

Strengthening Human Resource Capacity and Capability in the Public Sector in the Digital Era

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Abstract	Digital transformation has become a strategic agenda for public sector organizations to improve governance, service quality, and organizational performance. However, technological advancement alone is insufficient to ensure successful digital transformation, as it also requires competent human resources, adaptive leadership, and sustainable employee well-being. Therefore, this study aims to analyze strategies for strengthening public sector human resource capacity and capability by integrating digital upskilling, transformational leadership, and employee well-being within a comprehensive conceptual framework. This study employed a qualitative approach using a literature review method by synthesizing evidence from recent peer-reviewed journal articles, international reports, and relevant policy documents. The findings indicate that digital upskilling enhances civil servants' competencies in digital literacy, artificial intelligence, cybersecurity, data analytics, and evidence-based decision-making. Nevertheless, these competencies can only generate sustainable organizational outcomes when supported by transformational leadership that fosters innovation, continuous learning, and organizational adaptability, alongside employee well-being initiatives that mitigate technostress and maintain workforce engagement. This study concludes by proposing an integrative model that positions digital upskilling, transformational leadership, and employee well-being as complementary strategic capabilities for achieving adaptive, human-centered, and sustainable digital transformation in the public sector.		
Keywords	Digital Transformation; Digital Upskilling; Transformational Leadership; Employee Well-being.		
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1. INTRODUCTION

In the operations of modern organizations including government institutions and public service agencies human capital or human resources (HR) are no longer viewed merely as operational executors but as strategic assets that determine an organization's ability to adapt, innovate, and maintain competitiveness amidst an increasingly dynamic (Harefa & Zebua, 2026; Pangandaheng et al., 2022). The quality of human resources directly impacts the effectiveness of public service delivery, as competent personnel are capable of providing services that are faster, more accountable, responsive, and oriented



toward the needs of the community (Rachman, 2024). Consequently, investing in competency development through planned and continuous training has become a strategic priority in the modernization of bureaucracy (Elfira et al., 2025).

Despite continuous investments in human resource development, many public organizations continue to face challenges in improving employee adaptability and maintaining service quality amid rapid digital transformation. This indicates that conventional competency development alone is insufficient to address the increasingly complex demands of digital governance.

Massive digital transformation has further heightened this urgency. The adoption of technologies such as artificial intelligence, big data analytics, cloud computing, administrative automation, and Electronic-Based Government Systems (SPBE) has fundamentally altered how public organizations perform service functions and make decisions (Sundari & Sartika, 2025). Digitalization is believed to enhance bureaucratic efficiency, accelerate service processes, strengthen transparency, and foster government accountability (Mergel et al., 2019). However, the success of digital transformation is not determined solely by the sophistication of the technology employed, but rather by the readiness of human resources to master, utilize, and adapt to these changes (Syafitri et al., 2025).

Accordingly, digital transformation should be understood not merely as technological adoption but as organizational change that requires employees to continuously develop new competencies while adapting to evolving work processes. In this context, digital upskilling serves as the cornerstone of organizational transformation. It is no longer sufficient for civil servants (ASN) to possess merely conventional administrative skills; they are required to master digital literacy, data management, cybersecurity, and technology-enabled collaboration, as well as the ability to leverage digital information for evidence-based decision-making (Rachmawaty et al., 2025). Without systematic enhancement of digital competencies, technology investments risk failing to deliver added value, as the technology investments may generate limited organizational value because employees are unable to fully utilize digital systems to improve decision-making and service quality.

Although digital upskilling equips employees with the competencies required to operate digital technologies, technological competence alone does not necessarily ensure successful organizational transformation. Technological change is fundamentally an organizational shift that invariably entails changes in work culture, communication patterns, and the ways individuals perform their duties. If not managed appropriately, this change process often gives rise to resistance, uncertainty, and internal conflict. Consequently, transformational leadership plays a pivotal role in navigating this transition. Transformational leaders act not only as decision-makers but also as agents of change capable of forging a shared vision, fostering intrinsic motivation, strengthening collaboration, and cultivating an organizational climate that supports learning and innovation. Through inspiring leadership, digital

upskilling can be embraced as an integral part of professional development for civil servants, rather than perceived as a threat to their positions or established work routines. Therefore, employee well-being should be regarded as a strategic organizational resource that enables sustained adaptation, innovation, and long-term organizational performance during digital transformation.

On the other hand, the acceleration of digitalization also brings consequences for employees' psychological well-being that cannot be overlooked. High demands for technological adaptation, rapidly evolving work systems, and the expectation to remain responsive across various digital platforms can trigger psychological strain ranging from "*technostress*" and digital fatigue to a decline in work-life balance (Andryan & Suminar, 2024; Masitoh et al., 2025). These conditions demonstrate that the success of digital transformation cannot be measured solely by gains in organizational efficiency; it must also account for the sustainability of the human capacity driving that transformation. Highly competent personnel who experience a decline in psychological well-being will struggle to maintain productivity, creativity, or the quality of public services in the long term.

These arguments suggest that digital upskilling, transformational leadership, and employee well-being should be viewed as complementary organizational capabilities rather than independent organizational resources. Digital upskilling provides the competencies required to operate technology; transformational leadership ensures the change process proceeds effectively and garners organizational support; and well-being sustains the performance of civil servants, enabling them to adapt without suffering excessive psychological stress. The absence of any of these three components risks suboptimal digital transformation outcomes. Organizations that focus solely on technology without enhancing employee competence will face low system adoption rates. Conversely, competence building without supportive leadership will trigger resistance to change. Similarly, a transformation that neglects employee well-being risks increasing work-related stress, lowering productivity, and diminishing the quality of public service delivery.

Previous studies on digital transformation in the public sector have primarily focused on technological dimensions, including digital infrastructure, e-government implementation, and information system effectiveness (Das, 2024; Purnamasari et al., 2025; Rahman et al., 2024). Meanwhile, studies in public human resource management have generally examined digital competency development, leadership, or employee well-being as separate determinants of organizational performance (Ahmad et al., 2024; Siraj et al., 2022). Although these studies provide valuable insights, they remain fragmented in explaining how these dimensions collectively support sustainable digital transformation

More importantly, limited studies have integrated digital upskilling, transformational leadership, and employee well-being within a single conceptual framework to explain sustainable bureaucratic

transformation. This limitation restricts a comprehensive understanding of how employee competence, leadership support, and psychological readiness interact in facilitating successful digital transformation. Therefore, developing an integrated framework is essential to extend existing public sector human resource management literature.

2. METHOD

This study employed a systematic literature review (SLR) approach to synthesize existing knowledge on public sector human resource development in the context of digital transformation, with a particular focus on digital upskilling, transformational leadership, and employee well-being. A systematic literature review was selected because it enables a transparent, rigorous, and replicable process for identifying, evaluating, and synthesizing relevant scholarly evidence, thereby providing a comprehensive conceptual understanding of the relationships among the three constructs.

The study relies on secondary data obtained from various scholarly sources, including reputable national and international journal articles, academic books, conference proceedings, and policy documents relevant to the research topic. Data collection involved searching scientific databases, followed by a selection process based on relevance, publication quality, and the recency of the references (Creswell & Plano Clark, 2023; Sugiyono, 2020). Subsequently, the data were analyzed using content analysis techniques, comprising stages of data reduction, thematic categorization, interpretation, and conclusion drawing. This analysis aims to identify the relationships among digital upskilling, transformational leadership, and well-being, establishing a foundation for developing adaptive human resources capable of supporting digital transformation in the public sector.

The inclusion criteria comprised: (1) peer-reviewed journal articles; (2) studies published in English; (3) research focusing on digital upskilling, transformational leadership, employee well-being, or their relationships within public sector organizations; and (4) articles with accessible full-text documents. The exclusion criteria included conference papers, book chapters, editorials, review articles, dissertations, duplicate publications, and studies unrelated to the objectives of this review. The literature selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, including four stages: identification, screening, eligibility assessment, and inclusion. A PRISMA flow diagram is presented to illustrate the selection process and ensure methodological transparency.

The selected studies were analyzed using qualitative content analysis. The analysis involved data reduction, thematic coding, categorization, interpretation, and synthesis of findings to identify patterns and relationships among digital upskilling, transformational leadership, and employee well-being. The

synthesized evidence served as the basis for developing an integrated conceptual framework for sustainable public sector human resource development in the digital transformation era.

3. FINDINGS AND DISCUSSION

1) Strengthening the Digital Competence of Public Officials to Support Public Sector Transformation

Digital transformation has shifted the paradigm of governance from conventional administrative systems toward data- and technology-driven management. This shift requires public sector officials not only to utilize information technology but also to possess digital competence that adapts to rapidly evolving innovations. A synthesis of existing literature indicates that the success of public sector digital transformation depends more on human resource readiness than merely on the availability of technological infrastructure. In other words, technology serves merely as an enabler, whereas people are the primary actors determining the success of digital transformation implementation.

Digital competence among public officials is no longer defined merely as the ability to operate software or administrative applications; rather, it encompasses the ability to manage data, utilize artificial intelligence-based technologies, ensure information security, collaborate via digital platforms, and engage in evidence-based decision-making. Officials with high digital competence tend to adapt more quickly to changes in work systems, enhance service efficiency, and generate innovations that improve the quality of public services. Conversely, low digital competence results in technology implementation that remains purely administrative, failing to bring about substantive organizational change.

Table 1 Literature Synthesis on Strengthening the Digital Competence of Civil Servants

No	Authors	Research Focus	Key Findings	Contribution to Research
1.	(Syafarudin & Haris, 2025)	Examining the implementation of e-government in Indonesia and its impact on digital transformation in public service delivery.	E-government has improved service accessibility, transparency, efficiency, and government responsiveness. However, implementation remains uneven due to digital infrastructure gaps, low digital literacy, interoperability issues, cybersecurity risks, and organizational resistance. Successful implementation depends on leadership commitment, capacity	Demonstrates that digital transformation requires not only technological investment but also continuous digital upskilling, leadership commitment, and organizational readiness, supporting the conceptual foundation of this study.

No	Authors	Research Focus	Key Findings	Contribution to Reserch
			building, adequate resources, and citizen-centric governance.	
2.	(Public & Policy, 2023)	Assessing the maturity of digital government across OECD countries using the Digital Government Index (DGI).	High-performing governments develop human-centered digital services supported by strong governance, integrated digital public infrastructure, interoperability, data-driven decision making, and adaptive institutional capacity. Sustainable digital transformation depends on resilient governance and continuous capability development.	Provides an international benchmark demonstrating that digital competencies and institutional capabilities are essential enablers of successful digital government and organizational transformation.
3.	(Nastions, 2022)	Evaluating global e-government development and future digital government trends using the EGDI framework.	The report highlights continuous improvement in global digital government while emphasizing persistent digital divides among countries. Future digital government should prioritize inclusiveness, digital skills, citizen participation, resilience, and leaving no one behind. Human capital remains one of the three core dimensions of digital government readiness.	Reinforces the strategic importance of digital capability development and inclusive digital transformation as prerequisites for improving public sector performance and sustainable governance.
4.	(Ciancarini, 2023)	Identifying the fundamental pillars of digital transformation in public administrations through a comprehensive literature review.	Digital transformation extends beyond technology adoption and requires four interconnected pillars: open data, ICT infrastructure, digital skills of citizens and public employees, and agile organizational processes. Data governance and organizational culture are critical success factors.	Strengthens the theoretical argument that digital upskilling is a strategic capability that complements technological infrastructure and organizational transformation in the public sector.
5.	(Novianto, 2023)	Developing a comprehensive model of digital transformation in the public sector through	The proposed model identifies four major dimensions influencing successful digital transformation: external	Provides an integrative framework supporting the inclusion of organizational capability and digital

No	Authors	Research Focus	Key Findings	Contribution to Reserch
		a systematic literature review.	environment, organizational capability, citizen engagement, and technological capability. Organizational readiness and leadership are central determinants of success.	competence as essential variables in digital transformation research.
6.	(SILVA, 2025)	Developing a future competency and skills development model for employees in the era of digital transformation and Artificial Intelligence.	The study identifies digital literacy, adaptability, AI-enabled decision making, continuous reskilling, and complex problem-solving as future workforce competencies. It proposes the Future Competencies & Skills Development Cycle that integrates continuous learning throughout the employee lifecycle.	Offers a strong theoretical basis for conceptualizing digital upskilling as a continuous strategic process that enhances employee capability and organizational sustainability during digital transformation.
7.	(Wujarso et al., 2025)	Conducting a systematic literature review and comparative country analysis of digital transformation in public sector institutions.	Digital transformation improves public service quality, operational efficiency, and citizen participation. Comparative evidence shows that governance structures, institutional capacity, policy alignment, and adaptive implementation determine successful transformation, while data security, organizational resistance, and resource limitations remain major barriers. The study proposes a Citizen-Centric Adaptive Model.	Supports the proposition that digital transformation is a multidimensional process requiring institutional capacity, leadership, and continuous workforce development, thereby reinforcing the importance of digital upskilling in improving public sector effectiveness.

The synthesis of results in Table 1 reveals a consistent finding: digital competence is a primary prerequisite for the successful transformation of the public sector. All the studies identify the digital capacity of the workforce as a more decisive factor than mere investment in technology. Consequently, the digitalization of the bureaucracy cannot be viewed merely as the procurement of software or service applications; rather, it is an organizational transformation requiring shifts in individual competencies, organizational culture, and governance. These findings reinforce the view that developing digital

competence should be treated as a strategic investment in bureaucratic reform, rather than simply an administrative training program.

Based on this synthesis, it can be inferred that bureaucratic digitalization should not be regarded merely as a process of acquiring technological hardware or software, but as an organizational transformation requiring a comprehensive shift in the workforce's competencies. Research indicates that organizations successfully undergoing digital transformation are those that consistently develop their employees' digital capacities through continuous training, self-directed learning, and the cultivation of a continuous learning culture. Thus, the development of digital competence must be positioned as a long-term investment that supports the sustainability of bureaucratic reform.

The study's findings also demonstrate a strong link between digital competence and improved public service quality. Civil servants proficient in digital technology can accelerate administrative processes, enhance data processing accuracy, reduce service errors, and strengthen organizational transparency. Furthermore, the ability to leverage data analytics enables public organizations to make decisions that are faster, more precise, and evidence-based. These factors indicate that strengthening digital competence not only enhances individual capabilities but also contributes to improved overall organizational performance.

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However, a synthesis of the literature reveals that developing digital competence still faces various challenges. Most public sector organizations continue to implement digital training that is sporadic and focused primarily on meeting administrative requirements. Such an approach fails to build the adaptive capacity of employees to keep pace with rapidly evolving technological advancements. Consequently, a paradigm shift is required moving from a training-based approach toward continuous capability development, which entails ongoing competence building through a combination of formal training, online learning, communities of practice, and workplace support (such as coaching and mentoring).

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Based on this synthesis, the study offers a new perspective: strengthening the digital competence of civil servants cannot be separated from the comprehensive organizational transformation process. The study's novelty lies in positioning digital upskilling as a fundamental pillar one that focuses not only on enhancing technical skills but also serves as a link between technological transformation, organizational cultural change, and improved public service quality. Consequently, digital competence is positioned as a strategic capability that enables public sector organizations to build an adaptive, innovative, and sustainable bureaucracy.

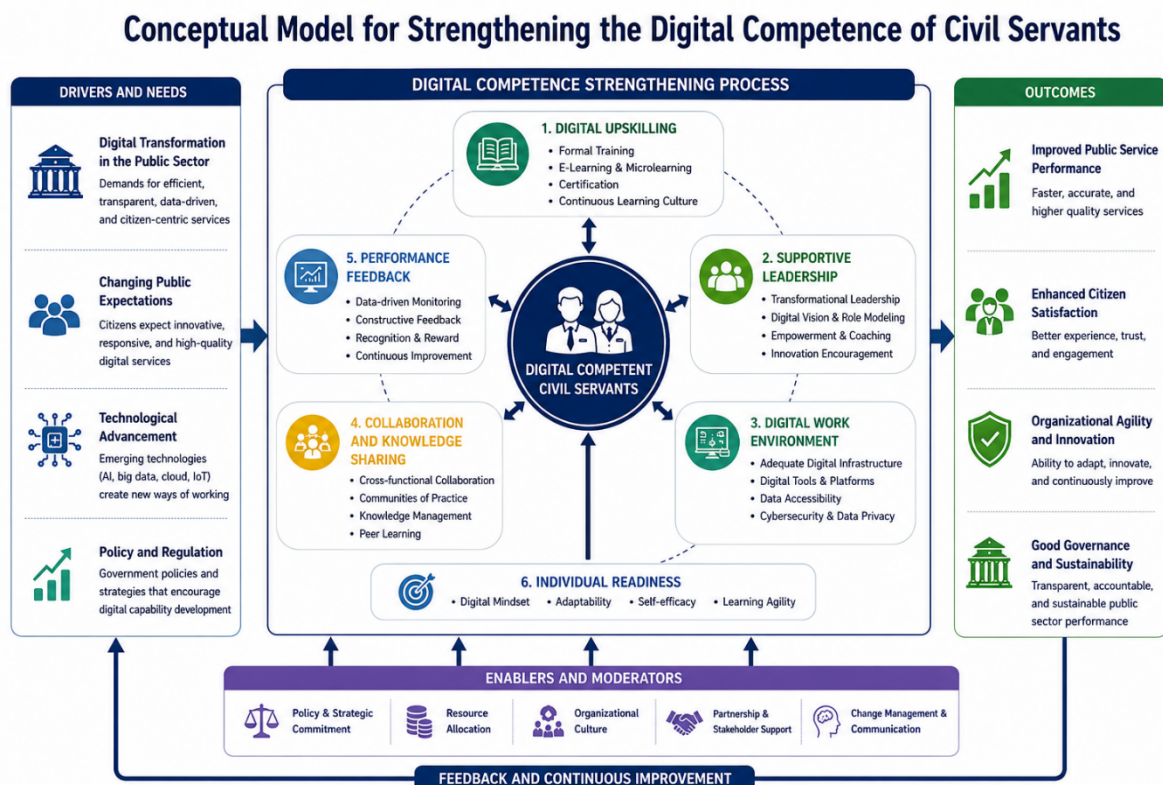


Figure 1 Conceptual Model for Strengthening the Digital Competence of Civil Servants

The conceptual model demonstrates that digital transformation in the public sector begins with strengthening the digital competencies of civil servants as a primary foundation. These competencies encompass digital literacy, data analysis skills, and proficiency in digital technologies, all developed through a process of continuous learning. Strengthening these competencies enhances performance quality, enabling the delivery of public services that are more effective, efficient, transparent, and responsive to the public's needs. These findings underscore that investing in digital competency development is a crucial prerequisite for the successful transformation of the public sector in the era of digital governance.

2) The Role of Transformational Leadership and Employee Well-being in Digital Bureaucratic Reform

Digital transformation in the public sector depends not only on the availability of technology or the enhancement of the workforce's digital competencies but is also influenced by leadership capacity to effectively manage organizational change. A synthesis of existing literature indicates that transformational leadership is a key determinant of successful digital bureaucratic reform, as it bridges the gap between technological changes and shifts in organizational behavior. In this context, leaders move beyond merely performing administrative functions such as overseeing policy implementation to act as change agents capable of inspiring employees to embrace innovation, fostering a digital work culture, and encouraging continuous learning within the organization (Fadhillah et al., 2024; Public & Policy, 2023).

Research demonstrates that public sector organizations with comparable levels of technological readiness can achieve vastly different digital transformation outcomes due to variations in leadership quality. This suggests that the success of digitalization is driven not only by technological sophistication but also by a leader's ability to establish a shared vision, mitigate resistance to change, and cultivate a work environment that supports innovation. Consequently, transformational leadership serves as a catalyst, bridging the link between digital upskilling and the actual implementation of technology within the bureaucracy. Without adaptive leadership, digital competency enhancement programs often result in merely administrative changes rather than substantive shifts in organizational culture.

Table 2 A Synthesis of Literature on Transformational Leadership and Employee Well-being in Digital Bureaucratic Reform

No	Authors	Research Focus	Key Findings	Contribution to Reserch
1	(Bank & LinkedIn, 2022)	Examining digital workforce development and digital skills required to support digital	The report highlights that digital transformation requires continuous upskilling in digital literacy, data analytics, artificial	Provides the conceptual foundation for digital competency development as a prerequisite for

No	Authors	Research Focus	Key Findings	Contribution to Reserch
		transformation across the Asia-Pacific region.	intelligence, cloud computing, and cybersecurity to improve workforce adaptability and organizational performance.	successful digital bureaucratic reform and sustainable organizational performance.
2	(OECD, 2024)	Investigating global trends in public sector innovation and human-centred digital public services.	The study concludes that successful public sector reform depends on digital innovation, adaptive leadership, data-driven governance, citizen-centred services, and continuous organizational learning.	Demonstrates that transformational leadership is essential for fostering innovation and institutional adaptability during digital bureaucratic reform.
3	(İyi et al., 2025)	Reviewing the concept of digital well-being in the context of increasing technology utilization.	Digital well-being is achieved through balanced and responsible technology use, reducing digital fatigue, technology addiction, and psychological stress while improving employees' quality of life.	Reinforces employee well-being as an important outcome of sustainable digital transformation and healthy digital work environments.
4	(Tarafdar et al., 2019)	Exploring technostress and its influence on employee performance and organizational outcomes.	Digital technologies generate both positive (techno-eustress) and negative (techno-distress) psychological effects. Organizational support and effective leadership reduce technostress and enhance employee resilience.	Explains the mediating role of employee well-being in digital transformation and emphasizes leadership support to minimize technostress.
5	(Wart et al., 2019)	Developing an operational framework for e-leadership in digitally enabled organizations.	Six critical e-leadership competencies were identified, including digital communication, virtual team management, change management, technological competence, collaboration, and trust-building.	Establishes transformational digital leadership as a strategic capability that enhances employee engagement, organizational adaptability, and the effectiveness of digital bureaucratic reform.

The synthesis presented in Table 2 indicates that transformational leadership plays a strategic role in reducing employees' resistance to digital transformation. Leaders who are capable of clearly communicating the vision of digital transformation, providing psychological support, and facilitating continuous digital learning are more likely to enhance employees' acceptance and adoption of digital technologies. Conversely, bureaucratic leadership approaches that primarily emphasize administrative

compliance tend to create a phenomenon known as compliance without commitment, in which employees utilize digital systems merely to satisfy organizational requirements without genuinely embracing or optimizing their use. As a result, technology implementation fails to generate meaningful changes in organizational culture or significant improvements in public service quality.

Beyond the leadership dimension, the findings also reveal that employee well-being has become an increasingly important concern in studies of digital transformation within the public sector. The rapid adoption of digital technologies including e-government applications, online working systems, artificial intelligence, and virtual communication platforms has significantly intensified employees' interactions with digital technologies. While these advancements improve operational efficiency and organizational effectiveness, they simultaneously increase the risk of technostress, which refers to the psychological strain arising from continuous exposure to and dependence on digital technologies (Tarafdar et al., 2019). If left unmanaged, technostress may evolve into burnout, emotional exhaustion, reduced work motivation, and declining public service performance.

These findings suggest that the success of digital transformation should not be evaluated solely based on the number of digital applications implemented or the degree of service digitalization. Instead, it should also consider the psychological well-being of public employees as the primary actors responsible for organizational transformation. Public sector organizations should therefore adopt a human-centered digital transformation approach that places employees at the core of the transformation process. Such an approach can be implemented through continuous professional development programs, balanced digital workload management, effective reward and recognition systems, employee counseling services, and organizational cultures that promote work-life balance. Consequently, digital transformation not only improves organizational efficiency but also ensures the long-term sustainability of employees' productivity and organizational performance.

Based on the literature synthesis, this study proposes that transformational leadership and employee well-being are two complementary dimensions that jointly contribute to the success of digital bureaucratic reform. Transformational leadership functions as an organizational mechanism that facilitates change by articulating a shared vision, motivating employees, and fostering an innovation-oriented culture. In contrast, employee well-being serves as a sustainability mechanism by maintaining employees' psychological readiness to continuously adapt to technological change. The integration of these two dimensions enhances the effectiveness of digital upskilling, discussed in the previous subsection, and ultimately contributes to a more comprehensive framework for public sector human resource development.

The recency contribution of this study lies in integrating digital upskilling, transformational leadership, and employee well-being into a unified conceptual framework for public sector human

resource development. Unlike previous studies that have generally examined these variables independently, this research demonstrates that successful digital bureaucratic transformation is driven by the synergistic interaction among enhanced digital competencies, visionary transformational leadership, and sustained employee well-being. Therefore, public sector reform policies should move beyond technology-oriented investments and place greater emphasis on developing human capacity as the primary determinant of successful and sustainable digital transformation.

3) An Integrative Model of Digital Upskilling, Transformational Leadership, and Employee Well-being in Public Sector Human Resource Development

The literature synthesis conducted in this study demonstrates that the success of digital transformation in the public sector cannot be adequately explained through a single dimension, such as digital competence, leadership, or employee well-being in isolation. Rather, digital bureaucratic reform represents a multidimensional organizational transformation that emerges from the interaction among digital upskilling, transformational leadership, and employee well-being. These three dimensions function as complementary organizational capabilities that collectively strengthen institutional adaptability, improve public service quality, and enhance organizational sustainability in the digital era. This finding is consistent with the OECD Digital Government Framework, which emphasizes that successful digital government depends not only on technological infrastructure but also on leadership capacity, organizational governance, and continuous human capital development (OECD, 2024; Public & Policy, 2023). Similarly, the United Nations E-Government Survey 2022 identifies human capital as one of the three fundamental pillars of digital government readiness, highlighting the strategic role of competent public servants in achieving sustainable digital transformation (Nastions, 2022).

The first component of the proposed model is digital upskilling, which serves as the foundation of organizational transformation. Contemporary public servants are expected to possess competencies beyond basic digital literacy, including data analytics, cybersecurity awareness, artificial intelligence (AI), cloud computing, digital collaboration, and evidence-based decision-making (Bank & LinkedIn, 2022; OECD, 2024). However, the literature consistently indicates that technological competence alone is insufficient to ensure successful digital transformation. Numerous public organizations have invested substantially in digital infrastructure while experiencing relatively low adoption rates because employees were inadequately prepared to integrate new technologies into their daily work processes (Novianto, 2023; Wujarso et al., 2025). Consequently, digital upskilling should be viewed as a continuous organizational investment rather than a one-time training initiative. Developing digital competencies through lifelong learning enables public organizations to maintain workforce adaptability amid rapidly evolving technological environments.

The second dimension of the proposed model is transformational leadership, which acts as the organizational mechanism translating individual competencies into collective organizational performance. Transformational leaders establish a compelling digital vision, encourage innovation, empower employees, and cultivate organizational cultures that support continuous learning and collaborative problem-solving (Faridoon et al., 2025; Wart et al., 2019). Rather than merely directing employees to adopt new technologies, transformational leaders facilitate behavioral and cultural change by reducing uncertainty and increasing employees' confidence during organizational transitions. Previous studies have demonstrated that digital transformation initiatives frequently fail because organizational leaders emphasize technological implementation while neglecting communication, employee engagement, and organizational learning (Gupta, 2025). Therefore, transformational leadership serves as a catalyst that converts digital competencies into organizational innovation and improved public service delivery.

The third dimension, employee well-being, ensures the sustainability of digital transformation by maintaining employees' psychological readiness and work engagement. Although digital technologies increase efficiency, they also intensify workload complexity through continuous connectivity, information overload, virtual collaboration, and accelerated decision-making processes. These conditions often generate technostress, which may subsequently lead to burnout, emotional exhaustion, declining job satisfaction, and reduced organizational commitment if left unmanaged (Tarafdar et al., 2019). Recent studies further suggest that organizations capable of fostering healthy digital work environments experience higher employee engagement, stronger organizational resilience, and greater innovation capacity (Nufuz et al., 2025; Sidik et al., 2025). Consequently, employee well-being should no longer be regarded merely as an outcome of organizational policies but rather as a strategic capability that supports sustainable digital transformation. Human-centered initiatives—including psychological support, balanced digital workloads, flexible work arrangements, career development opportunities, and work-life balance policies are essential components of digital human resource management.

Based on the synthesis of the reviewed literature, this study proposes an Integrative Human Resource Development Model consisting of three interconnected pillars: Digital Upskilling, Transformational Leadership, and Employee Well-being. Within this framework, digital upskilling develops human capital, transformational leadership strengthens organizational capability, while employee well-being enhances organizational sustainability. The interaction among these three dimensions generates an adaptive learning organization capable of fostering continuous innovation, strengthening digital organizational culture, promoting evidence-based decision-making, and ultimately improving public sector performance. Unlike previous studies that predominantly examine

these variables independently, this model demonstrates that sustainable digital transformation results from their synergistic interaction rather than from technological investment alone.

The primary theoretical contribution of this study lies in extending existing digital transformation literature by integrating human capital development, transformational leadership theory, and employee well-being into a unified conceptual framework for public sector human resource management. Previous research has generally emphasized digital competencies (Bank & LinkedIn, 2022), leadership (Wart et al., 2019), or employee well-being (Pijoh et al., 2026) as separate determinants of digital transformation. This study argues that these dimensions are mutually reinforcing organizational capabilities that should be developed simultaneously to maximize digital transformation outcomes. Consequently, this research contributes to the growing body of knowledge on human-centered digital transformation, emphasizing that technology should complement not replace the human dimension of public administration.

From a practical perspective, the proposed model offers several policy implications for governments pursuing digital bureaucratic reform. Public sector organizations should integrate digital competency development, transformational leadership training, and employee well-being programs into a comprehensive human resource development strategy. Furthermore, organizational performance evaluation should extend beyond measuring digital service implementation to include indicators of digital competency, leadership effectiveness, employee engagement, psychological well-being, and organizational learning capability. Such an integrated approach will enable governments to build public institutions that are technologically advanced, organizationally adaptive, and socially sustainable. Ultimately, the proposed model provides a strategic roadmap for developing a resilient public workforce capable of responding effectively to the challenges of digital governance in the twenty-first century.

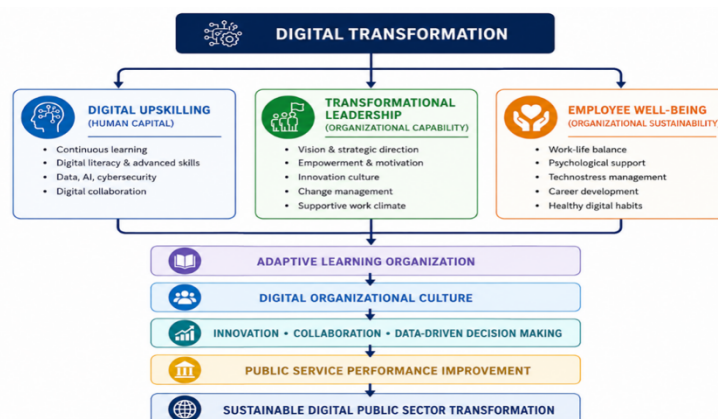


Figure 2 Integrative Model of Public Sector Human Resource Development for Sustainable Digital Transformation

4. CONCLUSIONS

This study concludes that strengthening human resource capacity and capability in the public sector requires an integrated approach that combines digital upskilling, transformational leadership, and employee well-being as the fundamental pillars of sustainable digital transformation. The literature synthesis demonstrates that digital transformation is not merely a technological initiative but an organizational transformation that depends on the readiness of human resources to develop digital competencies, the ability of leaders to foster innovation and manage organizational change, and the capacity of organizations to maintain employees' psychological well-being. These three dimensions operate synergistically to enhance human capital, strengthen organizational capability, and improve the quality and sustainability of public service delivery. Accordingly, this study proposes an integrative conceptual model that expands the current understanding of public sector human resource development by positioning digital upskilling, transformational leadership, and employee well-being as complementary strategic capabilities rather than independent factors.

From a practical perspective, the proposed model provides a strategic reference for governments in designing comprehensive human resource development policies that integrate continuous digital competency development, transformational leadership programs, and employee well-being initiatives within digital bureaucratic reform. Such an approach enables public organizations to build adaptive, innovative, and resilient institutions capable of responding to the evolving demands of digital governance. Future research is encouraged to empirically validate the proposed conceptual model using quantitative approaches, such as Structural Equation Modeling (SEM) or Partial Least Squares Structural Equation Modeling (PLS-SEM), across different public sector institutions. Empirical validation will strengthen the model's generalizability and provide deeper insights into the causal relationships among digital upskilling, transformational leadership, employee well-being, and organizational performance in the context of sustainable digital government.

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