

THE RISE OF DIGITAL LEADERSHIP IN THE PUBLIC SECTOR ERA: A RECENT SYSTEMATIC REVIEW

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Abstract: *In today's fast-changing digital environment, public sector institutions are under increasing pressure to deliver services that are efficient, transparent, and adaptive. As a response, digital leadership has become an essential driver of change, helping organizations navigate technological disruption and improve how they operate. Yet, current research offers fragmented insights into what digital leadership means in practice and how it impacts public administration. This study takes a closer look by conducting a systematic literature review using the PRISMA framework, ensuring a thorough and structured approach. A comprehensive search of Scopus and Web of Science databases yielded 24 peer-reviewed articles published between 2022 and 2025. These works were analysed through three key lenses: Digital Leadership and Organizational Performance, Digital Leadership and Employee Empowerment, and Digital Leadership and Digital Transformation. Across these themes, the evidence consistently points to digital leadership playing a positive role in strengthening decision-making, boosting employee engagement with technology, enhancing public service quality, and building responsive, digitally mature institutions. Traits such as adaptability, ethical foresight, collaboration across departments, and reliance on data emerged as vital components of effective leadership in the digital era. At the same time, the effectiveness of digital leadership appears to be shaped by factors like sector-specific challenges, geographic settings, and the existing level of digital infrastructure. Overall, this review positions digital leadership as more than a technical or administrative role because of its role in a strategic necessity for public institutions aiming to innovate, remain resilient, and meet the evolving needs of citizens. The findings provide a clear, consolidated picture of where the field stands and where future exploration is needed.*

Keywords: *digital leadership, public sector, employee, transformation, performance*

Introduction

In the contemporary era, technology is not only reshaping daily human experiences but also transforming the very essence of how governments operate and serve their citizens. At the forefront of this transformation lies digital leadership, a concept that transcends the mere adoption of technological tools and instead emphasizes the mindset, vision, and strategic direction of leaders navigating their organizations through digital transitions (Mollah et al., 2024; AlAjmi, 2022). Within public institutions, traditional bureaucratic structures are gradually giving way to more agile, data-driven systems designed to enhance service delivery and strengthen citizen engagement (Nuryadin et al., 2023). Through the integration of artificial intelligence, big data analytics, and cloud computing, public agencies are now capable of making more efficient, informed, and timely decisions that better respond to societal needs (Latupeirissa et al., 2024).

However, technological advancement alone cannot guarantee successful transformation. The digital era also presents pressing ethical, social, and governance challenges that require leaders to harmonize innovation with fairness, inclusivity, and transparency (Faro et al., 2021; Manda, 2022; Wang & Khan, 2024). The importance of strong digital leadership was most evident during the COVID-19 pandemic, when significant weaknesses in public service delivery surfaced. Citizen complaints rose dramatically from roughly 900 in 2017 to over 9,000 by 2022–2023 reaching their peak in 2020 when digital support was most crucial (Bartsch et al., 2020; Nuryadin et al., 2023; Musaigwa & Kalitanyi, 2023, 2024). Many government agencies faltered due to leadership gaps in digital literacy and strategic vision (Wang, 2024; Sow & Aborbie, 2018). Consequently, digital leadership has become indispensable for cultivating trust, efficiency, and institutional resilience. Recognizing this, governments worldwide are investing in leaders capable of managing uncertainty, fostering innovation, and steering their institutions toward a more adaptive and future-ready digital landscape (Pratantia & Nasution, 2023; Munthe et al., 2024; Ming & Mansor, 2024; Paulina, 2023).

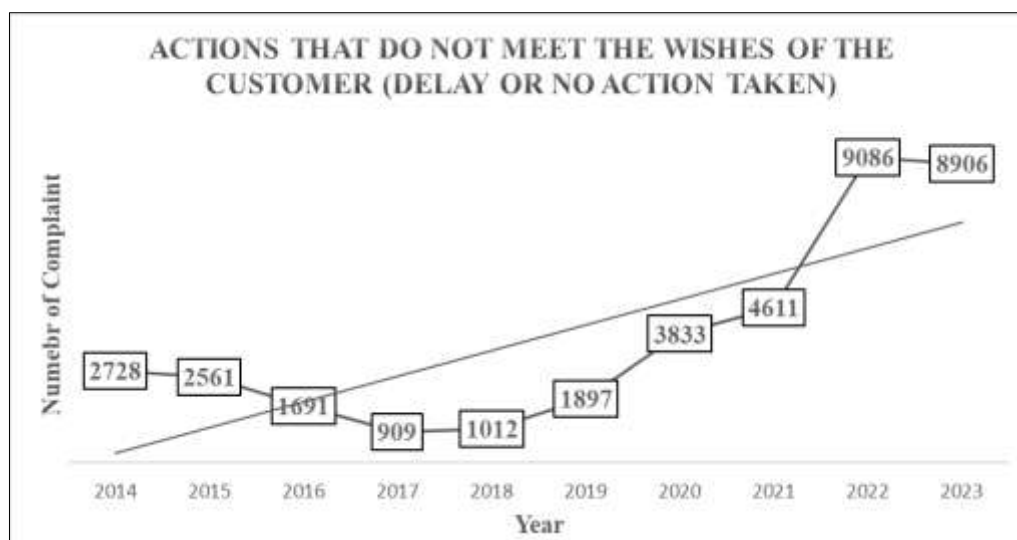


Figure 1: Number of complaints from public on the delay or inaction of public services

Source: Public Complaint Bureau (2019, 2020, 2021, 2022, 2023, 2024)

As such, it is not just about managing technology while doing the public affairs but it is about guiding organizations through complex change while keeping people at the centre of the process. That's why continuing research and practical guidance are vital in helping leaders succeed in this evolving digital landscape.

Literature Review

Leadership within the public sector is undergoing a profound transformation, shifting beyond the adoption of technology toward embedding digital thinking into leadership communication, decision-making, and organizational culture (Nuryadin et al., 2023; Solopi & Qutieshat, 2023). Digital leaders today are not merely implementers of new tools but visionaries who cultivate environments that encourage innovation, adaptability, and lifelong learning (Dema et al., 2023; Khurniawan et al., 2024). For digital leadership to thrive, it must align with the organization's values and operational norms. Institutions that promote teamwork and creativity are generally more receptive to digital transformation, as leaders with foresight and flexibility can nurture trust and motivate teams to embrace change (Pangarso et al., 2022; Sasmoko et al., 2019; Lin, 2023; Malik et al., 2024). The COVID-19 crisis further emphasized the importance of agile leadership capable of navigating uncertainty and driving resilience (Toleikienė et al., 2020). Beyond internal structures, digital leadership is revolutionizing public service delivery by enhancing openness, responsiveness, and citizen-centered governance (Mardiana, 2020). Nonetheless, barriers such as resistance to change and rapid technological advancement remain persistent challenges (Ridho et al., 2023). Addressing these requires ongoing investment in leadership development, digital skills training, and frameworks to evaluate leadership effectiveness (Musid et al., 2024).

As illustrated in Table 1, previous systematic literature reviews (SLR) on digital leadership have advanced knowledge of its evolution, roles, and characteristics but have rarely focused specifically on the public sector. The 2024 SLR explored sustainability performance (Alghfeli et al., 2024), while a 2025 review covered studies only up to 2022 (López-Figueroa et al., 2025). Therefore, this study aims to bridge these gaps by examining digital leadership in the public sector from 2022 to April 2025. Ultimately, digital leadership is shaping the future of governance by making public services more efficient, people-centered, and innovative, driven by leaders who inspire trust, adaptability, and meaningful change.

Table 1: Previous studies of Systematic Literature Review on Digital Leadership

Author	Research Objective	Field	Theme	Period of Article
López-Figueroa et al. (2025)	To analyse the evolution of digital leadership	Digital Leadership within the context of Organizational Studies and Management	the evolution and current state of digital leadership research	2020 to 2022
Alghfeli et al. (2024)	To review the literature and examined the role of digital leadership styles in sustainable performance	Sustainability and Leadership Studies	The influence of digital leadership on the outcome of sustainability performance	Until 2024

Author	Research Objective	Field	Theme	Period of Article
Lin (2024)	To understand the concept, characteristic and structure of Digital Leadership	Digital leadership in organizational studies.	Digital leadership: concepts, characteristics, research directions.	As of October 2022,

Source: Scopus (up to May 2025)

Research Question

A Strong research questions are the heart of any good systematic literature review (SLR). They shape what gets included, keep the review focused, and help make sense of the findings. Clear questions also make it easier to search for relevant studies, organize data, and draw meaningful conclusions while reducing bias and improving transparency. In short, they keep the whole review on track. As Kitchenham (2007) emphasized that the setting of these questions is the most important step in planning an SLR. This review set out to explore the current state of the field, using the PICO framework from Lockwood et al. (2015) to shape its research focus.

- i. Population (P): Who the study is about.
- ii. Interest (I): What the study is exploring.
- iii. Context (Co): Where or under what circumstances the topic applies.

PICO helps break down the research focus clearly and logically. Using this method, the study developed two main research questions to guide the review.

- i. How does digital leadership influence the organizational performance of public sector institutions in the digital era?
- ii. In what ways does digital leadership contribute to the empowerment and engagement of employees within public sector organizations?
- iii. What is the role of digital leadership in facilitating successful digital transformation initiatives in the public sector?

Methodology

The current study adopted the PRISMA approach (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) as its guiding framework that is structured around four interrelated phases namely identification, screening, eligibility, and data abstraction (Page et al., 2021). The process begins with the broad identification of potentially relevant studies, followed by a careful screening to remove irrelevant or low-quality articles. Subsequently, the eligibility phase involves a detailed assessment to ensure that the remaining studies align with the inclusion criteria, culminating in the data abstraction stage, where critical information is systematically extracted and analyzed. The PRISMA methodology serves as a comprehensive roadmap that enables researchers to systematically identify, evaluate, and synthesize relevant literature while simultaneously minimizing bias and enhancing transparency throughout the review process. The whole process has been illustrated in Figure 3 below that contain the diagrams of the current searching. In pursuit of methodological rigor, two well-established academic databases, Web of Science and Scopus, were selected due to their extensive coverage and proven credibility in indexing high-quality scholarly works. By adhering to this structured and transparent procedure, the present study ensures not only methodological consistency but

also the generation of credible and meaningful insights that contribute to both academic discourse and evidence-based practice.

PRISMA Framework

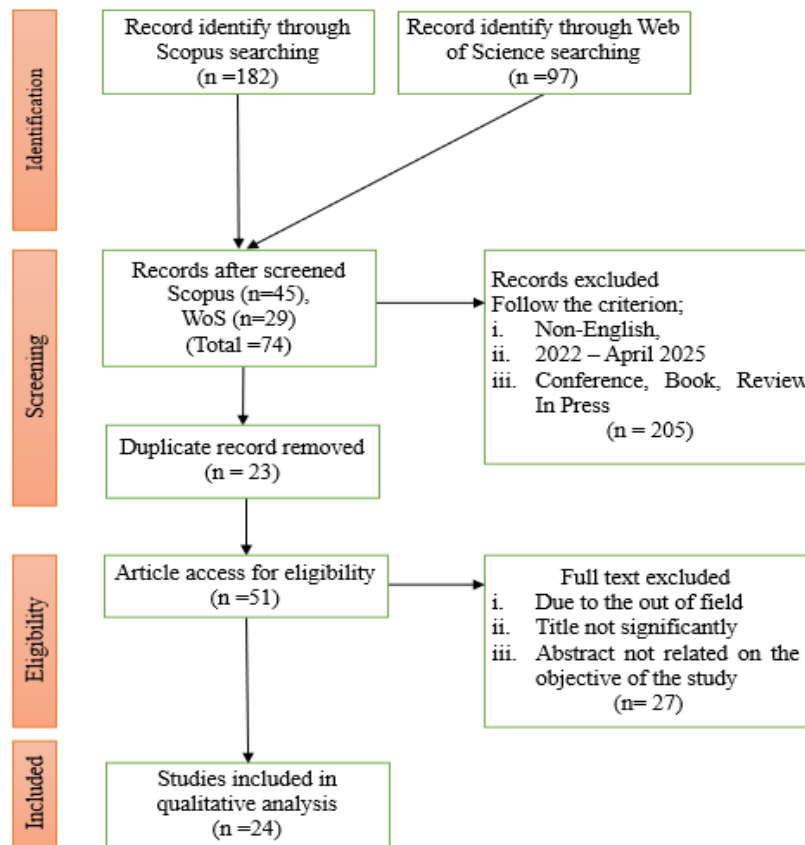


Figure 2: Flow diagram of the proposed searching study

Source: Page et al. (2021)

Identification

Systematic literature review (SLR) process begins with an extensive searching for the related work. The detail of the search is listed in Table 2. In the current study, the review was conducted in two well-known academic indexed databases namely Scopus and Web of Science (WoS). These services were selected due to their reliability and depth of offering of the peer-reviewed content. To cover both wide and deep searches, the keywords digital leadership, e-leadership, virtual leadership, and IT leadership were combined with keywords (government, public organization, and civil service). Finally, we obtained a large set of 264 papers relevant to our research question, 182 in Scopus and 97 in WoS. This volume signals the rising interest scholars from various disciplines are showing towards how leadership is evolving in the digital era, particularly in the public sector. By employing a broad selection of keywords, the search included studies from multiple perspectives including the technical and human-focused aspects of leadership. This varied and rich literature is a good basis for the study of how leadership is forming digital government and public leadership and/or being shaped by it.

Table 2: Search String

Scopus	TITLE-ABS-KEY ((“digital leadership” OR “technology leadership” OR “e-leadership” OR “virtual leadership” OR “online leadership” OR “IT leadership” OR “cyber leadership”) AND (“government” OR “public sector” OR “public organization” OR “public service” OR “civil sector” OR “civil service”)) Date of Access: 8 April 2025
WoS	TS= ((“digital leadership” OR “technology leadership” OR “e-leadership” OR “virtual leadership” OR “online leadership” OR “IT leadership” OR “cyber leadership”) AND (“government” OR “public sector” OR “public organization” OR “public service” OR “civil sector” OR “civil service”)) Date of Access: 8 April 2025

Source: Author (2025)

Screening

The screening stage plays a key role in a Systematic Literature Review (SLR), narrowing down the initial list of studies to those most relevant to the research focus. In this review, only English-language publications from 2022 up to 8 April 2025 were considered. This time frame was chosen to keep the analysis up-to-date, while the language filter ensured the findings could reach a broader, global audience. To maintain academic rigor, secondary materials and non-peer-reviewed sources were deliberately left out. Starting with 264 records (Scopus (182) + WoS (97)), the process first eliminated 23 duplicate entries. Then, 205 studies were excluded based on the set criteria, leaving 51 high-quality articles for full-text review. Each of these selected works met the inclusion standards, which prioritized original research articles, literature reviews, meta-syntheses, conference proceedings, and book chapters not superseded by newer publications. List of selection criterion is listed in Table 3. This careful selection process helped build a reliable foundation for analysing how digital leadership is evolving within public service contexts.

Table 3: The selection criterion is searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2022 – 8 April 2025	< 2022
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

Source: Compiled by Author (2025)

Eligibility

After the initial screening, 51 articles entered the eligibility phase for closer review. Titles, abstracts, and content were thoroughly examined to confirm their focus on digital leadership within the public sector, using consistent keywords and clear inclusion criteria. This step ensured that each study provided meaningful empirical or theoretical contributions. Following this review, 24 articles were excluded for reasons such as irrelevance, unclear focus, or lack of full-text access. This careful selection process helped maintain the review’s quality and ensured a strong foundation for drawing reliable insights in the final analysis.

Included

The eligibility phase of the SLR ensures that only relevant studies are included for analysis. Titles and content were screened, resulting in the exclusion of 27 articles due to irrelevance, poor titles, lack of full-text access, or insufficient empirical evidence. This rigorous appraisal preserved the quality of the review. Eventually, 24 articles were selected for further analysis, forming a focused set addressing the research questions. This process enhances the level of validity as well as reliability of the findings, contributing to meaningful insights on Digital Leadership.

Data Abstraction and Analysis

Drawing upon a meta-analysis encompassing 24 studies, this research identified significant themes in Digital Leadership through meticulous data extraction and collaborative engagement among researchers. Detailed documentation was maintained throughout the process to uphold transparency and analytical integrity. Moreover, systematic comparison of individual findings strengthened the overall reliability of the results. Through this iterative and reflective approach, the study not only enhanced methodological rigor but also illustrated how the integration of qualitative and quantitative techniques can enrich mixed-methods research by providing deeper, more holistic, and contextually grounded insights.

Quality of Appraisal

As outlined by Kitchenham and Charters (Kitchenham, 2007), once the primary studies are selected for a systematic literature review, the next crucial step is to evaluate the quality of these sources. Primary studies are the original research papers that have been carefully chosen for their relevance and are used as the foundation for answering the review's research questions through detailed analysis. For this review, we followed the quality assessment method developed by Abouzahra et al., (2020), which includes six clear criteria. Each study was rated by three experts using a simple scoring system: “Yes” (1 point) if the criterion was fully met, “Partly” (0.5) if only partially addressed, and “No” (0) if not addressed at all.

The six quality checks were as follows:

QA1: Does the study clearly state its purpose?

This helps clarifying the research direction.

QA2: Is the value or usefulness of the research well explained?

This shows its relevance and potential impact.

QA3: Is the methodology clearly laid out?

A well-defined method ensures the study is credible and repeatable.

QA4: Are the core ideas and concepts clearly described?

This ensures readers can understand the study's framework.

QA5: Does the research compare itself to similar studies?

This shows how it fits within the existing body of knowledge.

QA6: Are the limitations openly discussed?

Knowing what the study doesn't cover adds honesty and transparency.

Each expert independently scored the studies, and their results were combined. To move forward in the review, a study had to score above 3.0 in total, ensuring only high-quality research was included in the final analysis. This step helped maintain the integrity of the review and ensured that the conclusions were based on strong, credible evidence. It begun with the

representing the 24 articles in code for easy reference and reporting (as in Table 4 below). Here's a detailed explanation:

Table 4: Description Of Code for The Articles That Undertook Quality of Assessment:

No.	Code (PS)	Authors	SCOPUS	WOS
1	PS1	Claassen et al. (2023)	✓	✓
2	PS2	Shaikh et al. (2023)	✓	✓
3	PS3	Li et al. (2023)	✓	✓
4	PS4	Tack et al. (2022)	✓	
5	PS5	Wang et al. (2023)	✓	
6	PS6	Hanandeh et al. (2023)	✓	
7	PS7	Yusuf et al. (2023)	✓	
8	PS8	Meng et al. (2025)	✓	✓
9	PS9	Öztirak and Bayram, (2023)	✓	✓
10	PS10	Mulyani (2024)	✓	✓
11	PS11	Rosalia (2022)	✓	
12	PS12	Elmatsani et al. (2024)	✓	✓
13	PS13	Toleikienė et al. (2024).	✓	✓
14	PS14	Alda et al. (2023)	✓	✓
15	PS15	Ghamrawi and Tamim (2023)	✓	✓
16	PS16	Taoufik and Azmani (2025)	✓	✓
17	PS17	Saifan (2025)	✓	
18	PS18	Ushaka et al. (2024)	✓	
19	PS19	Tanucan et al. (2023)	✓	
20	PS20	Rybnikova et al. (2022)	✓	
21	PS21	Pham and Vu (2022)	✓	✓
22	PS22	Willermark and Islind (2022)	✓	✓
23	PS23	Senadjki et al. (2023)	✓	
24	PS24	Purnomo et al. (204)	✓	

Source: Compiled by Author (2025)

Result from the review using the 6 criteria on the 24 scholarly articles sourced from Scopus and WoS as listed in Table 5 below, the focus was on assessing their methodology and analytical depth. Among the eight articles classified under “Background: Methodology and Analysis”, only 6 articles managed to achieve the score of 100%. Most of the remaining articles scored 83.3%, indicating generally strong quality but with some recurring weaknesses.

Discussion and Results

The current SLR has reviewed on 24 articles and organized the findings into three key areas (as detailed out in Table 5 below):

Table 5: Thematic Analysis Table on 24 Articles

Organizational Performance	PS1, PS3, PS4, PS5, PS6, PS7, PS8, PS9, PS10, PS11, PS12, PS13, PS15, PS16, PS17, PS18, PS19, PS20, PS21, PS22, PS23, PS24
Employee Empowerment	PS6, PS7, PS9, PS10, PS13, PS17, PS2, PS22, PS24
Digital Transformation	PS1, PS2, PS3, PS5, PS6, PS7, PS8, PS9, PS10, PS11, PS12, PS14, PS16, PS17, PS18, PS20, PS21, PS22, PS23, PS24

Table 6: Description of Themes

Theme	Description	# of Related Authors
Digital Leadership & Organizational Performance	Digital leadership serves as a performance driver by aligning digital tools and strategy with organizational goals, enabling public institutions to be more agile, innovative, and citizen-focused.	22
Digital Leadership & Employee Empowerment	Digital leadership empowers employees by promoting a supportive environment for technological adaptation, enhancing engagement, autonomy, and resilience in digital transitions.	9
Digital Leadership & Digital Transformation	Digital leadership is pivotal for orchestrating digital transformation through vision-setting, cultural change, capacity building, and strategic alignment with emerging technologies.	18

Source: Compiled by Author (2025)

Table 5 and 6 indicates on how digital leadership influence the public sectors in three different theme or perspective; majority of the articles (22) highlight on how the leadership focus on organisational performance. Followed by Digital transformation in public sector (18). The remaining articles focus on employee performance (8).

Digital Leadership & Organizational Performance (Response to Research Question No. 1: How does digital leadership influence the organizational performance of public sector institutions in the digital era?)

The Digital Leadership shall influence organisational performance through strategic alignment (SI), operational agility (OA) and innovation and service quality (ISQ). Based on Table 7 and 8 below, Digital leadership significantly shapes how public institutions perform in today's digital world. It does this mainly through three pathways: aligning digital tools with strategic goals (Strategic Alignment), improving flexibility and responsiveness (Operational Agility), and enhancing creativity and public service quality (Innovation & Service Quality). Evidence from 22 scholarly works shows that Innovation & Service Quality is the most cited impact, appearing in 22 studies, followed by Strategic Alignment in 15, and Operational Agility in 13. For example, Claassen et al. (2023) emphasize empowering teams with autonomy, while Wang et al. (2023) encourage leaders to focus attention on digital strategies. Studies like Hanandeh et al. (2023) and Meng et al. (2025) advocate for combining leadership vision with entrepreneurial thinking and systemic readiness. Overall, digital leadership does more than manage technology because it also strengthens strategic focus, inspires innovation, and equips public institutions to meet changing needs with efficiency and transparency.

Table 7: Description of Sub-Themes of Organisational Performance

Sub-Themes	Description	# Authors*
SI	Refers to how digital leaders ensure that the use of technology aligns closely with an organization's broader goals, helping to drive measurable improvements in performance	15
OA	Refers to the leader's ability to guide their organization through changes with flexibility, responsiveness, and a readiness to adapt work processes as needed	13
ISQ	Refers to how digital leaders encourages new ideas, enhances the quality of public services, and supports transformative approaches to meeting community needs	22

*Number of Related Authors

Table 8: Thematic Table on Sub-Themes of Organisational Performance

Author	Theory / Model	SI	OA	ISQ	Insights for Public sector Policymakers	Insights for Training Institutions
Claassen et al. (2023)	DigiFuehr 2.0	✓		✓	Foster self-determination & support to balance innovation	Teach methods for nurturing autonomy alongside support
Li et al. (2023)	Adaptive Structuration Theory	✓		✓	Align digital infrastructure with strategic ambitions	Build training around adaptive business model design
Tack et al. (2022)	Not mentioned	✓		✓	Enhance digital competency in decision-making systems	Develop training in data-driven decision tools
Wang et al. (2023)	Attention-Based View	✓		✓	Direct managerial focus toward digital initiatives	Train attention and focus strategies in leadership
Hanandeh et al. (2023)	Digital Transformation Framework	✓	✓	✓	Combine digital planning with entrepreneurial leadership	Include innovation and adaptability in curricula
Yusuf et al. (2023)	Not mentioned	✓	✓	✓	Prioritize digital leadership to improve performance	Integrate SEM-based lessons on leadership effects
Meng et al. (2025)	TOE Framework	✓	✓	✓	Balance tech, organization & environment for digital services	Train using comprehensive TOE-based cases
Öztirak & Bayram (2023)	Motivational Mediation Model		✓	✓	Boost motivation to enhance agility & innovation	Offer workshops on motivational leadership techniques
Mulyani (2024)	Creativity & Decision-Making Model			✓	Encourage creative decision-making to boost service quality	Teach creative and critical thinking in leadership contexts
Rosalia (2022)	Not mentioned			✓	Use e-leadership to improve service transparency & delivery	Train on e-government practices for clear service delivery

Author	Theory / Model	SI	OA	ISQ	Insights for Public sector Policymakers	Insights for Training Institutions
Elmatsani et al. (2024)	Not mentioned	✓	✓	✓	Develop strategic competencies in digital governance	Prepare leaders using transformational digital models
Toleikienė et al. (2024)	Not mentioned		✓	✓	Address remote-work challenges by improving digital cohesion	Emphasize virtual work strategies in programs
Ghamrawi and Tamim (2023)	Not mentioned	✓		✓	Integrate digital competence and culture in service initiatives	Train on digital culture and advocacy
Taoufik & Azmani (2025)	Smart e-government Framework	✓	✓	✓	Promote transparent, data-driven governance	Teach smart-government principles and transparency
Saifan (2025)	Zero Bureaucracy Model		✓	✓	Enhance agility via zero-bureaucracy reforms	Train leaders in agile reform processes
Ushaka et al. (2024)	Not mentioned	✓	✓	✓	Clarify digital leadership competencies for modernization	Provide holistic modules on digital leadership skills
Tanucan et al. (2023)	Not mentioned	✓		✓	Customize digital policies according to demographic insights	Offer inclusive leadership training
Rybnikova et al. (2022)	Not mentioned		✓	✓	Support e-leadership via digital readiness and culture shifts	Teach pre-digital to digital workplace transitions
Pham & Vu (2022)	Not mentioned	✓		✓	Use digital servitization to raise performance sustainably	Include servitization strategy in leadership courses
Willermark & Islind (2022)	Virtual Leadership Affordance Theory		✓	✓	Cultivate virtual trust, clarity, and structure	Integrate virtual leadership cases into programs
Senadjki et al. (2023)	Not mentioned	✓	✓	✓	Use DL capabilities to mediate transformation & performance	Develop modular courses on vision, predictability, DL
Purnomo et al. (2024)	Digital Leadership & Reform Model	✓	✓	✓	Align DL with reform processes to revitalize bureaucracy	Train leaders on DL-driven bureaucratic reform

Source: Compiled by Author (2025)

Digital Leadership & Employee Empowerment (Response to Research Question No. 2: *In what ways does digital leadership contribute to the empowerment and engagement of employees within public sector organizations?*)

Digital leadership plays a powerful role in empowering and engaging public sector employees by cultivating trust, autonomy, and effective communication. Firstly, leaders who foster motivation as seen in studies like Shaikh et al. (2023) and Öztirak & Bayram (2023) enhance morale, encouraging participation and adaptive cultures. This motivational aspect has been highlighted in 4 articles out of 9 articles under the theme employee empowerment. Secondly, autonomy, emphasized by Mulyani (2024), allows employees creative freedom, fostering a sense of ownership and innovation and this has been highlighted in 2 of 9 articles. Finally, communication, as highlighted by Willermark & Islind (2022), becomes critical in remote and hybrid setups, ensuring clarity and team cohesion. As highlighted by 3 out of 9 articles, these strategies help public institutions stay resilient and responsive. For policymakers, the message is clear: embed leadership practices that nurture these values. Meanwhile, training institutions must equip leaders with the tools to inspire, empower, and connect. Together, these efforts create workplaces where employees are not just managed but meaningfully engaged and empowered. Further details explanation on the sub themes and the insight for leaders are listed in Table 9 and 10.

Table 9: Description of Sub-Themes of Employees Empowerment

Sub-Themes	Description	# Authors*
Motivation (M)	Digital leaders boost morale and trust, serving as catalysts for agile, participatory cultures.	4
Autonomy (A)	Empowering employees through freedom and creative direction builds ownership and innovative performance.	2
Communication (C)	Effective digital infrastructure and communication systems foster engagement, especially in hybrid setups	3

*Number of Related Authors

Table 10: Thematic Table on Sub-Themes of Employees Empowerment

Author(s)	Theory/Model	M	A	C	Insights for Policymakers	Insights—Training Institutes
Shaikh et al. (2023)	Upper Echelon, Social Capital	✓	✓		Embed green HRM & knowledge sharing	Train in collaboration & sustainability
Hanandeh et al. (2023)	Digital Transformation Framework	✓			Use digital & entrepreneurial leaders	Develop entrepreneurial digital skills
Yusuf et al. (2023)	Not mentioned	✓			Prioritize digital leadership	Strengthen SEM-based training
Öztirak & Bayram (2023)	Motivational Mediation Model	✓			Design motivational leadership initiatives	Host workshops on empowerment
Mulyani (2024)	Creativity & Decision-Making Model		✓		Encourage creative decision-making	Foster creativity in leadership
Toleikienė et al. (2024)	Not mentioned			✓	Improve remote communication strategies	Emphasize hybrid work training
Saifan (2025)	Zero Bureaucracy Model				Streamline via trust & team empowerment	Teach agile leadership models

Willermark & Islind (2022)	Virtual Leadership Affordance			✓	Build trustful virtual team environments	Include virtual leadership case studies
Purnomo et al. (2024)	Digital Leadership & Reform Model			✓	Use digital tools for team collaboration	Train in DL-facilitated reforms

Source: Compiled by Author (2025)

Digital Leadership & Digital Transformation (Response to Research Question No. 3: What is the role of digital leadership in facilitating successful digital transformation initiatives in the public sector?)

Digital leadership plays a crucial role in driving successful digital transformation by integrating three core pillars: strategic vision (SV), cultural change (CC), and technological capacity (TC) in public sector. Leaders like those described by Claassen et al. (2023) and Hanandeh et al. (2023) shape clear digital strategies that guide organizations through complex transitions. At the same time, fostering a culture of trust, creativity, and collaboration as emphasized by Shaikh et al. (2023) and Willermark & Islind (2022) are vital to engaging employees in the transformation journey. Infrastructure support is equally critical, as shown by Li et al. (2023) and Yusuf et al. (2023), who stress the need for robust systems and digital literacy. Together, these elements ensure that digital leadership not only initiates but sustains transformation, enabling governments to deliver more efficient, responsive, and transparent services in an increasingly digital world. Details explanation on the sub themes and the insight for leaders are listed in Table 11 and 12, here, cultural change (13 authors) emerges as the most emphasized theme, highlighting the importance of transparency, participatory governance, and self-organization in enabling transformation. Close behind is technological capacity (12 authors), which underscores the need for digital skills, robust systems, and supportive environments. Interestingly, strategic vision (11 authors) while still significant even became the least emphasized, indicating a shift toward embedding change and capability-building over merely articulating direction. Together, these elements shape resilient, future-ready institutions.

Table 11: Description of Sub-Themes of Digital Transformation

Sub-Theme	Description	#Authors*
SV	Leaders articulate a clear digital vision and align initiatives with organizational priorities	11
CC	Emphasis on digital culture, self-organization, transparency, and participatory governance	13
TC	Focus on technology-enabling environments, digital skills, data systems, and support structures	12

*Number of Related Authors

Table 12: Thematic Table on Sub-Themes of Digital Transformation

Authors	Theory/Model	VS	CV	IC	Policy-Maker Insight	Training Institution Insight
Claassen et al. (2023)	DigiFuehr 2.0	✓	✓		Balance coordination & self-organization	Teach autonomy and support scales
Shaikh et al. (2023)	Upper Echelon, Social Capital		✓		Embed green HRM + knowledge sharing	Train in sustainability leadership
Li et al. (2023)	Adaptive Structuration	✓		✓	Align digital infra with strategy	Build adaptive digital models

Authors	Theory/Model	VS	CV	IC	Policy-Maker Insight	Training Institution Insight
Wang et al. (2023)	Attention-Based View	✓		✓	Focus managerial attention on digital initiatives	Train focus & attention management
Hanandeh et al. (2023)	Digital Transformation Framework	✓	✓	✓	Combine digital & entrepreneurial planning	Develop innovation curricula
Yusuf et al. (2023)	Not mentioned	✓		✓	Prioritize digital leadership alignment	Strengthen SEM-based methods
Meng et al. (2025)	TOE Framework	✓		✓	Integrate tech/org/env for servitization	Case-based TOF framework training
Öztirak & Bayram (2023)	Motivational Mediation		✓		Boost internal motivation	Provide motivational leadership workshops
Mulyani (2024)	Creativity & Decision-Making		✓		Encourage creative leadership culture	Foster creativity in programs
Rosalia (2022)	Not mentioned		✓	✓	Promote transparent e-government	Train on GovTech platforms
Elmatsani et al. (2024)	Not mentioned	✓	✓		Develop strategic competencies	Teach strategic digital governance
Taoufik & Azmani (2025)	Smart e-Gov Framework	✓	✓		Promote data-driven governance	Teach transparency & smart-gov
Ushaka et al. (2024)	Not mentioned	✓	✓	✓	Define digital-leader roles	Holistic digital-leadership modules
Rybnikova (2022)	Not mentioned		✓	✓	Support e-leadership readiness	Train pre-to-digital workflows
Pham & Vu (2022)	Not mentioned			✓	Use servitization for performance	Include servitization strategy
Ghamrawi and Tamim (2023)	5D Typology		✓		Build digital culture & advocacy	Teach digital governance
Willermark & Islind (2022)	Virtual Leadership Affordance		✓	✓	Ensure trust & clarity across teams	Include virtual-leadership case studies
Senadjki et al. (2023)	TLT modifications	✓	✓	✓	Align DL capabilities with transformation	Develop courses on vision/predictability
Purnomo et al. (2024)	DL & Reform Model	✓		✓	Align DL with reform & tech use	Train for bureaucratic revitalization

Source: Compiled by Author (2025)

With all the themes discussed, digital leadership is instrumental in synchronizing technological advancements with strategic objectives. It drives innovation, fosters agility, and promotes inclusive governance, establishing itself as a cornerstone of digital transformation in the public sector. Based on the above discussion, the results of the above discussion shall be illustrated in Figure 2 below:

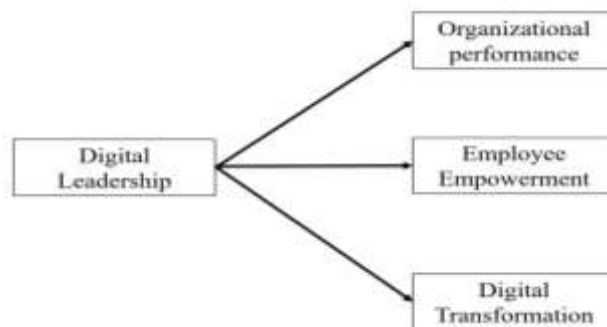


Figure 3: Theoretical Framework of this SLR Studies

Source: Generated by Author (2025)

Conclusion

Digital leadership is key in helping public institutions navigate technological changes, aligning digital tools with long-term goals while fostering growth. It's about maintaining agility and creativity, even in uncertain times. For example, during the COVID-19 crisis, digital leaders ensured remote work was effective and essential services remained operational. Successful digital leadership blends technical skills with ethical values and collaboration, especially in sectors like education, healthcare, and government. Leaders also prioritize equitable access to technology. As such, digital leadership isn't just about managing technology but it is about shaping the future of public services, updating outdated systems, and building smarter, more sustainable ways of working. It's crucial for ensuring public organizations stay responsive and effective in an evolving world.

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