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# Enhancing Civil Servant Performance Through Digital Literacy and Organizational Adaptability

ID 197

Received 14 April 2025  
Revised 13 May 2025  
Accepted 22 June 2025

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## Abstract

**Purpose** – This study aims to examine how digital literacy and organizational adaptability jointly influence civil servant performance within the context of Indonesia's digital transformation agenda. While digital tools are increasingly integrated into public sector operations, limited attention has been paid to the interaction between individual digital competencies and institutional adaptability in determining work effectiveness. This research contributes to a more comprehensive understanding of civil servant performance by addressing this interdependence.

**Design/method/approach** – A qualitative exploratory case study approach was employed, involving semi-structured interviews with 12 civil servants from two government institutions—one at the national level and one at the regional level. The participants were selected purposively based on their active involvement in digital administrative processes. Thematic analysis was conducted to identify patterns related to digital skill application, organizational support, and performance outcomes.

**Findings** – The findings indicate that digital literacy enhances civil servants' efficiency, confidence, and engagement, but its impact is highly contingent upon the organizational environment. Adaptive institutions that promote learning, flexibility, and supportive leadership enable civil servants to fully utilize their digital competencies. In contrast, rigid bureaucracies with limited innovation capacity tend to inhibit performance, even among digitally skilled employees. The interplay between individual and organizational factors emerges as a critical determinant of effective public service delivery.

**Implications** – The study provides practical insights for policymakers and public managers seeking to improve civil service performance. It recommends integrated capacity-building strategies that simultaneously enhance digital skills and foster adaptive institutional cultures. Theoretically, it advances public administration literature by linking micro-level competencies with macro-level organizational dynamics.

**Novelty/Originality** – This research offers original contributions by exploring the dual role of digital literacy and organizational adaptability in a developing country context, an area that remains underexplored. It bridges individual and institutional perspectives, offering a holistic lens on performance enhancement in the digital era.

**Keywords:** digital literacy, organizational adaptability, civil servant performance, digital transformation, public sector reform

**Paper type:** Short Communication



Procuratio: Jurnal Manajemen dan Bisnis  
Vol. 4 No. 1, 2025 pp. 56-65.  
E-ISSN,2828-8718  
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## 1. Introduction

In the rapidly evolving landscape of public sector governance, the performance of civil servants is increasingly shaped by their capacity to adapt to technological changes and organizational transformations. Digitalization has become a cornerstone of administrative

reform, compelling governments worldwide to reconfigure the roles, skills, and mindsets of their bureaucratic workforce (Melati et al., 2021; Özturan et al., 2024; Wisnujati et al., 2024). In this context, digital literacy and organizational adaptability emerge as two interdependent capabilities that can enhance the effectiveness and responsiveness of civil servants in delivering public services.

Digital literacy, traditionally understood as the ability to use information and communication technologies (ICTs) effectively, has evolved into a more nuanced competency that includes not only technical proficiency but also critical thinking, data interpretation, digital communication, and security awareness (Rafa'al & Sangadji, 2023; Sangadi & Handriana, 2023). In the public sector, where digital platforms are increasingly used for service delivery, interdepartmental coordination, and citizen engagement, civil servants must possess digital competencies that go beyond basic ICT skills. Without adequate digital literacy, civil servants may struggle to keep up with the demands of e-governance initiatives, potentially undermining the quality and efficiency of public administration. Simultaneously, organizational adaptability — the ability of public institutions and their members to respond to change proactively and constructively — plays a critical role in shaping civil servants' work performance (Abd. Kadir & Rumaisha Alwi, 2023; Rizki Ramadhan et al., 2024; Sangadji, 2021; Sangadji et al., 2020). In highly bureaucratic environments, structural rigidity and resistance to change can hamper innovation, slow down reform, and create institutional inertia. However, when civil servants operate within adaptive organizations that encourage learning, flexibility, and participatory leadership, they are more likely to respond positively to technological innovation and policy shifts. In this regard, organizational culture and leadership are key enablers of adaptability, particularly in the face of digital disruption.

Indonesia, like many other developing countries, has embarked on a nationwide digital transformation agenda aimed at modernizing public services and improving governance outcomes (Ahmad & Chongvilaivan, 2024; Jameaba, 2020; Latupeirissa et al., 2024; Wadipalapa et al., 2024). Initiatives such as Sistem Pemerintahan Berbasis Elektronik (SPBE) and digital signature implementation mark significant steps toward digitizing bureaucratic processes. However, these reforms often face uneven implementation due to gaps in digital competencies and variations in institutional readiness. Civil servants — especially at the regional and local government levels — are frequently caught between the pressures of digitalization and the constraints of traditional bureaucratic practices. Preliminary qualitative observations from selected public institutions in Indonesia suggest that civil servants' performance is highly contingent on two factors: (1) their personal digital literacy, and (2) the degree to which their organization supports adaptability through leadership, training, and structural flexibility. Civil servants with strong digital skills tend to navigate digital platforms more confidently, meet performance targets more efficiently, and engage with the public more transparently. Conversely, in organizations that lack adaptive mechanisms — such as continuous learning systems, decentralized decision-making, or innovation incentives — even digitally literate employees may experience role stagnation or bureaucratic bottlenecks.

This short communication aims to highlight the intertwined relationship between digital literacy and organizational adaptability as key drivers of civil servant performance in the digital era. Drawing from qualitative insights, including preliminary interviews with mid-level

government employees and thematic analysis of institutional reports, this article proposes a conceptual understanding of how these two dimensions interact in practice. While most studies on public sector performance tend to treat digital skill and organizational capacity as separate issues, this article argues that they are co-constitutive — i.e., the success of one depends on the presence of the other.

The urgency of this topic lies not only in its relevance to ongoing administrative reforms but also in its implications for long-term institutional resilience. In an era marked by rapid technological change, uncertain policy environments, and rising citizen expectations, civil servants are expected to operate with both digital fluency and organizational agility. However, such expectations must be supported by systemic efforts to cultivate digital ecosystems and adaptive cultures within the public sector. Addressing this dual challenge is particularly critical for developing countries, where disparities in capacity and infrastructure remain pronounced. By focusing on the lived experiences of civil servants and the dynamics within their organizations, this article offers a practice-oriented perspective on enhancing performance in the context of digital government. It underscores the need for integrated capacity-building initiatives that simultaneously target individual skill development and institutional transformation. As digital governance continues to evolve, the alignment between human capability and organizational flexibility will likely determine the effectiveness and sustainability of public sector innovation.

## **2. Literature Review**

The performance of civil servants has long been a central concern in public administration scholarship, particularly in relation to how they respond to systemic reform and technological change. As governments worldwide continue to digitalize their services, there is growing academic and policy attention on the competencies that civil servants must possess to remain effective. Two concepts — digital literacy and organizational adaptability — have emerged as critical components that enable civil servants to function efficiently in the digital governance era. These two dimensions are increasingly being studied not in isolation, but as mutually reinforcing drivers of individual and institutional performance.

### **1) Digital Literacy in the Public Sector**

Digital literacy is broadly defined as the ability to access, evaluate, use, and create information using digital technologies (Authar et al., 2025). According to Erdat et al. (2023) and Martínez-Bravo et al. (2022), digital literacy consists of three key dimensions: technical, cognitive, and socio-emotional. In the context of civil service, these competencies are essential for navigating e-government systems, data management platforms, digital communications, and cybersecurity protocols. Public servants who are digitally literate can leverage technology to streamline administrative tasks, provide better services to citizens, and respond more effectively to dynamic governance challenges (Van Deursen & Van Dijk, 2014).

Several studies have found that digital literacy significantly impacts job performance in the public sector. For instance, Rantanen et al. (2023) show that civil servants with higher levels of digital literacy exhibit greater confidence in using e-governance tools and demonstrate higher work satisfaction. Similarly, research by Gil-García & Pardo (2005) suggests that digital competency enhances transparency and accountability, two essential pillars of good

governance. Despite these positive correlations, disparities in digital skills remain a major barrier to the success of digital transformation efforts, particularly in decentralized or under-resourced bureaucracies.

## 2) Organizational Adaptability and Civil Service Reform

While individual digital skills are important, they must be supported by organizational conditions that enable adaptation and learning. Organizational adaptability refers to an institution's capacity to evolve in response to internal and external changes, including technological disruptions, policy shifts, and societal demands. Adaptive organizations are characterized by flexible structures, participatory leadership, continuous learning cultures, and decentralized decision-making (Burns & Stalker, 1961; Weick & Sutcliffe, 2001).

In the context of civil service, organizational adaptability is critical for implementing administrative reforms and sustaining innovation. A rigid, hierarchical bureaucracy often stifles the creativity and initiative of civil servants, making it difficult for even highly skilled employees to perform effectively. Conversely, organizations that promote innovation, cross-functional collaboration, and knowledge sharing tend to empower their employees to act decisively and problem-solve in complex environments (Sørensen & Torfing, 2011). This is particularly relevant in digital governance, where the pace of technological change demands a flexible and responsive organizational culture.

Recent empirical work in developing countries has emphasized the role of organizational adaptability in shaping the outcomes of civil service reform. For example, studies in Southeast Asia have shown that public institutions with stronger adaptive capacities are more successful in adopting e-government systems and in maintaining employee engagement during transitions (Ndou, 2004). These findings point to the importance of alignment between individual capabilities and institutional frameworks.

## 3) Interdependence of Digital Literacy and Organizational Adaptability

While much of the literature treats digital literacy and organizational adaptability as distinct domains, there is a growing recognition of their interdependence. Civil servants' digital competencies cannot flourish in isolation; they require supportive environments where experimentation, learning, and failure are tolerated as part of innovation processes. At the same time, adaptive organizations benefit from digitally competent staff who can lead and implement change from within. This reciprocal relationship suggests that improving civil servant performance in the digital era requires an integrated approach that bridges individual and organizational dimensions.

A conceptual model proposed by Criado & Gil-Garcia (2019) emphasizes that successful digital transformation in the public sector is contingent upon both "technological readiness" and "organizational maturity." In other words, technological adoption is unlikely to succeed if public institutions lack the structural and cultural adaptability to support change. Moreover, employees may be reluctant to utilize digital tools if they perceive the organizational environment as punitive, inflexible, or risk-averse. In the Indonesian context, studies on civil service digital transformation have echoed similar themes. Research by Matlala (2025) found that the effectiveness of e-government programs is often hindered not by technological limitations, but by a lack of adaptive leadership, organizational inertia, and uneven skill distribution across regions. These insights underscore the importance of viewing digital

literacy and organizational adaptability not as parallel tracks, but as interconnected elements in a broader system of performance enhancement.

### **3. Methods**

This study employed a qualitative exploratory approach to investigate how digital literacy and organizational adaptability influence civil servant performance within the context of Indonesia's ongoing digital transformation in the public sector. A qualitative design was deemed appropriate to capture rich, context-specific insights into the lived experiences, perceptions, and working environments of civil servants—elements that are not easily quantifiable but crucial for understanding performance dynamics in complex bureaucratic systems. To explore these dynamics in depth, the research adopted a case study strategy, allowing for detailed examination of the interaction between individual competencies and institutional characteristics. The case study method is particularly suited to answering “how” and “why” questions, especially within real-life settings where the boundaries between phenomenon and context are intertwined (Supriatin et al., 2022). Two government institutions were selected as case sites: one at the central level, represented by a directorate within a national ministry, and the other at the regional level, represented by a provincial government office. These institutions were purposively chosen to reflect contrasting levels of digitalization and exposure to organizational reform, enabling cross-contextual comparison.

Participants in this study were selected through purposive sampling to ensure the inclusion of individuals with relevant experience and knowledge. A total of 12 civil servants were recruited based on their tenure of at least three years, active involvement in digital administrative tasks, and willingness to participate in interviews. The sample included both managerial and operational personnel to capture diverse perspectives across hierarchical levels. Data collection was conducted using semi-structured interviews over a period of four weeks. Interviews were held in Bahasa Indonesia and later translated into English for analysis. Each interview lasted between 45 and 60 minutes and was conducted either in person or through secure video conferencing platforms, depending on the availability of participants and adherence to institutional health protocols. The semi-structured format provided a balance between guiding questions and the flexibility to explore emergent topics. With the consent of participants, all interviews were audio-recorded and transcribed verbatim. In addition to the primary data, the study also incorporated secondary sources such as institutional documents, digital transformation reports, training materials, and internal policy memos to provide contextual background and enable triangulation of findings.

The data analysis followed a thematic analysis approach, as outlined by Braun and Clarke. This involved iterative stages of familiarization with the data, generating initial codes, identifying themes, reviewing and refining them, and ultimately synthesizing the findings into coherent narratives. Manual coding was employed to allow close engagement with the data, and particular attention was given to patterns that reflected the relationship between digital literacy, organizational adaptability, and perceived performance. Three overarching themes emerged from the analysis: the significance of digital competence in civil servants' daily activities, organizational enablers and inhibitors of adaptive behavior, and the dynamic interplay between individual skills and institutional culture in shaping work outcomes. This

methodological approach, combining in-depth interviews, contextual document analysis, and thematic interpretation, enabled the study to generate grounded insights into how civil servants navigate the challenges of digital transformation within their organizational settings. The findings offer a nuanced understanding of the interdependence between digital literacy and organizational adaptability, with implications for capacity-building strategies and administrative reform efforts in developing country contexts.

#### **4. Result and Discussion**

The qualitative analysis of interviews and supporting institutional documents yielded three main themes that explain how digital literacy and organizational adaptability affect civil servant performance: (1) the role of digital literacy in improving work efficiency and public service delivery, (2) the enabling and constraining factors of organizational adaptability, and (3) the interaction between individual competencies and institutional conditions. These themes collectively highlight the interdependent relationship between civil servants' digital skills and the adaptive capacity of their organizations in shaping performance outcomes.

The first theme reveals that digital literacy significantly enhances civil servants' work efficiency and responsiveness. Participants across both institutions emphasized how digital tools had become integral to their daily responsibilities, including document processing, interdepartmental communication, and service transactions with citizens. For instance, administrative staff noted that mastering online platforms such as digital signature systems and internal correspondence portals reduced the time needed to complete tasks and increased the accuracy of reporting. One participant from the central government office stated, "We used to rely on physical files and face-to-face meetings, which delayed everything. Now with digital tools, I can approve a request or share a document in seconds." However, participants also acknowledged varying levels of digital proficiency among their colleagues. While younger employees were generally more confident and adept in using technology, older staff often struggled, particularly with newly introduced systems. This disparity sometimes created workflow bottlenecks, especially in collaborative tasks. Several respondents expressed the need for regular digital training to ensure equitable skill development across age and role groups. The finding aligns with earlier research suggesting that digital literacy is a foundational competency for civil service performance, but its benefits are maximized only when supported by inclusive capacity-building initiatives (van Dijk & van Deursen, 2014).

The second theme centers on organizational adaptability as both an enabler and constraint to civil servant performance. Participants in the central-level institution reported greater exposure to leadership initiatives that supported innovation and change. These included regular upskilling workshops, feedback mechanisms, and flexible working arrangements. A mid-level manager explained, "Our leadership encourages us to try new approaches, especially if they align with our digitalization goals. They even allocate time for innovation projects." Such organizational features were perceived as empowering, allowing employees to apply their digital skills more creatively and efficiently. In contrast, the regional-level office demonstrated more bureaucratic rigidity, with limited channels for employee feedback and infrequent training opportunities. Several civil servants in this setting described a culture of compliance rather than innovation, where initiative was not always rewarded. One respondent observed, "We are told to use new systems, but we don't receive proper training

or support. Sometimes we just figure it out ourselves or ask younger colleagues.” This institutional inflexibility led to underutilization of available digital tools, thereby dampening the potential impact of digital literacy on performance. The contrast between the two institutions underscores the importance of adaptive leadership and organizational culture in fostering a supportive environment for civil servants.

The third and most integrative theme highlights the synergistic relationship between digital literacy and organizational adaptability in determining civil servant performance. Participants who possessed strong digital skills but worked in rigid environments often felt constrained and underutilized. Conversely, civil servants who lacked digital competence but worked in adaptive, learning-oriented institutions had more opportunities to develop their skills and gradually improve their performance. This mutual dependence suggests that neither digital literacy nor adaptability alone is sufficient; both must be present and aligned for optimal performance outcomes. This finding supports and extends the conceptual proposition made by Criado and Gil-García (2019), who argue that technological readiness must be accompanied by institutional maturity for successful digital transformation in the public sector. It also resonates with the view that performance is a function of both individual agency and structural conditions. The implication is clear: improving civil servant performance requires a dual-track approach that targets both personal competencies and systemic reform.

Furthermore, the data suggest that the interaction between digital literacy and adaptability is mediated by leadership style and organizational learning mechanisms. In the central institution, leadership practices such as participatory decision-making and transparent communication fostered a sense of ownership among employees, encouraging them to engage with digital platforms more proactively. On the other hand, the lack of such mechanisms in the regional office led to passive adaptation, where digital tools were used only to meet compliance requirements rather than as instruments of innovation or service improvement. This reinforces the importance of leadership not only in driving reform agendas but also in cultivating cultures that embrace change. Another noteworthy insight concerns the emotional and motivational aspects of performance in digital contexts. Participants reported that confidence in using digital tools often correlated with a stronger sense of professional identity and motivation. When civil servants felt capable and supported, they were more likely to go beyond minimum job requirements and seek improvements in their work processes. This finding highlights that digital literacy is not merely a technical issue but also a psychological enabler of engagement and initiative—two qualities strongly associated with high-performing public servants (Perry & Hondeghem, 2008).

Taken together, the findings of this study point to several key implications for policy and practice. First, digital capacity-building programs in the civil service should be ongoing, inclusive, and aligned with real workplace needs. Second, organizational reform efforts must move beyond structural changes and address the softer dimensions of adaptability, including leadership development, employee empowerment, and cultural transformation. Third, policymakers should recognize the interconnected nature of individual and organizational factors, designing interventions that foster synergy between personal competence and institutional support. In the context of developing countries like Indonesia, where resource constraints and bureaucratic legacies remain prevalent, the challenge is to design pragmatic

reform strategies that simultaneously enhance digital skills and institutional adaptability. Pilot programs that integrate digital training with organizational development, coupled with mechanisms for continuous learning and feedback, could serve as effective models. Further research may explore how these dynamics evolve over time and across different levels of government, providing a more comprehensive understanding of what drives civil servant performance in the digital era.

## 5. Conclusion

This study has explored the interrelated roles of digital literacy and organizational adaptability in shaping the performance of civil servants amid the ongoing digital transformation of the public sector. Drawing on qualitative insights from two government institutions in Indonesia, the findings underscore that civil servant performance is not solely a matter of individual skill, but is profoundly influenced by the organizational context in which these individuals operate. Digital literacy has emerged as a key enabler of work efficiency, service responsiveness, and professional confidence among civil servants. However, the presence of digital skills alone is insufficient if not supported by an adaptive organizational environment. Institutions that encourage learning, experimentation, and employee participation are more likely to convert digital competencies into meaningful performance outcomes. Conversely, rigid bureaucratic structures and unsupportive leadership can stifle even the most digitally capable personnel. The interaction between digital literacy and organizational adaptability suggests that performance enhancement strategies in the public sector must adopt a dual focus: strengthening individual competencies while simultaneously transforming organizational culture and processes. Leadership plays a critical role in bridging this gap, acting as a catalyst for change, and creating the conditions necessary for innovation and continuous improvement.

For developing countries such as Indonesia, where digital infrastructure and institutional capacities vary widely, the path toward a high-performing civil service lies in integrated reform efforts. These should include sustained investment in digital training, leadership development, and the cultivation of adaptive, resilient bureaucratic systems. By aligning human capabilities with organizational readiness, governments can better position their civil servants to meet the complex demands of 21st-century governance. Enhancing civil servant performance in the digital era requires more than the acquisition of technical skills—it demands a systemic approach that connects personal development with institutional transformation. Future research should further investigate these dynamics across different administrative levels and cultural contexts to inform broader public sector reform strategies.

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