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The Role of Organizational Culture in Enhancing the Effectiveness of Artificial Intelligence–Based Digital Transformation

A Systematic Literature Review

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Abstract

Introduction/Main Objectives: The paper examines how organizational culture enhances the effectiveness of artificial intelligence (AI)–based digital transformation.

Background Problems: This paper examines why organizations that invest in AI and digital technologies often fail to achieve expected performance gains due to unsupportive cultures, and asks how specific organizational culture types can enhance the effectiveness of AI-based digital transformation.

Research Methods: This study uses a Systematic Literature Review (SLR) based on the PRISMA framework to examine how organizational culture influences the effectiveness of AI-based digital transformation. From an initial 612 Scopus-indexed articles identified using relevant keywords, 11 studies that met predefined inclusion and exclusion criteria were selected for final analysis and thematic synthesis.

Finding/Results: The review finds that supportive, innovation-oriented organizational cultures enable AI-based digital transformation to improve performance, while rigid and fear-based cultures hinder AI adoption and limit its benefits.

Conclusion: This systematic literature review concludes that organizational culture plays a pivotal role in enhancing the effectiveness of artificial intelligence (AI)–based digital transformation by shaping digital transforming capabilities, AI adoption, and the translation of technological investments into innovation, productivity, and performance outcomes

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Keywords: Artificial Intelligence, Digital Transformation, Organizational Culture, Systematic Literature Review

Introduction

Although the potential of AI to enhance organizational performance is becoming more apparent, many organizations remain trapped in overly technology-oriented approaches, assuming that investment in digital infrastructure and AI solutions will automatically lead to successful transformation (Cyfert et al., 2025; Romeo & Lacko, 2025). Recent studies indicate that the success of digital transformation is, in fact, highly determined by “soft components” such as digital leadership, employee competence, and especially organizational culture, which shape both individual and collective readiness and response to AI-based change (Seppänen et al., 2025; Cyfert et al., 2025). Without appropriate cultural support, advanced technologies often lead to resistance, partial implementation, or even failure, particularly among incumbent SMEs facing limited resources and digital literacy challenges (Seppänen et al., 2025; Romeo & Lacko, 2025).Current empirical and conceptual literature consistently emphasizes that the type and configuration of organizational culture play a central role in determining the effectiveness of AI-based digital transformation. Quantitative studies show that adhocracy and clan cultures, which encourage innovation, learning, and collaboration, positively contribute to digital transforming capability and product innovation performance (Cao et al., 2025), whereas rigid and bureaucratic cultures slow the adoption of new technologies and hinder the realization of AI’s benefits (Lis & Piecha, 2025; Omol, 2024). Meanwhile, research in the telecommunications sector of developing countries found that AI capabilities improve organizational performance mainly through enhanced employee productivity—strongly dependent on a learning-supportive and technology-adaptive environment—although cultural aspects are not always explicitly modeled (Kassa & Worku, 2025).

Multilevel literature reviews on AI in organizations also show that AI has ambivalent effects on employee behavior and well-being, making cultural context the key determinant of whether the technology enhances efficiency and work quality or triggers anxiety, job insecurity, and resistance (Bankins et al., 2024; Romeo & Lacko, 2025). Conceptual approaches such as “culture-sensitive AI” and responsible AI highlight that without sensitivity to the values, norms, and power relations embedded in an organization’s culture, AI innovation risks producing epistemic injustice and long-term resistance (Herzog, 2025; Sposato & Dittmar, 2025). Therefore, adaptive, collaborative, and ethical cultures not only facilitate technology acceptance but also serve as prerequisites for sustainable, human-centered digital transformation. Despite growing recognition of the importance of organizational culture in the contexts of digitalization and AI, significant research gaps remain regarding how culture specifically enhances the effectiveness of AI-based digital transformation across different organizational and national contexts. Many studies focus on identifying general enablers and barriers but have not yet systematically examined the mechanisms and cultural configurations most relevant for maximizing AI’s contribution to organizational performance and innovation—especially in underrepresented sectors and regions (Romeo & Lacko, 2025; Lis & Piecha, 2025; Omol, 2024). This gap opens pathways for future research to explore in greater depth how the role of organizational culture can be conceptualized and tested as a key factor that enhances the effectiveness of artificial intelligence–based digital transformation, while providing practical implications for leaders to develop an AI-ready culture aligned with digital transformation strategies and objectives

Research Methods

Scientific articles have a role in identifying, analyzing, and synthesizing relevant scientific literature on the concepts of transformation strategies and digital leadership practices in companies in Indonesia. This study uses a Systematic Literature Review (SLR) approach. This

approach is chosen because it can provide a systematic, clear, and replicable understanding of the development of previous research. Additionally, this technique is useful for identifying trends, differences, and contributions of prior studies as a basis for future research. As recommended by Sandberg and Alvesson (2021), SLRs allow for structured aggregation and critical assessment of diverse findings—especially when transformation and leadership concepts evolve across sectors. In digital leadership research, bibliometric and SLR methods have revealed growing diversity in measurement, context, and conceptualization over time (Wibowo et al., 2023). Kurniawan et al. (2024) assert that thematic synthesis in SLR allows researchers not only to summarize, but also to identify knowledge gaps and future research directions, improving the relevance of managerial recommendations. Furthermore, Sari and Pratama (2023) emphasize that applying PRISMA standards ensures transparency and reproducibility in review studies involving literature selection, exclusion, and synthesis. The method applied in this study follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure the review process is carried out in a structured and transparent manner. Literature identification, selection based on inclusion and exclusion criteria, and thematic synthesis of selected articles are the three main stages of the SLR process.

Reliable scientific databases used as data sources for this research were obtained from Scopus with keywords such as Artificial Intelligence, Digital Leadership, Indonesian Enterprises, Systematic Literature Review, and Transformation Strategies used in the search. The process began with the identification stage, where 612 articles were found from various databases. From these, 30 articles were removed due to duplicate data. The articles then entered the screening stage, which is an initial selection process based on abstracts and titles. At this stage, 139 articles were excluded because they were considered irrelevant, and 443 articles proceeded to the retrieval stage for full document collection. However, 145 articles could not be retrieved, possibly due to limited access or unavailability online. Next, 298 articles underwent the eligibility stage, which is a thorough evaluation of the full content of the articles. At this stage, 129 articles were excluded for being irrelevant to the main keywords, 70 articles were rejected because they were not conducted in Indonesia, and 88 articles were rejected because The population and sample do not align with the eligibility criteria. After all stages were completed, only 11 articles met all criteria and were included in the final review. This can be seen in the PRISMA Diagram below.

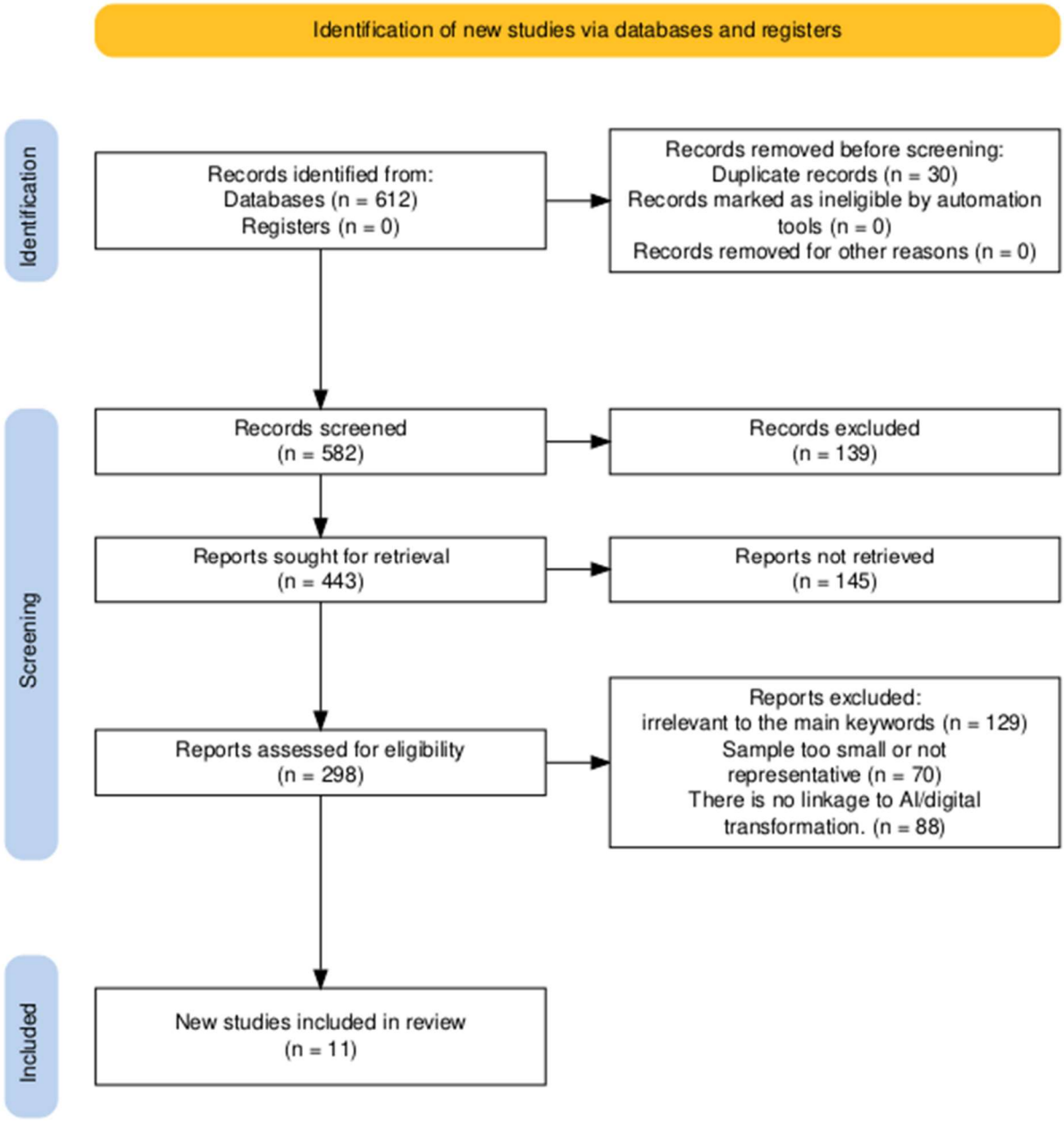

Figure 1 Flow diagram of study using the PRISMA method

Source: Explained, 2025

Result

The systematic literature review identified a coherent set of studies that together clarify how organizational culture enhances the effectiveness of artificial intelligence (AI)–based digital transformation. The reviewed articles span quantitative surveys, qualitative multi-case studies, mixed-methods designs, and conceptual or systematic reviews, with publication years concentrated between 2021 and 2025, indicating that this is a rapidly emerging research area. Across these studies, organizational culture consistently appears either as a measured construct or as a central contextual factor shaping AI adoption, digital transforming capability, and associated performance outcomes.

Table 1. Methodology and findings Artificial Intelligence, Digital Transformation, Organizational Culture, Systematic Literature

Year	Article title	Method & context	Main cultural insight	Link to AI-based digital transformation effectiveness
2025	Organizational culture, digital transformation, and product innovation	Quantitative cross-sectional survey, 250 managers in U.S.firms (PLS-SEM)	Adhocracy and clan cultures foster innovation, learning, and collaboration, strengthening digital transforming capability	Digital transforming capability, shaped by cultural configuration, improves the newness, meaningfulness, and performance of new products in digital transformation initiatives (Cao et al., 2025).
2025	Understanding determinants of digital transformation and digitizing management functions in incumbent SMEs	Qualitative multi-case study of 22 B2B SMEs in Finland (semi-structured interviews, thematic analysis)	Innovation-friendly cultures and continuous learning support digital transformation, while resistant cultures and dependence on legacy systems hinder progress	Cultural readiness, human capabilities, and risk management practices make AI-related digital transformation more realistic and sustainable in resource-constrained SMEs (Seppänen et al., 2025).
2025	The impact of artificial intelligence on organizational performance The mediating role of employee productivity	Quantitative survey of 172 managers and specialists in Ethio Telecom (PLS-SEM)	A work culture that supports learning, technology adoption, and productivity is considered essential, although culture is not measured explicitly	AI capability improves organizational performance primarily through increased employee productivity, highlighting the need for cultures that enable AI integration into daily work (Kassa & Worku, 2025).
2024	A multilevel review of artificial intelligence in organizations: Implications for organizational behavior	Integrative multilevel literature review (individual, group, organization, labour market)	Cultures supporting learning, autonomy, and high-performance work systems reduce AI-related anxiety, whereas authoritarian cultures intensify insecurity and resistance	The behavioral and psychological climate around AI critically shapes whether AI-driven digital transformation yields positive or negative organizational outcomes (Bankins et al.)
2025	Adoption and integration of AI in organizations: a systematic review of challenges and drivers towards future directions of research	PRISMA-based systematic review of 196 articles using the TOE framework	Innovative, learning-oriented cultures enable AI adoption; resistance, fear, and lack of training reflect cultures that obstruct AI implementation	AI projects succeed when aligned with strategy, structure, skills, and culture; misalignment leads to failure or partial value realization (Romeo & Lacko, 2025).
2021	Digital transformation: A multidisciplinary reflection and research agenda	Multidisciplinary conceptual scoping review	Culture is implicit in the need for agility, cross-functional collaboration, and openness to change	Digital transformation effectiveness depends on aligned strategies, digital capabilities, and agile structures that are underpinned supportive bycultural norms (Verhoef et al., 2021).
2025	Relational & culture-sensitive AI innovation	Conceptual/normative paper with interdisciplinary literature	Emphasizes culture-sensitive AI that attends to organizational and community cultures to	Long-term effectiveness AI-based transformation relies on trust, participation, and

			avoid epistemic injustice and resistance	cultural alignme not only on technical performance (Herzog, 2025).
2025	The Role of Organizational Culture in the Era of Digital Transformation of Enterprises	Mixed-methods study in Polish business entities (literature review, survey, observation, interviews)	Integrative, flexible, trust-based, and collaborative cultures accelerate digital adoption; rigid, bureaucratic cultures impede transformation	Smart technologies, including AI, fail when cultures do not reduce resistance, build competence, and preserve work relationships during automation (Lis & Piecha, 2025).
2025	Are we ready for digital transformation? The role of organizational culture, leadership and competence in building digital advantage	Conceptual viewpoint based on global Literature and practice	Organizational culture is a primary enabler or barrier; open, collaborative, customer-centric, learning-oriented cultures support digitalization	Digital transformation, including advanced AI adoption, is effective only when leadership, competence, and culture are aligned with digital strategy prior to technology implementation (Cyfert et al., 2025).
2024	Organizational digital transformation: from evolution to future trends	Scoping literature review with global case illustrations	Adaptive, experimental, and cross-silo collaborative cultures are positioned as the “bedrock” of successful digital transformation	AI, big data, and IoT enhance transformation effectiveness only when supported by data-driven, customer-centric, and ethically aware cultures (Omol, 2024).
2025	The AI-powered future of digital transformation: enhancing organizations and leadership development	Narrative literature review and theoretical framework with hypothetical cases	Culture emerges implicitly through domains of collaborative learning and adaptive evolution, stressing learning-oriented and ethical cultures	AI-enhanced coaching can strengthen digital transformation by fostering leadership development, provided that culture supports experimentation, reflection, and ethical governance (Sposato & Dittmar, 2025)

Thematic results

Across the reviewed studies, several cross-cutting themes emerged regarding the role of organizational culture in AI-based digital transformation. First, cultures characterized by adhocracy, innovation orientation, learning, and collaboration consistently appear as enablers of digital transforming capability, AI adoption, and associated innovation and performance

outcomes (Cao et al., 2025; Seppänen et al., 2025; Lis & Piecha, 2025; Omol, 2024). Second, rigid, bureaucratic, fear-based, and training-averse cultures are repeatedly linked to resistance, slow adoption, and under-realization of AI's potential, even when technological and financial resources are available (Seppänen et al., 2025; Romeo & Lacko, 2025; Cyfert et al., 2025).

Third, several studies underline that AI's impact on organizations is fundamentally socio-technical and ambivalent, with outcomes depending heavily on psychological climate and cultural norms. When cultures support autonomy, high-performance work systems, and psychological safety, AI tends to be associated with higher efficiency, better decision quality, and constructive human–AI collaboration; in authoritarian or low-trust cultures, AI often triggers anxiety, perceived loss of control, and resistance (Bankins et al., 2024; Herzog, 2025). Fourth, systematic and conceptual reviews converge on the conclusion that AI projects only yield sustainable value when embedded in broader transformations of strategy, structure, skills, and culture, implying that "AI-ready" or digital cultures are prerequisites rather than by-products of effective AI-based digital transformation (Romeo & Lacko, 2025; Verhoef et al., 2021; Cyfert et al., 2025).

Overall, the results of this systematic literature review indicate that organizational culture functions as a central mechanism through which AI capabilities and digital transformation initiatives translate into innovation, productivity, and long-term organizational advantage. The evidence suggests that future empirical research should move beyond treating culture as a background condition and instead model specific cultural dimensions and configurations as key explanatory factors in AI-based digital transformation, including in under-studied sectors, regions, and methodological designs.

Discussion

The findings of this systematic literature review reinforce and extend the argument developed in the introduction that organizational culture is a central mechanism through which artificial intelligence (AI)–based digital transformation becomes effective rather than merely technological. Across empirical, conceptual, and review studies, culture repeatedly appears as an enabler or barrier that shapes digital transforming capability, AI adoption, and the translation of AI investments into innovation, productivity, and long-term performance outcomes (Cao et al., 2025; Romeo & Lacko, 2025; Omol, 2024). This convergence supports the view that AI-driven transformation must be understood as a socio-technical change embedded in cultural norms, rather than a purely technical upgrade, thus confirming the urgency and rationale outlined earlier in this study.

A first key point is the consistent identification of innovation-oriented, learning-oriented, and collaborative cultures as drivers of effective digital transformation and AI utilization. Quantitative evidence shows that adhocracy and clan cultures strengthen digital transforming capability and, in turn, improve new product performance, directly aligning with the introduction's emphasis on culture-driven digital capabilities (Cao et al., 2025). Qualitative multi-case research in incumbent SMEs similarly demonstrates that "innovation-friendly" cultures and continuous learning mindsets help organizations overcome resource constraints and risk perceptions around AI, making transformation more realistic and sustainable (Seppänen et al., 2025). These results are in line with broader digital transformation frameworks that highlight culture of adaptability, experimentation, and cross-silo collaboration as the "bedrock" of successful transformation (Lis & Piecha, 2025; Omol, 2024; Verhoef et al., 2021), thereby empirically substantiating the conceptual claims presented in the introduction.

In contrast, the review also reveals that rigid, bureaucratic, and fear-based cultures systematically undermine AI-based digital transformation, providing a nuanced counterpoint to techno-optimistic narratives. Studies in SMEs and larger organizations document how

resistance to change, dependence on legacy systems, and lack of trust in technology slow down or derail transformation, even when AI and digital infrastructures are available (Seppänen et al., 2025; Romeo & Lacko, 2025). Systematic evidence from AI adoption reviews indicates that resistance, fear, and insufficient training are often symptoms of underlying cultural patterns that reject experimentation and learning, confirming the introduction's argument that technology alone cannot compensate for misaligned soft factors (Romeo & Lacko, 2025; Cyfert et al., 2025). These findings collectively support the conclusion that culture is not a neutral background condition but a decisive determinant of whether AI-driven initiatives generate value or remain underutilized.

A second major theme concerns the ambivalent behavioral and psychological effects of AI, which depend strongly on organizational climate and culture. The multilevel review by Bankins et al. (2024) shows that AI can simultaneously enhance efficiency and decision quality while provoking anxiety, job insecurity, and resistance, with cultural norms around learning, autonomy, and fairness shaping which side of this ambivalence prevails. This perspective resonates with conceptual work on culture-sensitive and responsible AI, which argues that long-term effectiveness of AI-based transformation hinges on trust, participation, and alignment with local cultural values and power relations, rather than on technical performance alone (Herzog, 2025). These insights deepen the introduction's claim that AI-based digital transformation is a socio-technical process, highlighting that cultural and ethical dimensions are integral to ensuring that AI supports, rather than erodes, employee well-being and acceptance.

Third, several studies reviewed here clarify the mechanisms through which culture enhances AI-based digital transformation by linking cultural configurations to capabilities, productivity, and leadership development. Kassa and Worku (2025) demonstrate that AI capability improves organizational performance mainly via employee productivity, implying that cultures that support learning, technology adoption, and redesign of work processes are essential for capturing AI's benefits. Conceptual contributions on digital advantage argue that effective transformation follows a sequence where digital leadership and competencies catalyze shifts toward digital organizational cultures, which then make advanced AI adoption feasible and effective, complementing the introduction's discussion of leadership and competence as intertwined with culture (Cyfert et al., 2025). Similarly, frameworks on AI-enhanced coaching suggest that cultures promoting collaborative learning, reflection, and ethical governance are necessary for AI to strengthen leadership and organizational development, thereby indirectly enhancing digital transformation outcomes (Sposato & Dittmar, 2025).

Finally, the review uncovers important gaps and tensions that refine the research agenda outlined in the introduction. While many studies converge on the importance of culture, relatively few explicitly model cultural dimensions and configurations as core explanatory variables in AI-based digital transformation, and even fewer do so across diverse sectors, national contexts, or longitudinal designs (Romeo & Lacko, 2025; Lis & Piecha, 2025). Moreover, there is a tension between works that treat culture implicitly—through constructs such as agility, collaboration, and adaptability—and those that explicitly measure cultural types, suggesting a need for more integrative models that connect these perspectives (Cao et al., 2025; Verhoef et al., 2021). Addressing these gaps will require future research to systematically unpack how specific cultural profiles interact with AI capabilities over time, and to test whether targeted cultural interventions can reliably enhance the effectiveness of AI-based digital transformation, thereby building directly on the theoretical and empirical foundations synthesized in this study.

Conclusion

This systematic literature review concludes that organizational culture plays a pivotal role in enhancing the effectiveness of artificial intelligence (AI)–based digital transformation by shaping digital transforming capabilities, AI adoption, and the translation of technological investments into innovation, productivity, and performance outcomes. Across diverse empirical and conceptual studies, cultures characterized by adhocracy, innovation orientation, continuous learning, collaboration, and trust are consistently associated with stronger digital transforming capability, more successful AI integration into daily work, higher employee productivity, and more meaningful and high-performing innovation outputs (Cao et al., 2025; Seppänen et al., 2025; Kassa & Worku, 2025). Conversely, rigid, bureaucratic, and fear-based cultures that resist change and underinvest in digital skills systematically undermine AI projects, leading to partial value realization or failure even when infrastructure and algorithms are available (Romeo & Lacko, 2025). The evidence also shows that AI's effects on behavior and well-being are ambivalent and highly contingent on cultural and psychological climates, so that cultures supporting learning, autonomy, and fairness are more likely to realize the promised benefits of AI-based digital transformation (Bankins et al., 2024).Book1.xlsx

At the same time, the review highlights several limitations and directions for improvement that call for cautious and critical interpretation. Much of the existing work is concentrated in specific sectors and regions, often with cross-sectional designs, and many influential frameworks treat culture implicitly rather than operationalizing concrete cultural dimensions, which constrains causal inference and cross-context comparison (Verhoef et al., 2021; Lis & Piecha, 2025). Future research should employ mixed-method and longitudinal designs, explicitly model cultural configurations alongside AI capabilities, and extend inquiry to under-represented industries and country contexts to test whether "AI-ready" cultures can be intentionally developed and how they interact with leadership, competencies, and governance mechanisms (Romeo & Lacko, 2025; Cyfert et al., 2025). For policymakers and organizational leaders, the findings imply that AI and digital transformation policies must move beyond technology-centric investments toward integrated strategies that simultaneously foster innovative, learning-oriented, and ethically aware cultures, supported by training, participation, and data governance, if AI-based digital transformation is to be effective, equitable, and sustainable.

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