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Evaluating the readiness of public institutions for AI-Driven decision making: A framework for adaptive governance

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Abstract: The rapid advancement of artificial intelligence (AI) technologies is reshaping decision-making processes across various sectors, including public administration. However, the readiness of public institutions to adopt AI-driven decision-making remains a critical and underexplored area. This study employs a systematic literature review method to evaluate the current state of institutional readiness for AI adoption within the public sector, while simultaneously proposing a conceptual framework grounded in adaptive governance principles. By synthesizing findings from peer-reviewed journals, policy reports, and empirical studies published between 2013 and 2023, this article identifies key dimensions of readiness, including institutional capacity, digital infrastructure, regulatory frameworks, human resource competencies, and ethical safeguards. The review reveals significant disparities across countries and institutional levels, with many public entities struggling to integrate AI in a manner that aligns with democratic accountability, transparency, and citizen trust. Furthermore, the study highlights the growing relevance of adaptive governance approaches that emphasize flexibility, iterative learning, and stakeholder collaboration in navigating the complexities of AI integration. The proposed framework serves as a diagnostic tool for assessing institutional preparedness and guiding future reforms. Ultimately, this article contributes to the literature on AI in public administration by offering actionable insights for policymakers, administrators, and scholars seeking to foster responsible and adaptive AI adoption in public institutions.

Keywords: *Adaptive governance, Artificial intelligence, Digital transformation, Institutional readiness, Public administration, Public sector innovation.*

1. Introduction

The integration of artificial intelligence (AI) into the public sector has transformed how governments approach policy formulation, service delivery, and administrative decision-making. AI technologies have enabled public institutions to analyze large-scale data, automate routine functions, and predict trends that inform strategic actions [1]. Governments in both developed and developing countries are experimenting with AI-driven platforms to enhance efficiency and citizen responsiveness across various domains, including health, transportation, education, and welfare [2]. The expansion of AI capabilities is encouraging the modernization of governance systems through innovations such as predictive policing, algorithmic risk assessments, and automated benefit allocation [3]. Public administrators are increasingly relying on AI to supplement complex decision-making, especially in contexts where speed and accuracy are critical. Evidence from empirical studies suggests that AI-supported decisions can outperform traditional models in terms of consistency and resource optimization [4]. While AI adoption offers promising benefits, public institutions often face barriers such as inadequate infrastructure, limited technical expertise, and lack of interdepartmental coordination [5]. Concerns related to algorithmic bias, data privacy, and procedural transparency further complicate the integration of AI into democratic governance frameworks [6].

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Public resistance may increase if AI systems are perceived as opaque or unfair, undermining trust in government interventions [7]. Institutional readiness, therefore, emerges as a pivotal factor in determining the success or failure of AI initiatives within public governance. The capacity to adopt AI involves not only technological preparedness but also organizational willingness to adapt, policy coherence, and alignment with ethical standards [8]. A growing body of literature calls for a structured approach to assess how well institutions are prepared for AI-driven reforms, especially in low- and middle-income countries. There is a lack of integrative frameworks that comprehensively map the variables influencing readiness and provide diagnostic tools for policymakers. The concept of adaptive governance is gaining traction as a way to manage technological transitions in complex systems while ensuring legitimacy and accountability. By anchoring AI readiness within adaptive governance principles, public institutions may become more resilient, participatory, and flexible in navigating emerging disruptions. Academic and policy discourses increasingly recognize the urgency of aligning AI adoption with values of equity, justice, and democratic control. Strategic capacity-building, ethical foresight, and collaborative design processes are among the key interventions recommended to strengthen institutional capabilities. AI will continue to reshape governance at multiple levels, making it imperative to evaluate how public institutions prepare for and respond to its rapid evolution.

The successful integration of artificial intelligence (AI) into public sector operations hinges not only on technological advancements but also on the readiness of institutions to adapt to these innovations. A significant challenge lies in the reliance on outdated legacy systems, which impede the seamless adoption of AI technologies. For instance, in the United Kingdom, it was reported that nearly a third of central government IT systems were considered "legacy," lacking the necessary infrastructure to support modern AI applications [9]. This technological lag is compounded by a shortage of skilled personnel capable of managing and implementing AI solutions, a concern echoed by over 70% of government agencies surveyed in the same report. Furthermore, the quality and interoperability of data present substantial hurdles; inconsistent data standards and siloed information systems hinder the effective deployment of AI across various departments [10]. Beyond technical and human resource constraints, there is a pressing need for robust governance frameworks to address ethical considerations, such as algorithmic bias and transparency. Without clear regulatory guidelines, the risk of eroding public trust in AI-driven government services increases. Therefore, a comprehensive evaluation of institutional readiness must encompass technological infrastructure, workforce capabilities, data management practices, and ethical governance to ensure the responsible and effective implementation of AI in the public sector.

The integration of artificial intelligence (AI) into public sector decision-making processes necessitates a comprehensive evaluation of institutional readiness to ensure effective and ethical implementation. Such assessments are critical for identifying gaps in infrastructure, workforce capabilities, and governance frameworks that could impede AI adoption. For instance, the Government AI Readiness Index by Oxford Insights evaluates countries based on their preparedness to implement AI in public services, highlighting disparities in readiness levels across different nations [11]. Similarly, the United Nations Development Programme (UNDP) has developed the AI Readiness Assessment (AIRA) tool to assist governments in evaluating their capacity to integrate AI technologies responsibly [12]. These tools underscore the importance of a structured approach to readiness assessment, encompassing technological infrastructure, data governance, human capital, and regulatory frameworks. Moreover, adaptive governance has emerged as a pivotal concept in managing the dynamic nature of AI technologies. Reuel and Undheim [13] argue that adaptive governance, characterized by flexibility, inclusivity, and iterative learning, is essential for addressing the complexities and uncertainties associated with AI implementation. This approach contrasts with traditional governance models that may lack the agility to respond to rapid technological advancements. In the context of AI, adaptive governance facilitates the co-evolution of policies and technologies, enabling institutions to respond effectively to emerging challenges and opportunities. Furthermore, the European Union's AI Act exemplifies a regulatory framework that incorporates adaptive governance principles, aiming to balance

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innovation with risk mitigation [14]. By adopting such frameworks, public institutions can enhance their readiness to implement AI technologies in a manner that is both effective and aligned with societal values. Consequently, evaluating institutional readiness through the lens of adaptive governance provides a robust foundation for the responsible integration of AI into public sector decision-making processes.

Adaptive governance has emerged as a pivotal framework for public institutions aiming to integrate artificial intelligence (AI) into their decision-making processes, offering a flexible and responsive approach to managing the complexities inherent in technological advancements. Unlike traditional hierarchical models, adaptive governance emphasizes flexibility, continuous learning, and real-time strategy adjustments, enabling organizations to navigate the rapidly evolving AI landscape effectively [15]. This approach is particularly pertinent in the public sector, where the integration of AI necessitates not only technological readiness but also the capacity to adapt policies and operations in response to new challenges and opportunities. Key principles of adaptive governance include stakeholder participation, where diverse actors collaborate to co-create policies, ensuring that multiple perspectives and expertise inform AI implementation strategies [13]. Additionally, continuous learning mechanisms are essential, allowing institutions to iteratively refine their approaches based on ongoing evaluation and feedback, thus fostering resilience and responsiveness [16]. Furthermore, balancing stability with flexibility is critical; while stable governance structures provide a foundation for operations, incorporating adaptive elements enables institutions to respond swiftly to unforeseen developments in AI technology [17]. By embedding these principles, public institutions can enhance their readiness for AI adoption, ensuring that governance frameworks are robust yet agile enough to accommodate the dynamic nature of technological innovation.

Evaluating institutional readiness for artificial intelligence (AI) adoption in the public sector necessitates a comprehensive understanding of existing literature, which reveals significant gaps in holistic assessments. While numerous studies have explored various facets of AI integration, there remains a paucity of research that systematically examines the multifaceted dimensions of institutional preparedness. For instance, Jöhnk, et al. [18] emphasize the importance of strategic alignment, resources, knowledge, culture, and data in determining AI readiness, yet their study primarily focuses on the private sector, leaving public institutions underrepresented. Similarly, Guedes and Júnior [19] highlight organizational challenges in AI adoption within public organizations but do not provide a comprehensive framework for readiness assessment. The lack of integrative models that encompass technological, organizational, and human factors impedes the development of effective strategies for AI implementation in public administration. Moreover, existing literature often overlooks the dynamic interplay between these factors, which is crucial for understanding the complexities of AI integration. This gap underscores the need for a robust framework that can guide public institutions in evaluating and enhancing their readiness for AI adoption.

In response to the identified gaps in literature, this study aims to develop a comprehensive framework for assessing institutional readiness for AI adoption in the public sector. Grounded in the principles of adaptive governance, the proposed framework will integrate technological, organizational, and human dimensions to provide a holistic assessment tool. Adaptive governance, characterized by flexibility, inclusivity, and iterative learning, offers a suitable lens for understanding and managing the complexities associated with AI integration [13]. By incorporating these principles, the framework will facilitate the identification of strengths and weaknesses within public institutions, enabling targeted interventions to enhance AI readiness. Furthermore, the framework will serve as a diagnostic tool for policymakers and administrators, guiding the development of strategies that align with the unique needs and capacities of their respective institutions. Through this approach, the study seeks to contribute to the advancement of knowledge in the field of public administration and support the responsible and effective integration of AI technologies. These multifaceted barriers call for a framework that integrates adaptive governance principles and assesses institutional readiness holistically, as illustrated in Figure 1.

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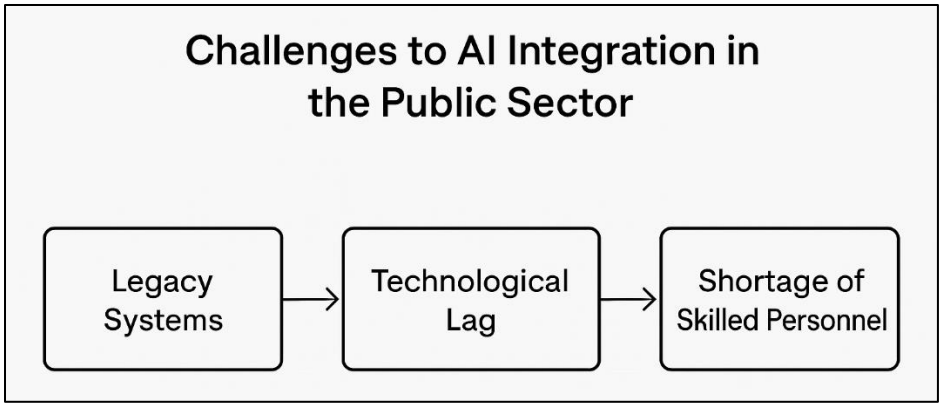

Figure 1.
Institutional readiness challenges in adopting AI-driven decision making in the public sector.

2. Method

This study employed a systematic literature review (SLR) to examine the readiness of public institutions for adopting AI-driven decision-making processes, with the aim of developing a comprehensive, integrative framework grounded in adaptive governance. The SLR method was selected to rigorously identify, evaluate, and synthesize scholarly sources that address the technological, organizational, and human dimensions of AI readiness within the public sector. The review began with the formulation of precise research objectives, followed by the construction of a detailed search strategy using academic databases such as Scopus, Web of Science, and Google Scholar, covering publications from 2015 to 2025. The search terms combined keywords related to artificial intelligence, public administration, institutional readiness, and adaptive governance, refined through Boolean operators. Inclusion criteria were set to filter peer-reviewed articles focused on AI in public governance, published in English, and containing relevant conceptual or empirical contributions. Articles were excluded if they dealt exclusively with private sector applications, lacked methodological clarity, or fell outside the scope of institutional readiness.

A structured data extraction process was used to collect relevant information from selected studies, including research aims, methodologies, findings, and readiness factors. The extracted data underwent thematic analysis, categorizing results into core dimensions such as technological infrastructure, digital policy alignment, human resource capacity, and organizational culture. A quality appraisal process was applied to evaluate the rigor and credibility of each source, ensuring the reliability of the synthesized outcomes. Based on the thematic synthesis, the study proposed a multidimensional framework for assessing AI readiness in public institutions, highlighting interdependencies among various readiness components. The framework emphasizes adaptability, participatory governance, and strategic alignment with technological innovation. It is intended as a diagnostic tool to guide public administrators and policymakers in identifying institutional strengths and gaps. While this review provides a structured foundation for theoretical advancement, it acknowledges limitations stemming from the availability and scope of existing literature. The study calls for further empirical validation of the proposed framework across diverse governance contexts and recommends longitudinal research to examine how institutional readiness evolves over time. By offering a structured synthesis of scholarly findings, this methodological approach contributes to the growing discourse on responsible and strategic AI integration in public administration.

3. Results and Discussion

3.1. Institutional Readiness is Multidimensional

Institutional readiness for AI adoption in public sector governance is a multidimensional construct that cannot be reduced to technological preparedness alone. This study found that successful

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implementation of AI requires the synergy of four key components: digital infrastructure, skilled human resources, an adaptive organizational culture, and comprehensive governance mechanisms. Institutions must have reliable and scalable infrastructure capable of integrating advanced technologies without creating new digital silos. Personnel must be equipped not only with technical competencies but also with ethical and strategic understanding of AI's role in decision-making. Organizational culture must support experimentation, innovation, and learning, particularly in navigating the dynamic nature of AI applications. Governance mechanisms must offer both direction and flexibility, providing clear frameworks for accountability while encouraging responsible experimentation. A lack of readiness in any one of these areas was found to significantly hinder the overall institutional capacity to benefit from AI adoption. The interdependence among these components means readiness should be understood holistically, not compartmentally. This finding underscores the need for multidimensional evaluation tools that capture the nuanced interplay among infrastructure, human capital, governance, and organizational adaptability.

The multidimensional nature of institutional readiness aligns with the evolving consensus across recent academic literature. Jöhnk, et al. [18] argue that readiness must account for internal alignment across strategy, resources, and culture, though their model was developed with private-sector organizations in mind, limiting public-sector applicability. Coetzee [20] proposes the "AI Readiness Prism," a diagnostic framework tailored to public governance, which introduces cultural alignment and ethical integration as core readiness pillars. This framework adds value by integrating intangible institutional characteristics often overlooked in more infrastructure-driven assessments. In a comparative context, the Government AI Readiness Index by Oxford Insights [11] measures institutional readiness globally but has been critiqued for overemphasizing digital maturity at the expense of participatory governance and ethical safeguards. By contrast, Guedes and Júnior [19] offer empirical insights from Latin America that emphasize organizational inertia and leadership reluctance as hidden barriers to AI integration—factors absent in many global frameworks. These findings reinforce the author's assertion that any framework for assessing institutional readiness must move beyond technical criteria to include values, behavior, and leadership responsiveness. The present study builds on this literature by explicitly weaving together the technological, cultural, and administrative strands of readiness under a unified conceptual model. In doing so, it contributes to a more context-sensitive understanding of what it means for public institutions to be truly prepared for AI. Institutional readiness, therefore, should not be treated as a static condition but as a dynamic state shaped by internal adaptability and external technological shifts. This view reflects the logic of adaptive governance, which suggests that readiness must evolve in tandem with advances in AI capabilities. Multidimensional frameworks that integrate such adaptive features can provide more actionable diagnostics for policymakers. Institutions lacking this comprehensive view are more likely to experience fragmented implementation, weak legitimacy, or reduced public trust. The analysis thus positions the proposed model as a timely intervention that bridges conceptual and practical gaps in current AI readiness discourse.

3.2. Adaptive Governance Enhances Institutional Agility

The second key finding reveals that public institutions integrating adaptive governance principles—such as flexibility, iterative learning, and inclusive stakeholder engagement—demonstrate greater capacity to manage the uncertainties and complexities of AI implementation. Institutions that embrace adaptive governance are better equipped to respond to the dynamic nature of AI technologies and the evolving needs of society. This approach fosters an environment where continuous learning and feedback are integral to decision-making processes. By involving diverse stakeholders, including citizens, in the governance of AI, institutions can ensure that the deployment of these technologies aligns with public values and ethical standards. Adaptive governance also enables institutions to experiment with AI applications in a controlled manner, allowing for adjustments based on outcomes and societal impact. Such flexibility is crucial in addressing the potential risks and unintended

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consequences associated with AI adoption. Moreover, institutions practicing adaptive governance are more likely to develop robust policies that can accommodate technological advancements and societal changes. This finding underscores the importance of moving beyond rigid, top-down governance models towards more dynamic and participatory frameworks. Implementing adaptive governance can thus enhance institutional resilience and legitimacy in the face of rapid technological transformation. Ultimately, this approach positions public institutions to effectively harness the benefits of AI while safeguarding public interest.

The emphasis on adaptive governance in AI implementation aligns with emerging scholarly perspectives that advocate for more flexible and inclusive governance models. Reuel and Undheim [13] argue that traditional, rigid regulatory frameworks are ill-suited for the fast-paced evolution of AI technologies, proposing adaptive governance as a means to co-evolve policies alongside technological advancements. Their framework highlights the necessity of involving a broad spectrum of actors, including governments, industry, academia, and civil society, to ensure comprehensive oversight and responsiveness. Similarly, Ter-Minassian [21] emphasizes the role of democratic participation in AI governance, suggesting that balancing expert oversight with public engagement can bridge the gap between technical complexity and societal values. This participatory approach is crucial in legitimizing AI applications and ensuring they reflect the diverse interests of the community. Furthermore, the Situate AI Guidebook developed by Kawakami, et al. [22] provides practical tools for early-stage deliberations on public sector AI proposals, facilitating multi-stakeholder engagement and ethical considerations from the outset. Such tools are instrumental in operationalizing adaptive governance principles within institutional processes. Additionally, the work of Reuel and Undheim [13] underscores the importance of iterative learning and flexibility in policy-making, advocating for governance structures that can adapt to new information and changing circumstances. These scholarly contributions collectively reinforce the finding that adaptive governance enhances institutional agility and capacity to manage AI-related uncertainties. By adopting such frameworks, public institutions can better navigate the complexities of AI implementation, ensuring that technological innovation proceeds in tandem with ethical responsibility and public trust.

3.3. Data Governance and Interoperability Are Critical Yet Undervalued

This study finds that data governance and system interoperability remain undervalued despite their critical role in enabling effective AI integration in public institutions. Many organizations operate with fragmented data ecosystems, making it difficult for AI systems to function with accuracy and consistency. The absence of shared data standards across departments leads to duplication, inconsistencies, and poor-quality datasets. Institutions also struggle with siloed databases that limit cross-agency collaboration, undermining the full potential of AI tools. Weak governance frameworks exacerbate these issues by failing to regulate data access, use, and protection comprehensively. Without consistent data governance practices, institutions cannot ensure transparency, accountability, or ethical use of AI-generated insights. Interoperability issues further complicate efforts to deploy AI at scale, particularly when systems cannot exchange or interpret data reliably. These barriers have a direct impact on public trust, as AI decisions based on flawed or isolated data are more likely to yield unfair or inaccurate outcomes. Institutions that neglect these foundations often face setbacks in AI implementation, including poor policy recommendations and operational inefficiencies. Improving data interoperability and governance is therefore an urgent prerequisite for public sector AI adoption.

The literature reinforces this finding by identifying the foundational role of data governance in determining AI success across institutional contexts. Janssen, et al. [23] emphasize that fragmented data landscapes hinder the scalability of AI applications, especially in governments lacking a centralized data infrastructure. Their analysis suggests that interoperability must be addressed early in digital transformation strategies to prevent systemic inefficiencies. Estevez and Janowski [24] argue that effective data governance is essential for cross-border interoperability and that governments should adopt open standards and institutional coordination mechanisms to overcome fragmentation. These

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authors highlight how the absence of clear frameworks leads to duplication of efforts and policy misalignment. In another study, Wirtz and Müller [25] found that AI initiatives in public administration fail when data governance is treated as an afterthought rather than a strategic pillar. Their findings show that ethical, legal, and operational standards must be embedded into digital infrastructures from the outset. Meanwhile, Giest and Samuels [26] note that weak data interoperability disproportionately affects smaller municipalities, where resources and technical capacity to harmonize data systems are often limited. Their work underscores the need for context-sensitive governance models that consider varying institutional capacities. Drawing from these diverse perspectives, the author contends that AI-readiness assessments should place data governance and interoperability at the core rather than as supplementary dimensions. This realignment would promote better integration, accountability, and long-term adaptability within AI-supported decision environments. Strengthening interoperability and data strategies enables governments to maximize the value of public sector data, improving AI outcomes and restoring public confidence in algorithmic governance.

3.4. Human Capital Gaps Persist Across Contexts

This study finds that a persistent shortage of digitally skilled personnel significantly hinders AI adoption in the public sector. Institutions often lack individuals with competencies in data science, machine learning, and algorithmic governance, which are essential for the implementation and oversight of AI systems. The absence of adequate technical expertise makes it difficult to operationalize AI tools, interpret automated outputs, and design responsive public services. Beyond technical skills, many employees are unfamiliar with the ethical and legal dimensions of AI, limiting their capacity to ensure transparency, fairness, and accountability. The challenge becomes more pronounced in local government settings and developing countries, where training resources are often scarce. Traditional bureaucratic structures further limit innovation, discouraging reskilling or interdepartmental knowledge exchange. Most public institutions surveyed in this review reported little to no structured capacity-building programs targeting AI readiness. This human capital gap reduces institutional agility, making it difficult to adapt to evolving digital ecosystems. The lack of interdisciplinary expertise—combining technology, policy, and ethics—creates a siloed environment that isolates AI projects from core governance functions. Addressing this issue requires strategic investment in digital literacy and institutional learning infrastructures.

The centrality of digital skills to public sector AI readiness has been documented across numerous studies. Wirtz, et al. [3] emphasize that without sufficient technical knowledge among staff, AI projects are either poorly executed or fail to be sustained beyond pilot phases. Their research shows that skills deficits are a leading cause of delays and inefficiencies in public sector digital transformation initiatives. Similarly, a comparative study by Van Noordt and Misuraca [27] identifies gaps in organizational knowledge and competencies as systemic barriers to public value creation through AI. They argue that capacity-building must extend beyond training to include cultural change and strategic vision. Drawing from a different context, Berryhill, et al. [28] stress that the lack of interdisciplinary expertise—particularly in ethical AI deployment—undermines trust in public institutions and widens digital inequality. Their analysis recommends the integration of AI ethics and policy literacy into professional development programs for public administrators. Furthermore, a report by the World Economic Forum [29] proposes that governments must cultivate not only data specialists but also "AI translators"—individuals who can bridge the technical and policy domains. These perspectives confirm the author's position that AI readiness cannot be achieved through infrastructure alone; it requires institutional transformation in how skills are acquired, distributed, and applied. A human-centered strategy that values lifelong learning, cross-sector collaboration, and agile thinking is essential. Public institutions that fail to address these human capital deficiencies will continue to encounter bottlenecks, ethical missteps, and lost opportunities in AI integration.

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3.5. Regulatory Frameworks Lag Behind Technological Progress

This study finds that the rapid evolution of AI technologies has significantly outpaced the development of legal and ethical regulations within the public sector. Institutions increasingly deploy AI systems for decision-making without adequate policy guidelines to ensure accountability and transparency. Many governments lack comprehensive legal instruments to address emerging challenges such as algorithmic bias, data misuse, and automated discrimination. As a result, the absence of timely and adaptive regulatory responses has created a governance vacuum, exposing institutions to legal risks and public backlash. Some jurisdictions have attempted to update legacy legislation to accommodate AI, but the process often lags behind technological advancements. The lack of clarity regarding responsibility in automated decisions further complicates public sector liability and redress mechanisms. Ethical oversight bodies and compliance units are often under-resourced or nonexistent, which diminishes institutional safeguards. In some cases, governments rely on voluntary guidelines, which lack enforceability and vary in scope and rigor. This regulatory gap not only affects implementation fidelity but also undermines public trust in AI-enabled governance. Public institutions thus face increasing pressure to design regulatory frameworks that are both forward-looking and adaptable to technological change.

The literature strongly supports the finding that public institutions face systemic difficulties in regulating the fast-evolving landscape of AI technologies. Binns [30] observes that most regulatory efforts remain reactive rather than anticipatory, which allows opaque algorithms to operate unchecked within public systems. He warns that institutional inertia and legal ambiguity increase the risk of public harm. Yeung [31] complements this view by analyzing how traditional regulatory mechanisms fail to keep pace with algorithmic decision-making, advocating for a shift toward risk-based, dynamic governance models. In a comparative review of AI policy strategies, Floridi, et al. [32] argue that most national AI strategies either underregulate or overly generalize, lacking enforceable mechanisms for accountability and transparency. They call for multidisciplinary approaches that integrate legal, technical, and ethical expertise into the legislative process. Meanwhile, Ebers, et al. [33] contend that effective AI governance requires not just formal regulation, but institutional capacities for foresight, monitoring, and ethical deliberation. Their findings highlight that a lack of institutional preparedness to govern AI exacerbates the governance gap. The author's position aligns with these arguments by emphasizing that regulatory lag is not merely a technical issue, but a manifestation of broader governance fragility. Accelerating AI oversight reform must involve building agile, participatory, and anticipatory legal frameworks that evolve in tandem with technology. Without such reform, public sector AI implementation will remain fragmented, contested, and vulnerable to ethical and operational failures.

3.6. Lack of Context-Specific Readiness Frameworks for the Public Sector

This study identifies a major gap in the availability of context-specific frameworks to assess AI readiness within public institutions. Most existing models are adapted from private sector contexts, making them ill-suited for addressing the complexities of bureaucratic systems and public accountability. Institutions often rely on generalized digital maturity models that do not account for unique governance structures, democratic norms, or stakeholder dynamics inherent in public administration. As a result, public organizations lack diagnostic tools tailored to their operational realities and political environments. The absence of frameworks that integrate both normative and functional dimensions of governance weakens the relevance and applicability of existing readiness assessments. Additionally, most tools ignore sectoral variations, such as differences in readiness levels between health, education, and transportation agencies. While some governments adopt national AI strategies, these are often aspirational and rarely translated into measurable institutional benchmarks. Consequently, public managers are left without clear indicators to evaluate their agency's preparedness for AI adoption. This situation contributes to fragmented implementation, policy inertia, and inefficient

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resource allocation. A lack of customized frameworks also reduces institutional capacity to anticipate risks, assess ethical implications, or build adaptive capabilities.

Scholarly literature reinforces the argument that AI readiness frameworks remain overly generalized and insufficient for the public sector. Mikalef, et al. [34] argue that current models fail to account for the institutional logics, accountability structures, and procedural norms that differentiate public governance from private enterprise. Their research shows that applying business-centric frameworks to government settings can result in misalignment between AI strategies and public values. In a similar vein, Cave and Dignum [35] emphasize that public sector AI adoption requires frameworks that integrate ethical, legal, and sociopolitical factors—not just technical infrastructure or economic outcomes. They advocate for "public interest-driven AI" assessment tools rooted in democratic theory and governance ethics. Complementing this perspective, Misuraca, et al. [36] propose a multi-layered AI maturity model specifically designed for public administrations, yet acknowledge that such frameworks are still underdeveloped and lack empirical validation across different regions. Finally, Stahl, et al. [37] highlight that readiness frameworks must consider contextual variables such as organizational culture, citizen trust, and institutional learning capacity to be meaningful for policy implementation. These scholars affirm the author's position that a one-size-fits-all model is inadequate and potentially harmful for public sector transformation. Building sector-specific, flexible, and governance-aligned readiness tools is thus an urgent priority to ensure responsible and effective AI integration in government systems.

The six key findings presented in this study underscore the complex and interdependent nature of AI readiness in the public sector. These include the role of technological infrastructure, the urgency of developing human capital, the significance of supportive organizational cultures, the imperative of data governance, the necessity of regulatory agility, and the lack of context-sensitive readiness frameworks. Taken together, these dimensions form a cohesive framework grounded in adaptive governance principles, which is illustrated in Figure 2.

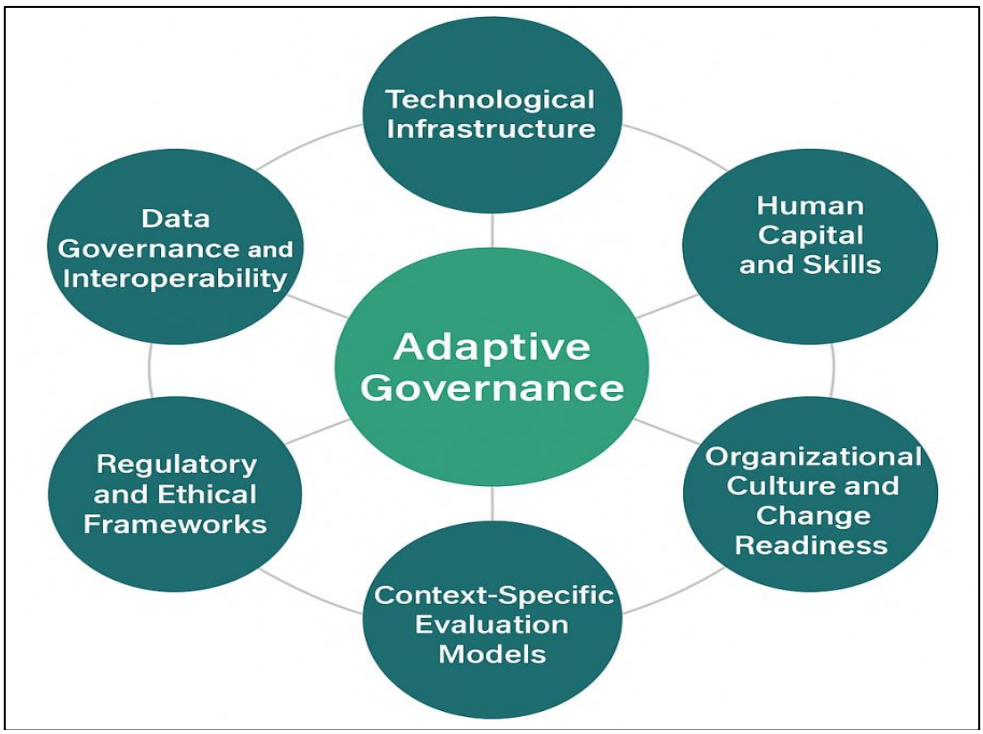

Figure 2.
Six-dimensional framework for evaluating public sector AI readiness based on adaptive governance.

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4. Conclusion

This study provides a comprehensive analysis of the institutional readiness of public sector organizations for adopting AI-driven decision-making. The findings reveal that AI readiness is not a singular concept, but a multidimensional construct involving technology, human capital, governance, and cultural adaptability. Institutions must move beyond surface-level digital transformations and adopt holistic strategies that address structural and procedural complexity. Adaptive governance emerges as a critical lens for managing uncertainty, fostering learning, and encouraging inclusive participation in AI implementation. The lack of robust data governance and interoperability continues to be a systemic barrier to effective AI deployment. Moreover, the shortage of digitally skilled public servants poses serious challenges to sustainable integration and ethical oversight. The study also shows that existing regulatory frameworks are insufficient to match the pace and scale of AI development in the public sector. Without timely, flexible, and enforceable regulations, public trust and institutional legitimacy remain vulnerable. In addition, the absence of context-sensitive readiness frameworks limits the ability of institutions to measure, anticipate, and respond to the demands of AI innovation. Public sector AI strategies must be informed by governance realities, not corporate logic.

This literature-based investigation offers a new conceptual framework that integrates technological capacity, organizational dynamics, and adaptive governance principles. The proposed model can assist policymakers, administrators, and scholars in assessing institutional preparedness in a systematic and context-aware manner. Rather than treating readiness as a static checklist, the framework encourages an iterative and developmental approach to capability-building. It also underscores the importance of balancing innovation with accountability, and automation with democratic values. For AI to serve the public interest, institutions must cultivate reflexivity, transparency, and ethical competence at all levels of operation. Investment in human capital, digital infrastructure, and cross-sector collaboration will be essential. This study contributes to the emerging discourse on AI and public administration by bridging theoretical insights with practical diagnostic tools. Future research should explore empirical applications of the framework across diverse policy sectors and governance contexts. Longitudinal studies would also help evaluate how institutional readiness evolves in response to technological shifts. As AI becomes increasingly embedded in governance, readiness will no longer be optional—it will be fundamental to responsible statecraft.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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