriptive qualitative approach through a literature review of 17 national and international journals, this article identifies the core principles of agile governance, local challenges, and case studies of best practices in Indonesia. The findings indicate that adopting agile governance requires changes in bureaucratic culture, improved human resource capacity, and readiness of digital infrastructure. However, significant challenges remain, including hierarchical bureaucratic structures, disparities in digital infrastructure across regions, and low technological literacy among public officials. National case studies, such as the digital transformation of the Ministry of Finance and the Jakarta Investment and One-Stop Integrated Services Agency (DPMPTSP DKI Jakarta), demonstrate that the successful implementation of agile governance heavily depends on organizational readiness, leadership support, and human resource capacity. Contextual implementation in Bone requires adaptive strategies that integrate agile principles with local characteristics to deliver more efficient, inclusive, and accountable public services.

**Keywords:** agile governance, digital transformation, integrated public services, Bone Regency

## 1. Introduction

The modernization of public services increasingly relies on the strategic integration of technology, presenting both opportunities and challenges for government institutions worldwide. Agile governance, characterized by flexibility, adaptability, and its iterative nature, has emerged as a potentially transformative approach for managing technology implementation in the public sector [1]. In Bone Regency as in many other administrative regions—the drive to improve public services through technological advancements necessitates a robust governance framework capable of navigating the complexities of

Corresponding Author: Asriadi;  
email: asriadi635@gmail.com

**Published:** 2 September 2025

Publishing services provided by  
Knowledge E

© Asriadi, Ibrahim. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the 2nd Doctoral International Conference Committee.



digital transformation [2]. Amid these challenges, agile governance, which emphasizes cross-sector collaboration, iterative work cycles, and rapid responsiveness to change, offers a promising approach to overcoming bureaucratic rigidity and enhancing the adaptability of public organizations [3][4].

A critical analysis reveals that agile governance is essential as a transformative approach that can be tailored to local conditions by emphasizing organizational flexibility, stakeholder participation involving both the community and government, and fast feedback mechanisms. These elements collectively provide concrete solutions for accelerating the implementation of technology-based integrated services. The principles of agile governance can be contextually adopted in the public service system of Bone Regency through an approach that stresses structural adaptation, active community engagement, data-driven decision-making, and the strengthening of civil servant capacity. This transformation requires not only technological innovation but also a shift in bureaucratic culture and the development of a more agile and responsive governance model that aligns with the needs of the local population. This literature review explores the concept of agile governance in the context of technology implementation for the delivery of integrated public services. Based on this foundation, the study seeks to answer the research question “How can the principles of agile governance be contextually adopted within the public service system of Bone Regency”

## 2. Methods

This study employs a descriptive qualitative approach using a literature review method to synthesize existing knowledge on agile governance and its application in the implementation of technology in public services. The review encompasses scholarly articles, government reports, and industry publications that discuss the concept of agile governance, digital transformation in the public sector, and the use of technology in delivering integrated public services. Both theoretical and empirical literature were analyzed to identify key principles, best practices, and potential challenges related to agile governance within the context of technology implementation in public services. The data sources consist of 17 national and international scholarly journals focusing on Agile Governance in the context of public service and digital transformation. Data were analyzed using a thematic approach, highlighting patterns of Agile Governance implementation, challenges encountered, and its impact on public service delivery.

The inclusion criteria for selecting literature were as follows:

- a. Published between 2016 and 2024
- b. Discusses the application of Agile Governance in the public sector
- c. Focuses on the use of technology in service delivery

The data were analyzed using open coding to identify major themes, followed by comparative analysis across studies. This methodology involved a comprehensive search of relevant databases and online resources to ensure the inclusion of diverse and credible sources.

### 3. Results and Discussion

Agile governance offers an alternative approach to traditional bureaucratic models by emphasizing flexibility, iteration, and continuous learning in the formulation and implementation of public policy. This approach is designed to respond to VUCA (volatile, uncertain, complex, ambiguous) environments, where government organizations are required to adapt rapidly, particularly in the process of digital transformation ([3] & [5]). Agile governance enables bureaucracies to operate in short, feedback-based cycles, making change an integral part of the decision-making process. The implementation of agile principles in public service contexts can improve operational efficiency and foster innovation that is more responsive to societal needs. Digitalization facilitates the acceleration of workflows, reduction of waiting times, and inter-agency collaboration in integrated public service delivery [6]. Furthermore, this approach allows civil servants to focus on strategic and high-value tasks while remaining responsive to technological changes and citizen expectations [7]; [8].

Nevertheless, the implementation of agile governance in the public sector faces significant challenges. Hierarchical bureaucratic structures, rigid work cultures, and resistance to change represent major obstacles in the adoption process [2] & [3]. Additionally, the use of new technologies raises concerns related to accountability, digital ethics, data security, and transparency in decision-making processes [9]. As such, cultural transformation and the strengthening of digital governance are crucial for internalizing agile values within public institutions. Several studies indicate that empirical evidence on the effectiveness of agile governance in the public sector remains limited. Existing literature tends to be theoretical and does not sufficiently address local contexts, particularly in developing countries [8]; [10]. This highlights the need for the development of adaptive models that consider institutional capacity, technological

readiness, and human resource competencies as key prerequisites for successful digital transformation [11].

In the context of Bone Regency, the agile approach can be adopted through the formation of cross-functional teams, implementation of service prototyping systems, citizen involvement in co-creation processes, and decentralization of decision-making at the implementation level. This approach requires adequate digital infrastructure, strong local leadership commitment, and policies that are adaptive to change [1]; [12]; [13]. Thus, the application of agile governance is expected to enhance the responsiveness and effectiveness of public service delivery, grounded in participatory and accountable values.

Category Summary:

a. Principles (7 References): [1], [3], [4], [5], [8], [11], [16]

Focuses on the theoretical framework and core principles of agile governance, including iteration, decentralization, and participation.

b. Challenges (7 References): [2], [6], [9], [10], [12], [14], [15]

Highlights structural barriers, digital ethics, human resources issues, and infrastructure gaps that hinder agile implementation.

c. Best Practices (3 References): [7], [13], [17]

Includes empirical case studies demonstrating successful implementation and innovation based on agile principles.

### 3.1. Key Principles of Agile Governance Relevant to Bone Regency

Agile governance, as a modern governance approach, emphasizes adaptability, cross-sector collaboration, and iterative decision-making. In the context of regions such as Bone Regency—which is characterized by vast geography and connectivity challenges between areas—the most relevant principles of agile governance include:

a) Adaptability to Change

This principle highlights flexibility in responding to rapidly changing environmental dynamics. Local governments are required to continuously adjust their strategies and policies in response to social, technological, and economic changes. Agile governance enables regional governments to quickly adapt regulations and service processes based on field needs [3]. In the context of Bone's ongoing digital transformation, adaptability

TABLE 1: Summary of Literature on Agile Governance in the Implementation of Integrated Public Service Technology in Bone Regency.

No.	Reference	Main Focus	Category	Brief Description
[1]	Giulio & Vecchi (2021)	Principles	Principles	Explains the driving factors and determinants of agility in the public sector.
[2]	Maramura & Thakhathi (2016)	Challenges	Challenges	Describes structural barriers in traditional bureaucracy to agile innovation.
[3]	Mergel, Ganapati & Whitford (2020)	Principles	Principles	Proposes agile as a new approach in public governance.
[4]	OECD (2020)	Principles	Principles	Provides guidance on strengthening data-driven governance in the public sector.
[5]	Anders & Schenk (2022)	Principles	Principles	Introduces the concept of contextual agility in government systems.
[6]	Latupeirissa et al. (2024)	Challenges	Challenges	Highlights digital readiness in Eastern Indonesia, including HR and infrastructure limitations.
[7]	Sudrajat (2021)	Best Practice	Best Practices	Case study on the successful digital transformation at the Ministry of Finance.
[8]	Pratama, Tualeka & Prasetya (2022)	Principles	Principles	Provides empirical insights on agile governance in Indonesia's public sector.
[9]	Raboy & Cimene (2019)	Challenges	Challenges	Focuses on digital ethics and technological disparities in local governments.
[10]	Maragno et al. (2021)	Challenges	Challenges	Analyzes organizational obstacles to agile adoption in the public sector.
[11]	Nerurkar & Das (2017)	Principles	Principles	Emphasizes the importance of decentralization in agile governance.
[12]	Viendyasari (2020)	Challenges	Challenges	Case study on digital service implementation at DPMPTSP DKI Jakarta.
[13]	Bawole & Langnel (2022)	Best Practice	Best Practices	Collaborative practices in bureaucratic reform during times of crisis.
[14]	Pratiwi et al. (2022)	Challenges	Challenges	Assesses organizational readiness for agile governance.
[15]	Liva et al. (2020)	Challenges	Challenges	Identifies limitations and opportunities of agile in government.
[16]	Setzke et al. (2021)	Principles	Principles	Explains the role of digital infrastructure as an enabler of agile governance.
[17]	Pratama, Tualeka & Prasetya (2023)	Best Practice	Best Practices	Documents public service innovations from the KIPP Awards that reflect agile principles.

is a key prerequisite to ensure that public service systems can reach all areas, including remote ones [6].

#### b) Cross-Functional and Institutional Collaboration

Local governments need to foster collaboration across sectors and stakeholders to build a responsive public service ecosystem. This principle emphasizes active involvement from various actors, including the private sector, civil society organizations, and citizens, in the formulation and implementation of policies [1]. In regions like Bone, such collaboration is crucial for pooling resources and expanding the government's innovation capacity.

#### c) Iteration and Continuous Feedback

Agile governance stresses iterative processes developing policies or services gradually, accompanied by continuous testing and evaluation. Iteration allows governments to conduct experiments, test service prototypes, and quickly correct errors based on field data and user feedback [14]. This approach is well suited to regions with diverse service needs, such as Bone, as it allows for locally customized digital solutions.

#### d) Decentralized Decision-Making

Decentralized decision-making allows local-level units to respond directly to issues without waiting for hierarchical instructions from the central authority. In regional contexts, this accelerates response times and enhances public service accountability [11]. For Bone which consists of many districts and villages with unique characteristics decentralization is key to ensuring policy relevance and response efficiency.

#### e) Digital Transparency and Accountability

The use of digital technology in agile governance must be accompanied by transparency and accountability principles, especially in data management and technology-based decision-making processes. This principle is essential to maintaining public trust and ensuring ethical standards and privacy protection in service digitalization [15]. In areas like Bone that are currently developing digital infrastructure, integrating this principle helps build public confidence in the integrity of the systems being implemented. The implementation of these principles requires not only procedural changes, but also organizational culture transformation, human resource capacity building, and policy support from the national to the local level. By adopting agile governance principles that are contextual and inclusive, local governments such as Bone Regency can enhance the effectiveness of integrated public services that are adaptive, responsive, and based on participatory values.

### 3.2. The Influence of Local Bureaucratic Culture and Digital Infrastructure on the Adoption of Agile Governance in Bone Regency

The adoption of Agile Governance in local government contexts such as Bone Regency cannot be separated from two key factors: local bureaucratic culture and the readiness of digital infrastructure. These two elements shape the institutional environment that significantly determines the success or failure of agile-based governance transformation.

Firstly, the local bureaucratic culture in regions like Bone remains heavily influenced by the legacy of a hierarchical and procedural administrative system. Traditional bureaucracy in Indonesia is generally characterized by centralism, rigidity, and a lack of openness to change [2]. This pattern creates resistance to new governance approaches that are flexible, experimental, and participatory—hallmarks of agile governance [3]. Moreover, bureaucratic values that emphasize procedural compliance often hinder the rapid learning and iterative culture that is central to the agile methodology.

Secondly, digital infrastructure in the region also plays a crucial role in either enabling or constraining the adoption of agile principles. Bone Regency, as a non-metropolitan area in Indonesia, still faces digital connectivity challenges, especially in remote and rural areas. Inequitable internet access, limited hardware and software availability, and low digital literacy among civil servants are fundamental barriers [6]. Yet, agile governance is highly dependent on digital technologies to support collaboration, data transparency, real-time communication, and rapid decision-making [16]; [15]. When digital infrastructure is unevenly developed, the implementation of agile principles—such as data-driven service iteration and cross-functional team empowerment—becomes difficult to realize optimally.

Furthermore, limitations in the capabilities of local bureaucratic human resources present a critical challenge. The implementation of agile governance requires a shift in organizational culture toward greater collaboration, adaptability, and innovation. However, according to studies [7], many local government institutions still lack an organizational culture that supports innovation, due to the dominance of top-down leadership styles and insufficient training in digital and agile working methods. This is supported by findings [14] indicating that the capacity for rapid learning and iterative practice in Indonesia's public sector remains low, especially in regional areas.

Nevertheless, the potential for integrating local values with agile principles remains open. Local governments such as Bone can design transitional strategies that consider local wisdom, develop context-specific digital training, and build partnerships with third parties such as universities and the private sector to strengthen both digital infrastructure and the broader digital ecosystem [1]. This adaptive approach aligns with the principle of contextual agility, which emphasizes that agile models must be tailored to the specific social, cultural, and technological conditions of the local environment [5].

Therefore, the successful adoption of agile governance in Bone depends heavily on the local bureaucracy's willingness to undergo cultural transformation and to invest strategically in digital infrastructure. Without changes in these two aspects, agile principles risk remaining mere normative jargon without tangible impact on public service reform.

### **3.3. Case Studies of Successes and Challenges in Implementing Agile Governance in Indonesia**

The implementation of Agile Governance in Indonesia's public sector exhibits varied dynamics, with successes in certain regions or central government agencies, and serious challenges in others. These empirical case studies provide important insights into the factors influencing the implementation of agile governance within Indonesia's complex bureaucratic context (Table 2).

One notable success case can be found in the Ministry of Finance of the Republic of Indonesia, recognized as a pioneer in digital transformation within the public sector. [7] identifies that the acceleration of digitalization in the ministry is supported by strong leadership vision, cross-unit collaboration, and the adoption of iterative approaches in developing technology-based services. Programs such as the Sistem Aplikasi Keuangan Tingkat Instansi (SAKTI) were developed in a modular manner and are responsive to internal user needs, reflecting agile principles such as rapid iteration and continuous feedback. Key supporting factors for this success include high internal technological capacity, enhanced human resource competencies through training, and a strong commitment to a culture of digital innovation. In contrast, the application of similar models at the regional government level shows more varied results and tends to face more challenges.

A study by Viendyasari [12] on the Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu (DPMPTSP) of DKI Jakarta indicates that despite the digitalization of services



through platforms like JakEvo and JakInvest, obstacles persist, such as resistance from civil servants toward changes in work systems and a lack of data integration across agencies. The digitalization process has been top-down, lacking comprehensive user involvement, which fails to reflect the principles of collaboration and participation central to agile governance. This is reinforced by the findings of Maramura and Thakhathi [2], who note that many public institutions in Indonesia still operate within hierarchical and structurally rigid frameworks, making them less adaptive to managerial innovation.

Another study reflecting quasi-agile practices can be seen in the Kompetisi Inovasi Pelayanan Publik (KIPP) Indonesia. Pratama et al [17] traced data from 2014 to 2022 and found that some public service innovations, such as Puskesmas Online in Banyuwangi or Lapor Pak Camat in Sragen, have adopted agile working principles such as iteration, user orientation, and the use of technology. However, while these innovations have proven locally effective, their scalability and sustainability remain challenges due to the weak institutionalization of agile practices in regulations and organizational structures.

Overall, the success of agile model adoption in Indonesia is highly determined by factors such as transformative leadership, technological capacity, user participation, and organizational flexibility [1]; [3]. When these factors are lacking, the agile approach risks failure or mere symbolic implementation. Conversely, the model appears more promising when supported by a governance mindset that is open to change and leverages technology as a tool to drive service innovation.

## 4. Conclusion

The implementation of agile governance in Bone Regency can accelerate the transformation of integrated public services based on technology, provided it is contextually adapted. Core principles such as adaptability, collaboration, iteration, decentralization, and transparency must be integrated with strategies to enhance human resource capacity, reform bureaucratic culture, and strengthen digital infrastructure. National case studies show that the success of agile governance is determined by adaptive leadership, digital competence, and user participation in the service design process. The development of a locally participatory agile governance framework, supported by cross-sector collaboration and technological investment, will be key to inclusive and sustainable public service reform.

Directions for Further Research:

TABLE 2: Thematic Analysis Table of Agile Governance in the Context of Local Government of Bone Regency.

Theme	Academic Analysis Description	References
<b>1. Core Principles</b>	Agile governance is grounded in the principles of continuous iteration, cross-functional collaboration, user orientation, and decentralized decision-making. These principles enable public services to be quickly adapted based on real feedback and changing environmental conditions. This is relevant for regions like Bone, which face social dynamics and geographical limitations.	Mergel et al. (2020); Maragno et al. (2021); Bawole & Langnel (2022); Anders & Schenk (2022)
<b>2. Enabling Factors</b>	Support from visionary and transformational leadership, adequate ICT infrastructure, human resource training, and inter-agency collaboration are crucial factors in adopting agile principles. In Bone, success can begin with synergy between the local government, private sector, and local digital communities.	Sudrajat (2021); Latupeirissa et al. (2024); Pratama et al. (2023)
<b>3. Structural Barriers</b>	Barriers include rigid and hierarchical bureaucratic structures, resistance to innovation, limited digital infrastructure in peripheral areas, and a lack of supportive regulations. As a non-metropolitan region, Bone faces challenges in connectivity, low digital literacy among civil servants, and institutional fragmentation.	Viendyasari (2020); Maramura & Thakhathi (2016); Liva et al. (2020); Mergel et al. (2020)
<b>4. Practical Recommendations</b>	It is recommended to implement digital prototyping models with a learning-by-doing approach, strengthen digital capacity through civil servant training, encourage adaptive regulations, and establish collaborative innovation forums. Central government support is needed through innovation funding, digital system interoperability, and standardization of technology-based services.	Pratama et al. (2023); Sudrajat (2021); Viendyasari (2020); Mergel et al. (2020)

For future research, several directions are proposed:

1. Empirical Research with Recommended Methodologies:

- a. Qualitative Exploratory Design: In-depth interviews with stakeholders (civil servants, agency leaders, community members)
- b. Delphi Method: To explore expert consensus regarding agile principles relevant to the VUCA environment
- c. SWOT or PESTLE Analysis: To examine external and internal factors influencing agile governance in the VUCA context
- d. Case Study: Local government case studies facing high turbulence (e.g., pandemic, extreme regulatory changes, disasters) and how agile responses were implemented

## 2. Expected Scientific Contributions:

- a. To provide a conceptual model of Agile Governance–VUCA Fit for the public sector
- b. To offer policy implementation guidelines based on agile principles for navigating uncertainty
- c. To contribute a framework for evaluating the readiness of public organizations to sustainably apply agile principles in the era of uncertainty

## Acknowledgments

The authors would like to express their gratitude to all academics and researchers whose work served as the foundation for the preparation of this article. Special thanks are also extended to the Faculty of Social and Political Sciences, Universitas Hasanuddin, and fellow doctoral program colleagues of the 2025 cohort at Unhas for their support and input throughout the writing process.

## References

- [1] Giulio V. M. D., & Vecchi, “Public Sector Agility: drivers and Determinants,” *Public Manage Rev.* 2021;23(10):1496–513.
- [2] Maramura DR. T. C., & Thakhathi, “Structural Barriers to Agile Innovation in African Bureaucracies,” *Africa’s Public Serv. Deliv. Perform. Rev.* 2016;4(1):1–8.
- [3] Mergel AB. I., Ganapati, S., & Whitford, “Agile: A New Way of Governing,” *Public Adm Rev.* 2020;80(5):738–45.
- [4] OECD, “The Path to Becoming a Data-Driven Public Sector,” *OECD Digit. Gov. Stud.*, 2020.
- [5] Anders T. L., & Schenk, “Contextual Agility: Adapting Governance for Complex Environments,” *J Public Adm Res Theory.* 2022;32(1):15–30.
- [6] Latupeirissa M. G. E., Palit, M., & Ulfa, “Digital Readiness of Local Bureaucracy in Eastern Indonesia: Infrastructure and Human Capital Challenges,” *J. Adm. Publik.* 2024;13(1):22–38.
- [7] Sudrajat A. Inovasi Tata Kelola di Kementerian Keuangan: Studi tentang Transformasi Digital dan Agility Birokrasi. *J. Transform. Adm. Negara.* 2021;8(2):55–68.
- [8] D. Pratama, A., Tualeka, A., & Prasetya, “Agile Governance in Indonesian Public Sector: Empirical Insights from the Ground,” *Indones. J. Public Adm.*, vol. 12(1), 66–, no. 1, 2022.

- [9] Raboy FT, Cimene FT. L. J. M., & Cimene, "Digital Divide in Urban Barangay Governance and Its Policy and Research Implications,.". *Int J Innov Res Dev.* 2019;8(3): <https://doi.org/10.24940/ijird/2019/v8/i3/MAR19020>.
- [10] Maragno M. L., Gastaldi, L., & Corso, "Adopting Agile in the Public Sector: Organizational Capabilities and Barriers,.". *Int J Public Sector Management.* 2021;34(2):142–60.
- [11] Nerurkar A. S., & Das, "Decentralizing Decisions in Governmental Organizations through Agile Governance,.". *J Organ Change Manage.* 2017;30(5):823–39.
- [12] Viendyasari D. "Evaluasi Layanan DPMPSTP Berbasis Digital di DKI Jakarta: Tantangan dan Peluang,.". *J. Birokrasi dan Pemerintah. Digit.* 2020;5(1):1–11.
- [13] Bawole Z. J. N., & Langnel, "Administrative Reforms in the Ghanaian Public Services for Government Business Continuity During the COVID-19 Crisis,.". *Public Organ Rev.* 2022;; <https://doi.org/10.1007/s11115-022-00687-w>.
- [14] Pratiwi D. R. M., Nurdin, I., & Wulandari, "Kesiapan Organisasi Pemerintah terhadap Implementasi Agile Governance,.". *J. Ilmu Adm. Negara.* 2022;14(2):145–60.
- [15] Liva L. G., Napoli, A., & Tangi, "Agile in Government: Mapping Opportunities and Constraints,.". *Gov Inf Q.* 2020;37(4).
- [16] Setzke C. D. S., Maier, T., & Seitz, "Digital Infrastructure as Enabler of Agile Processes in Local Governments,.". *Digit. Gov. Res. Pract.* 2021;2(1):1–13.
- [17] Pratama D. A., Tualeka, A., & Prasetya, "Mapping Innovation in Public Service Delivery in Indonesia: lessons from KIPP Awards,.". *J. Inov. Pelayanan Publik.* 2023;6(2):23–39.