



# A conceptual study of digital transformation, human resource competence, and adaptive leadership on Employee performance in public sector organizations

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## ABSTRACT

This conceptual study addresses the persistent gap between digital transformation initiatives and employee performance improvement in public sector organizations. It aims to develop an integrated explanatory understanding of how digital transformation shapes employee performance through human resource competence and adaptive leadership. The study uses a literature-based methodology, relying on written scholarly sources (books, journal articles, prior research, and academic reports) as the primary and secondary data base. The analysis employs content analysis to identify conceptual patterns and relationships among the three constructs and their connection to employee performance mechanisms. The findings indicate that digital transformation becomes performance-effective when employees possess the relevant human resource competence to operate within redesigned workflows and when adaptive leadership organizes learning, clarifies priorities, and coordinates implementation under uncertainty. The study concludes that performance outcomes are best explained through a mechanism-based linkage rather than a technology-only perspective in public sector contexts.



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## Introduction

Digital transformation has become a defining agenda for public sector organizations worldwide, yet its implementation frequently fails to translate into measurable improvements in employee

performance. In many public institutions, technology adoption is treated as an isolated technical project rather than a comprehensive transformation of work processes, culture, and capabilities. As a result, employees often experience uncertainty regarding new systems, changing roles, and evolving performance expectations, which can lower motivation and effectiveness. In addition, public sector environments typically face complex constraints such as bureaucratic procedures, limited budgets, and multi-stakeholder accountability, making adaptation slower and sometimes less coherent. These conditions intensify performance challenges because employees are required to execute higher-quality service delivery under dynamic operational pressures. A parallel concern is the role of human resource competence: when workforce skills and competencies are not aligned with transformation demands, employees may struggle to utilize digital tools effectively. Moreover, leadership practices in public organizations may not adequately support the behavioral and strategic shifts required by digital transformation. Therefore, the persistent gap between digital transformation initiatives and employee performance outcomes indicates that the problem is not merely technological, but also capability- and leadership-related (Trieu et al. 2024).

A growing body of scholarly literature recognizes that digital transformation influences organizational performance, but theoretical explanations often remain partial when applied to public sector contexts. Many studies emphasize technology readiness, process digitization, or infrastructure investment, yet fewer conceptual frameworks sufficiently address how human resource competence moderates or enables such digitization impacts. Even when human resource competence is acknowledged, it is frequently treated as a general HR variable rather than as a structured set of competencies that equips employees to perform under new digital operating models. Furthermore, adaptive leadership is frequently discussed in contexts such as change management and organizational resilience, but the integration of adaptive leadership with the digital transformation–HR competence–performance chain is still limited conceptually. This creates a situation where existing theories may explain “what” transformation is, but not fully explain “how” employees’ competencies and leadership adaptation mechanisms work together to produce performance improvements. In public sector organizations, where formal rules, procedural rigidity, and accountability structures shape managerial behavior, adaptive leadership becomes particularly relevant yet under-theorized. The literature also tends to focus on transformation outcomes at the organizational level, while employee performance mechanisms are not always clearly specified. Consequently, a conceptual gap remains: we lack a unified and theoretically grounded explanation that links digital transformation, human resource competence, and adaptive leadership to employee performance in public sector organizations. This gap is critical because without such integration, policymakers and managers may implement fragmented interventions that do not address the core drivers of performance (Abdullahi et al. 2026).

The present study aims to develop a conceptual understanding of how digital transformation, human resource competence, and adaptive leadership interact to influence employee performance in public sector organizations. Specifically, this research seeks to clarify the theoretical relationships among the three constructs and to articulate the mechanisms through which digital transformation becomes meaningful for employees. The study further intends to position human resource competence as a key enabling resource that allows employees to convert digital capabilities into effective work performance. In parallel, adaptive leadership is conceptualized as a leadership capability that guides employees through uncertainty, supports learning, and aligns performance expectations with transformation realities. By doing so, the research seeks to provide a structured conceptual model that helps explain why transformation efforts sometimes do not yield performance gains. Importantly, the study focuses on conceptual development rather than empirical testing, thereby emphasizing argumentation, logical consistency, and interpretive coherence within the academic literature tradition. Another objective is to derive implications for future empirical research by identifying variables that require operationalization and testing. This is particularly valuable for public sector contexts where generic management models may not sufficiently reflect institutional constraints and workforce characteristics. Ultimately, the research aims to contribute a clearer scholarly pathway for understanding and improving employee performance under digital transformation initiatives (Radha and Aithal 2024).

This research is important because employee performance is the operational foundation of public sector service quality, accountability, and citizen outcomes, making it a core concern for administrators and scholars alike. If digital transformation is not accompanied by adequate workforce competence development and leadership adaptation, employee performance may stagnate or decline despite significant investments. Therefore, it is reasonable to argue that digital transformation produces employee performance improvements only when employees possess relevant human resource competence to operate and internalize new systems and processes. At the same time, adaptive leadership is hypothesized to be a critical condition that translates transformation uncertainty into structured guidance, learning opportunities, and performance-aligned direction. In other words, adaptive leadership may function as a bridge that connects strategic transformation intentions with day-to-day employee capability building. The conceptual logic suggests that the combined presence of digital transformation and human resource competence can increase employees' ability to perform, but adaptive leadership shapes how effectively the organization mobilizes those competencies under change. This study also strengthens the relevance of performance-focused digital governance by shifting attention from "technology adoption" to "performance enablement mechanisms." Moreover, the conceptual integration proposed here offers a more actionable framework for public sector leaders who must manage transformation with constraints and multi-level accountability. Hence, the research provides both theoretical value and practical justification by aligning the study's arguments directly with its stated purpose and the identified conceptual limitations (Perumal and Aithal 2024).

## Method

### Research object

This study is conducted as a conceptual, literature-based inquiry into a recurring phenomenon in public sector organizations: the persistent mismatch between digital transformation initiatives and employee performance outcomes. The "object" of the study is therefore not a single organization, but the broader pattern of implementation challenges that have been observed across public institutions when transformation is introduced without fully aligned human and leadership capabilities. The phenomenon is characterized by employees encountering difficulties adapting to new digital systems, altered workflows, and revised performance expectations, which can weaken service effectiveness and execution quality. Such challenges are particularly salient in public sector settings where organizational structures remain strongly procedural, and where employee roles are shaped by formal regulations and multi-level accountability. In this context, the study treats digital transformation as the central change trajectory and employee performance as the outcome of practical and administrative urgency. Human resource competence is examined as the capability dimension that determines whether employees can convert digital tools into improved work performance. Adaptive leadership is examined as the governance and managerial dimension that can sustain learning, mobilize resources, and manage uncertainty during transformation (Schiavone et al. 2023). By focusing on this interaction, the research object becomes the conceptual problem of how public sector organizations can translate transformation investments into performance improvements through competent workforce and adaptive leadership. Consequently, the phenomenon is framed as a knowledge need: a comprehensive conceptual explanation for the mechanism linking digital transformation to employee performance (Yozi and Mbokota 2024).

### Research type and data: primary and secondary sources

The research adopts a literature review methodology (i.e., a qualitative literature-based design), specifically using a structured compilation and synthesis of relevant scholarly sources. The type of study is therefore "kepuustakaan" (library-based), meaning that the research process relies on written materials rather than field measurements or direct participant data. The primary data for the study consist of relevant literature that addresses the conceptual relationships among digital transformation, human resource competence, adaptive leadership, and employee performance in organizations (Bhatti, Faqirah, and Ullah 2025). These primary materials are selected from academic writings that provide theoretical definitions, conceptual arguments, and mechanisms that have been proposed in prior studies. In addition, secondary data are collected from broader supporting literature

that provides background insight regarding each keyword's domain and contextual relevance. Secondary materials include books, journal articles, and other scientific reports that discuss digital transformation outcomes, workforce competence development, leadership under change, and performance dynamics. The inclusion of both primary and secondary sources is intended to ensure that the conceptual model developed in this study is not merely descriptive, but also theoretically grounded. The selection process is conducted by prioritizing sources that explicitly address or clearly support the logical relationships required by the study's conceptual focus. As a library-based study, all gathered information is documented and organized to support transparent conceptual reasoning and traceable scholarly justification. In this way, the research avoids empirical generalization while strengthening theoretical coherence for future research directions (Tambunan, Asy' Ary, and Budihard 2025).

### **Basic theory: constructs, origins, and theoretical content**

The theoretical foundation of this study is constructed through the use of core concepts and theories that explain digital transformation, human resource competence, adaptive leadership, and employee performance relationships. First, the study relies on foundational thinking regarding digital transformation as an organizational change process that reshapes capabilities, processes, and value creation mechanisms. Second, the study uses the theoretical lens of human resource competence, understood as the collection of knowledge, skills, abilities, and behavioral capabilities that enable effective job execution under specific organizational demands. Third, adaptive leadership is treated as a theory of leadership for managing complex change, uncertainty, and competing pressures by mobilizing learning and adjustment at multiple organizational levels. The "basic theory" approach in this study includes identifying the originators of each relevant theoretical stream, the associated year, and the conceptual core that each theory provides. In practical terms, the research will specify the theoretical names and their central assumptions as the basis for linking constructs logically. For example, digital transformation theory provides assumptions about how technology-enabled change requires organizational readiness beyond mere adoption. Competence-based thinking provides assumptions about why employee performance improves when competencies match new task requirements. Adaptive leadership theory provides assumptions about why effective leadership behaviors and institutional learning determine how organizations survive and improve under transformation conditions. Together, these theories become the interpretive framework that guides the conceptual synthesis. Importantly, the theoretical content is used not only to define variables, but also to justify why each construct should logically affect the others within a proposed mechanism. This ensures that the study's conceptual model is built on assumptions that have scholarly credibility and definitional clarity (Djaenudin 2025).

### **Research procedure: stages and data collection techniques**

The research procedure follows a systematic sequence of conceptual development steps in order to ensure conceptual rigor and replicability for other researchers. The first stage involves identifying and clarifying the research focus by mapping the phenomenon of digital transformation implementation challenges in public sector contexts. This stage includes isolating the key constructs—digital transformation, human resource competence, adaptive leadership, and employee performance—and defining how each construct is treated in the study's argument. The second stage involves collecting written sources through structured literature searching and selection, concentrating on books, journal articles, prior research, academic papers, and documented reports relevant to the study keywords (Baptista et al. 2020). The data collection technique is conducted through reading and extracting information from written materials, including conceptual definitions, theoretical explanations, and reported mechanisms. The third stage involves organizing the extracted information into a conceptual database that aligns sources with the construct(s) they support. The fourth stage involves synthesizing the information by comparing and integrating findings across sources to identify consistent conceptual patterns and explainable linkages. During this process, attention is given to how the literature describes enabling conditions, mediating mechanisms, and contextual factors relevant to public sector transformation. The fifth stage involves drafting a conceptual framework by logically connecting digital transformation with competence development and leadership adaptation, culminating in employee performance outcomes. This stage ensures that the resulting framework remains focused on the original problem and does not drift toward unrelated

domains. Finally, the draft is refined to improve coherence, scholarly tone, and clarity of conceptual relationships among the variables. Through these steps, the study operationalizes “kepuustakaan” methodology as a disciplined path from literature extraction to conceptual synthesis (Muchtar, Andriani, and Kom 2025).

### Data analysis technique

Data analysis in this study uses content analysis, adapted for conceptual library-based research and aimed at identifying patterns, relationships, and key information embedded in the collected literature. The analysis begins with careful reading of each source to extract relevant statements that directly address the constructs and their conceptual linkages. Next, the extracted textual units are coded according to thematic categories corresponding to digital transformation, human resource competence, adaptive leadership, and employee performance. Coding is applied consistently by focusing on meaning units, conceptual definitions, and proposed mechanisms rather than on superficial mentions of keywords. After coding, the study organizes the codes into higher-level categories, enabling the researcher to identify recurrent themes and theoretical connections across sources. The analysis then examines how literature explains the conditions under which digital transformation contributes to employee performance, particularly focusing on the role of competencies and leadership adaptation. To ensure interpretive discipline, the study prioritizes explicit conceptual claims from the literature and avoids extrapolating beyond the meaning supported by sources (Marion and Fixson 2021). Subsequently, the analysis identifies conceptual gaps or incomplete linkages that justify why an integrated conceptual study is necessary for public sector contexts. The final analytic step involves synthesizing the coded patterns into a coherent conceptual narrative and potentially a conceptual framework that reflects the proposed relationships among constructs. Throughout the process, the content analysis functions as a method for transforming textual information into structured insights. Therefore, the results are presented as conceptual outcomes grounded in literature evidence, with clear traceability to the thematic categories derived from the readings. In this way, content analysis provides methodological justification for the logical construction of the study’s conceptual contribution (Sridevi and Reena n.d.).

## Results and Discussions

Based on the literature reviewed for this study, digital transformation is consistently described as a broad organizational process that goes beyond technology implementation and instead involves the redesign of how work is performed. Across the reviewed sources, digital transformation is presented as an initiative that changes information flows, operational routines, and the way employees collaborate to deliver public services. The literature also emphasizes that digital transformation typically requires organizational readiness, including changes in procedures, standard operating practices, and performance monitoring approaches. In multiple conceptual discussions, digital transformation is described as a driver of new work systems, where employees must operate within digitally supported processes. The reviewed literature further indicates that digital transformation affects not only organizational infrastructure but also daily tasks that shape employee involvement and effort. Importantly, the literature describes digital transformation as a transformation of capability demands, meaning employees face revised competence requirements in order to meet new digital expectations. Another consistent point is that public sector organizations tend to experience transformation at a slower pace due to bureaucratic structures and governance constraints, which influences how transformation is perceived at the employee level. In this sense, digital transformation is described in the literature as a contextual change mechanism that can reshape employee performance requirements without guaranteeing immediate performance improvement. Finally, the data from the literature indicates that digital transformation outcomes in public institutions depend on how well employees and organizational systems align with the new digital environment (Putra and Ridha 2026).

The literature explains that digital transformation generates employee performance effects primarily through changes in how tasks are structured, how information is accessed, and how operational decisions are supported. The reviewed texts indicate that when digital systems are integrated into workflow, employees must adjust their roles and use digital tools to maintain service

quality and execution speed. The explanation also shows that the performance impact of digital transformation is commonly mediated by employees' ability to understand new procedures and apply digital resources effectively (Mizhir 2025). The literature further explains that employees' performance may vary depending on the clarity of transformation implementation, including communication quality and procedural guidance. In public sector contexts, the explanation suggests that employees may face performance pressure when digital transformation introduces new accountability mechanisms and reporting formats. The reviewed sources also explain that digital transformation can create gaps between formal transformation plans and actual work execution if employee guidance is insufficient. Another explanation emphasized in the literature is that digital transformation often requires continuous adjustment, because public service systems must respond to evolving citizen needs and policy demands. Consequently, digital transformation is explained as an ongoing change process that requires organizational learning to stabilize employee performance outcomes. Finally, the literature explains that without systematic capability support, digital transformation may be perceived as disruption rather than improvement at the employee level (Mohamed and Werke 2026).

The real-world problem identified in this study is that employee performance in public sector organizations does not consistently improve following digital transformation initiatives. The literature-based description of digital transformation portrays it as a process that restructures work systems and competence demands, which should theoretically improve performance if implemented effectively. However, the literature also provides explanations indicating that performance effects depend on employee adaptation to new workflows, tools, and accountability mechanisms. Therefore, the relationship between the described and explained data highlights a gap between the transformation intent and the transformation experience experienced by employees. In the public sector reality, employee performance is influenced by how employees internalize new procedures and whether they can operate within digital systems without major operational friction. When employees cannot adapt, the performance outcomes may stall even if digital transformation investments continue. This situation becomes aligned with the problem reality that digital transformation, as a strategy, is often treated as a technology deployment rather than as a human-centered performance enablement process. Consequently, digital transformation alone is not sufficient to ensure performance improvement, because the literature suggests that performance depends on readiness and adjustment at the employee level. In addition, the literature indicates that transformation introduces new expectations that employees must meet through competence and behavioral readiness. Thus, the described and explained evidence supports the study's problem reality: employee performance remains a challenge during digital transformation in public sector organizations (Setiawan and Hendayana 2024).

For the second keyword, the literature describes *human resource competence* as the set of capabilities employees require to perform tasks effectively under specific organizational demands. The reviewed sources portray competence as more than general knowledge; it is presented as an integrated capability structure that includes skills, understanding, and work behaviors needed for task execution (Aldoseri, Al-Khalifa, and Hamouda 2023). The literature also describes human resource competence as relevant to the ability of employees to apply new tools, interpret new procedures, and deliver work outcomes that align with organizational standards. In several conceptual discussions, competence is framed as the enabling resource that determines whether employees can translate organizational change into daily performance. The data indicates that competence relates to how employees learn, how they adjust to new work routines, and how they maintain performance consistency when tasks change. The literature further describes competence development as essential in transformation contexts because digital systems create new performance requirements and new performance measurement approaches. In public sector organizations, the literature presents competence as a critical factor because employees must operate within formal constraints while still meeting service delivery expectations. Another description found in the literature is that competence affects employees' confidence and effectiveness in using digital systems, which in turn influences their work output. Overall, the reviewed data describes human resource competence as a structured capability that becomes increasingly important when transformation changes the nature of work (Alzahmi, El-Mohamady, and Hanafy 2026).

The literature explains that human resource competence influences employee performance through employees' ability to execute digitally supported tasks correctly and efficiently. The reviewed sources explain that when competence aligns with digital transformation requirements, employees can reduce errors, improve response speed, and maintain service quality (Wirtz et al. 2023). The explanation also indicates that competence supports employees' learning during transformation, allowing them to internalize new workflows and operational rules. In this view, competence becomes the practical mechanism that turns digital system availability into meaningful performance capability. The literature further explains that competence development needs to be purposeful, such that training and capability building match the transformation's work-process changes. Without such alignment, employees may lack the ability to use digital tools effectively, leading to slower performance and reduced effectiveness. The reviewed data also explains that competence affects not only operational execution but also employees' ability to comply with revised performance monitoring and reporting systems. In public institutions where performance accountability is formalized, competence becomes essential to ensure that employees can meet measurement demands. The literature therefore explains that competence is a necessary condition for performance improvement during digital transformation, even when digital systems are available. Finally, the literature explains that competence gaps may be sustained if transformation is implemented without systematic human capability strategies (Munawaroh et al. 2026).

The real problem in this study is that employee performance improvement does not reliably occur alongside digital transformation in public sector organizations. The literature-based description of human resource competence indicates that competence is the capability requirement needed to perform digitally structured work effectively. The literature-based explanation clarifies that competence directly affects execution ability, learning speed, and the ability to meet revised accountability mechanisms (Mamun and Raj 2023). As a result, when public sector organizations implement digital transformation without ensuring competence alignment, employee performance is likely to remain constrained. This aligns with the problem reality because employees may experience operational difficulties and performance uncertainty when new digital processes are introduced. In this relational logic, competence becomes the performance-enabling element that can either bridge or widen the gap between transformation plans and actual work performance. Therefore, the evidence indicates that digital transformation may not generate performance outcomes if competence deficiencies persist among employees. At the same time, the literature suggests that competence cannot be effectively developed in isolation from organizational change management practices. This becomes relevant to the broader problem reality because competence development requires guidance, structure, and adaptive coordination during transformation. Consequently, the descriptive and explanatory evidence supports the study's problem reality by showing how competence alignment is a decisive factor in whether employee performance improves. The data collectively indicates that the problem is not only about digital systems but also about employees' competence readiness to operate in digitalized public service workflows (Cahyono et al. 2024).

For the third keyword, the literature describes *adaptive leadership* as a leadership approach for guiding organizations through complex change, uncertainty, and competing demands. The reviewed sources portray adaptive leadership as leadership behavior that supports learning processes and helps organizations respond to evolving challenges rather than following fixed routines. The literature also describes adaptive leadership as relevant to environments where transformation outcomes depend on people's ability to adjust and coordinate under new conditions. In many conceptual accounts, adaptive leadership is characterized by leaders who create conditions for problem-solving, encourage experimentation, and provide direction that is responsive to change dynamics (Dutta et al. 2021). The data indicates that adaptive leadership supports employees when they face ambiguity and when transformation requires ongoing adjustment of work practices. Furthermore, adaptive leadership is described as emphasizing mobilization of participation, where leaders help employees understand priorities and engage in collective sensemaking. In public sector contexts, the literature presents adaptive leadership as important because change often occurs within formal constraints and multi-level accountability. The reviewed sources suggest that leaders must balance policy requirements, procedural rules, and operational realities that emerge during

transformation. The literature also describes adaptive leadership as influencing how communication, support, and performance expectations are clarified during transformation. Overall, the reviewed data describes adaptive leadership as a mechanism that helps organizations and employees adapt effectively during ongoing change (Istiqomah and Mardiana 2026).

The literature explains that adaptive leadership influences employee performance indirectly by shaping how employees experience and respond to organizational change. The reviewed sources explain that in transformation contexts, adaptive leaders provide clarity about priorities while allowing flexibility in how work problems are approached. This explanation indicates that adaptive leadership reduces confusion by translating strategic transformation goals into actionable guidance for employees. The literature further explains that adaptive leadership encourages learning and helps employees acquire new skills and work practices aligned with transformation demands. In this mechanism, leadership supports employees' capacity to handle uncertainty, which reduces performance instability. The reviewed data also explains that adaptive leadership can improve coordination across units, ensuring that digital transformation is executed consistently and not fragmented across departments. In public organizations where implementation involves many stakeholders, adaptive leadership is explained as necessary to align expectations and manage resistance or slow adaptation. The literature therefore explains that adaptive leadership can influence performance by enabling communication quality, training responsiveness, and problem resolution during transformation. The explanation also emphasizes that adaptive leadership supports sustained adjustment, meaning leaders remain engaged as transformation progresses rather than ending involvement after initial implementation. Finally, the reviewed literature explains that adaptive leadership strengthens the conditions under which competence development becomes effective and performance improvements become possible (Kurnianto and Ningsih 2024).

The real problem of this study—limited employee performance improvement during digital transformation in public sector organizations—can be understood through the literature's portrayal of adaptive leadership. The literature's description indicates that adaptive leadership is designed to manage uncertainty and learning needs during complex organizational change. The literature's explanation shows that adaptive leadership shapes how employees interpret transformation priorities and how they acquire and apply new work capabilities. Therefore, when public sector leaders do not demonstrate adaptive leadership behaviors, employees may face unclear guidance, insufficient learning support, and weak coordination during transformation. Under these conditions, even if digital systems exist and competence development is attempted, transformation may still fail to improve employee performance consistently (Bejinaru and Balan 2020). The relational logic suggests that adaptive leadership is the organizational factor that enables employees to adjust effectively while transformation evolves. This supports the study's problem reality because the challenge is not solely the presence of digital tools, but also the leadership-driven process of adaptation that stabilizes performance expectations. Consequently, the descriptive and explanatory evidence indicates that adaptive leadership influences performance outcomes by structuring learning, clarifying priorities, and coordinating execution. In summary, the third keyword contributes to the problem reality by showing why transformation efforts may not translate into employee performance improvements when leadership does not adapt to change dynamics. The evidence positions adaptive leadership as a necessary context for connecting digital transformation initiatives and employee competence development to actual performance outcomes (Pratiwi et al. 2020).

### **Analytical synthesis of the study's findings**

The core outcome of this conceptual study is the clarification of a multi-construct mechanism linking digital transformation to employee performance in public sector organizations through human resource competence and adaptive leadership. In contrast to approaches that treat digital transformation as primarily a technological investment, the synthesized argument positions it as a change process that increases employees' competence demands and performance expectations simultaneously. Human resource competence is analyzed as the capability gate that determines whether employees can convert digitally redesigned workflows into effective execution. Meanwhile, adaptive leadership is analyzed as the contextual enabler that organizes learning, reduces uncertainty, and aligns transformation priorities with day-to-day performance. Collectively, the findings indicate that employee performance improvement is most likely when digital

transformation is accompanied by competence alignment and leadership adaptation. The relationship among the constructs is not presented as a simple one-way influence, but as a structured dependency in which each element supports the next. This dependency logic helps explain why digital transformation initiatives may fail to generate performance gains even when resources have been allocated. Therefore, the study advances a performance-focused conceptual pathway rather than a technology-centered narrative. In methodological terms, the study's conceptual outcomes are grounded in the literature's recurring explanations about competence readiness and leadership-driven adaptation during complex change (Al-Qerem et al. 2025).

### **Comparative discourse with findings from related research**

When compared to prior research emphases, this study offers a more integrated and mechanism-oriented explanation than studies that separately examine transformation, competence, or leadership. Some research traditions often conclude that digital transformation influences performance, but they frequently under-specify the employee-level processes that make this influence operational. Other lines of work emphasize the importance of workforce competence, yet they may not fully connect competence development to the specific change conditions created by digital transformation in public institutions. Additionally, studies discussing leadership during change often focus on organizational resilience, but they do not always integrate leadership adaptation as a bridge that stabilizes competence utilization for performance outcomes. In this discourse, the present study's advantage lies in its conceptual triangulation: digital transformation is treated as the change driver, human resource competence as the performance capability, and adaptive leadership as the adaptive coordination mechanism. This integrated configuration makes the conceptual model more explanatory because it addresses why performance outcomes diverge under similar levels of digitalization. The study also strengthens relevance to public sector settings by acknowledging that transformation occurs under procedural constraints, thereby requiring leadership behaviors that support learning and alignment. Consequently, the study contributes a comparative refinement: it reframes the question from whether digital transformation "matters" to how it becomes performance-effective through competence and adaptive leadership. Such refinement enhances the interpretive power of the existing literature by reducing conceptual fragmentation (Şişu et al. 2024).

### **Reflection: contribution toward achieving the research objective**

The conceptual purpose of this study is achieved through its ability to articulate a coherent explanation for the mechanism underlying employee performance during digital transformation. This outcome matters because the study does not merely restate known ideas; it systematically connects digital transformation, competence readiness, and leadership adaptation into a single explanatory logic. In doing so, it provides an answer to the research objective by demonstrating how performance is shaped at the employee level when transformation reconfigures work demands. The reflection also shows that the study's results function as a sign of academic usefulness: they respond to the conceptual gap that existed when digital transformation and human factors were discussed in isolation (Turban, Pollard, and Wood 2021). By framing competence and leadership as enabling conditions, the study clarifies why performance improvement requires more than system deployment. The reflective value also appears in the way the study encourages future empirical work: it identifies relationships that can be operationalized, measured, and tested. As a conceptual work, it contributes to knowledge production by offering a structured pathway for studying employee performance under digital change dynamics. Therefore, the study's value is both theoretical and directional, supporting the achievement of its purpose through mechanism-focused conceptualization (Bartlett, Kabir, and Han 2023).

### **Implications: what the results are for**

The implications of this study are significant for both public sector policymakers and academic researchers. For policymakers and public administrators, the results suggest that digital transformation programs must be designed as integrated transformation bundles rather than technology-only projects. Practically, this means workforce competence planning should be treated as a core element, not as a supplementary activity after systems are installed. Training and competence development initiatives should be mapped directly to the transformation-driven changes in workflows and accountability mechanisms. Additionally, leadership development and

leadership practice should be institutionalized to ensure adaptive behaviors during transformation, particularly in environments characterized by uncertainty and procedural constraints. For researchers, the results provide an explanatory foundation for developing testable models that examine how competence and adaptive leadership mediate or enable transformation impacts on employee performance. This is crucial because performance outcomes in public sectors carry high administrative relevance, including service quality and organizational accountability. Hence, the study's implications are oriented toward designing transformation interventions and towards producing stronger theoretical models for future studies. Overall, the results are for strengthening transformation effectiveness by aligning digital investments with human capability and leadership adaptation mechanisms (Ghobakhloo and Fathi 2020).

### **Why the results take this form**

The study's findings appear in the integrated form described above because digital transformation changes the nature of work in ways that directly affect employees' capability requirements. When tasks, processes, and performance monitoring mechanisms are redesigned, employees face new expectations that demand competence alignment, otherwise performance becomes unstable. Therefore, the role of human resource competence is analytically necessary to convert transformation infrastructure into effective execution. At the same time, competence alone does not guarantee performance improvement because employees must still interpret transformation priorities, navigate uncertainty, and coordinate with organizational systems. This is precisely why adaptive leadership becomes theoretically relevant as a mechanism that shapes learning, guidance, and alignment throughout the transformation period. In public sector organizations, where change is frequently constrained by formal rules and multiple stakeholders, the need for adaptive leadership becomes more pronounced because rigid leadership styles may fail to respond to emerging implementation problems. Moreover, the integrated logic explains why transformation effects may be inconsistent across contexts: competence readiness and adaptive leadership behaviors differ across organizations, units, and implementation phases. Consequently, the study's results reflect a systemic view of performance causality during change rather than a linear or purely technological view. Put differently, the findings take this form because they match the literature's explanatory patterns about change complexity and human performance dependencies (Suri 2022).

### **Actions to be taken based on the results**

Based on the study's conceptual results, several strategic actions should be prioritized by public sector organizations undertaking digital transformation. First, transformation planning should include competence gap assessment at the employee level, ensuring that digital workflow changes are matched with structured capability development. Second, competence development should be implemented as an iterative and transformation-aligned process, rather than a one-time training program disconnected from evolving systems. Third, adaptive leadership capabilities should be strengthened through leadership development programs and through institutional policies that support communication, learning, and experimentation during transformation. Fourth, public sector leaders should establish mechanisms that translate transformation priorities into clear and flexible guidance, enabling employees to understand what must be achieved and how adjustments can be made. Fifth, organizations should strengthen coordination practices across units so that adaptive leadership can reduce implementation fragmentation and ensure consistent performance expectations (Baiyere, Salmela, and Tapanainen 2020). Finally, future action plans should include performance measurement frameworks that reflect the human capability dimension, allowing leaders to detect competence-related barriers early. Through these actions, the results can be operationalized into transformation practices that increase the likelihood of improved employee performance. Overall, the recommended actions follow directly from the conceptual mechanism proposed in this study: digital transformation becomes performance-effective when competence readiness and adaptive leadership are intentionally integrated.

**Table 1.** Summary of Analytical Contributions

| Discussion Focus             | Core Argument (Analytical)                                                                                                                                                                          | Key Value to Research Objective                                                                                        |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Integration of findings (P1) | Employee performance improvement during digital transformation depends on a structured mechanism linking digital transformation human resource competence adaptive leadership employee performance. | Clarifies the study's mechanism for explaining how transformation becomes performance-effective in public sectors.     |
| Comparative discourse (P2)   | This study's advantage lies in integration across previously separated research strands: technology-centered, competence-centered, and leadership-centered explanations.                            | Addresses conceptual fragmentation by offering a more explanatory and mechanism-oriented model.                        |
| Reflective contribution (P3) | The conceptual purpose is achieved by translating literature-derived explanations into a coherent pathway that responds to why performance outcomes diverge under digital change.                   | Demonstrates scholarly usefulness through gap-filling and provides directions for future empirical operationalization. |

**Table 2.** Implications and Actionable Steps

| Implication Domain                             | Recommended Actions (Based on Results)                                                                                                                    | Expected Performance Logic                                                                                          |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Public sector planning and implementation (P4) | Treat digital transformation as an integrated program including workforce competence planning and leadership adaptation (not technology-only deployment). | Ensures employee capability and change guidance align with redesigned workflows and accountability systems.         |
| Competence enablement (P6)                     | Conduct employee-level competence gap assessment; deliver competence development iteratively and transformation-aligned.                                  | Reduces capability mismatch, stabilizes execution quality, and supports learning under new digital processes.       |
| Adaptive leadership strengthening (P6)         | Develop adaptive leadership skills; establish policies/mechanisms for communication, learning, and experimentation during transformation.                 | Improves guidance quality under uncertainty and coordinates transformation priorities across organizational layers. |
| Coordination and consistency (P6)              | Strengthen cross-unit coordination to minimize implementation fragmentation and unify performance expectations.                                           | Maintains consistent transformation execution so competence can be effectively utilized across units.               |
| Performance measurement (P6)                   | Use performance measurement frameworks that capture human capability barriers early and guide timely adjustment.                                          | Enables early detection of competence-related constraints that would otherwise suppress performance improvement.    |

## Conclusions

This conceptual study concludes that employee performance improvement in public sector organizations under digital transformation is best understood through an integrated mechanism involving human resource competence and adaptive leadership. The analysis indicates that digital transformation alone does not automatically generate performance benefits because transformation reshapes work processes, accountability routines, and competence demands, thereby requiring employees to possess the capability to execute digitally redesigned tasks effectively. Human resource competence functions as the enabling capability that translates digital systems into accurate, efficient, and quality-driven performance behaviors, while adaptive leadership operates as the contextual mechanism that organizes learning, reduces uncertainty, clarifies priorities, and

coordinates implementation across institutional constraints. By synthesizing these relationships, the study addresses the research objective through a coherent conceptual pathway that explains why performance outcomes often diverge even when digital investments are made. Consequently, the study contributes a more mechanism-oriented understanding that supports future empirical testing and guides public sector transformation initiatives toward performance enablement rather than technology-centric deployment (Babar et al. 2025).

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