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THE EFFECT OF TECHNOLOGY ADOPTION ON WORK CULTURE AND PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW

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Abstract. *Technology adoption has advanced rapidly and become a strategic factor that transforms work culture and individual as well as organizational performance. This study aims to analyze the influence of technology adoption on work culture and organizational performance using a Systematic Literature Review (SLR) approach. Conducted within the domain of human resource management (HRM), this study specifically examines how technological transformation reshapes employee behavior, competencies, and organizational dynamics. The SLR method was used to identify, evaluate, and synthesize academic findings relevant to the topic, particularly from Scopus-indexed journals accessed through Science Direct. From the initial 13,964 results, a screening process based on the 2016–2025 publication period and open-access availability produced 4,359 articles, from which 10 of the most relevant journals were selected. The findings indicate that technology adoption strongly influences the formation of digital work culture, enhances employees' digital competencies, and improves organizational performance. Factors such as digital leadership, organizational support, technological infrastructure, and data analytics capabilities are determinants of success. This study emphasizes that technology adoption not only drives innovation but also affects work behavior, organizational resilience, and employee well-being. The review provides theoretical and practical contributions to human resource management development in the digital era.*

Keywords: *Digital Culture; Employee Performance; Organizationa Performance; Technology Adoption; Work Culture.*

1. INTRODUCTION

Digital transformation has become one of the most significant changes in modern management practices. Technology adoption affects not only operational processes but also work culture, interaction patterns, organizational structures, and employee performance. In this context, technology adoption refers to the process through which individuals and organizations accept, implement, and utilize new technologies to improve efficiency and effectiveness. Organizations that previously operated conventionally are now required to adapt to more flexible, collaborative, technology- integrated, and data-driven work patterns.

In the digital era, the emergence of digital culture, the values, norms, and behavioral patterns shaped by the use of digital technologies, plays a crucial role in supporting transformation. Digital culture is characterized by openness to innovation, data-driven decision-making, and the use of digital platforms for collaboration. This culture is strongly interconnected with work culture, which encompasses the shared values, habits, and work practices within an organization. An adaptive work culture that embraces change and supports innovation becomes a key driver of successful technology adoption.

These cultural shifts directly affect employee performance, which refers to the level of achievement of employees in carrying out their responsibilities according to organizational standards. In digital work environments, employee performance is increasingly influenced by digital skills, the ability to adapt to technological change,

productivity supported by digital tools, and the capacity to work effectively in virtual or hybrid settings.

Moreover, successful technology adoption contributes to enhanced organizational performance, including operational effectiveness, innovation capability, service quality, customer satisfaction, and overall competitiveness. However, existing empirical findings on these relationships remain inconsistent. Some studies highlight how technology improves performance through efficiency and automation, while others report negative effects such as technostress, increased workload, or difficulties in adapting to new systems, which may reduce employee well-being and work performance.

These contrasting findings often stem from variations in work culture, digital culture, leadership support, and technological readiness. There also remains an ongoing debate on whether organizational culture must evolve prior to digitalization or whether digitalization itself shapes new cultural norms and values.

Given these research gaps, this SLR aims to comprehensively map the influence of technology adoption on work culture, digital culture, and organizational performance, while also evaluating its implications for employee performance from a human resource management perspective.

2. LITERATURE REVIEW

2.1 Work Culture and Digital Culture

Work culture refers to a system of shared values, beliefs, norms, and behaviors that shape how individuals interact, make decisions, and carry out their responsibilities within an organization. It influences not only daily routines but also employees' attitudes toward change, collaboration patterns, and levels of innovation. In the context of digital transformation, traditional work culture is gradually replaced or reshaped by new cultural patterns that emphasize digital collaboration, technological integration, flexible work arrangements, a data-driven mindset, continuous learning, and a strong orientation toward innovation. According to Cao et al. (2025), these new cultural characteristics enable organizations to operate more efficiently, respond faster to market dynamics, and maintain competitiveness in rapidly evolving environments.

Digital transformation also fosters the emergence of digital culture, a cultural framework that encourages the use of digital tools, transparency, agility, and experimentation. Digital culture strengthens an organization's ability to adapt to environmental changes by promoting openness to technological advancements and encouraging employees to develop digital competencies as part of their everyday work practices. However, the successful development of digital culture is not automatic. It depends heavily on several critical factors, including leadership commitment to driving digital initiatives, adequate technological readiness supported by robust infrastructure, and the digital literacy of employees, which determines their ability to use technology effectively. As highlighted by Leal-Rodríguez et al. (2024), organizations with strong digital leadership, well-prepared technological systems, and employees equipped with sufficient digital skills are more likely to achieve successful digital transformation outcomes.

2.2 Technology Adoption

Technology adoption refers to the process through which individuals or organizations recognize, evaluate, accept, implement, and integrate new technologies into their operational activities. This process does not occur instantly; rather, it involves stages such as awareness, interest, trial, adaptation, and routinization. The success of technology adoption is influenced by multiple determinants, including digital capability, organizational support, technological infrastructure, and the clarity of an organization's digital strategy. As highlighted by Nguyen et al. (2024), higher levels of digital capability—such as employees' proficiency with digital tools and systems— significantly increase acceptance levels and improve the likelihood that technology will be used effectively. In addition, strong organizational support in the form of

training, leadership encouragement, adequate resources, and a supportive work environment is essential to reduce resistance and facilitate smooth implementation. A well-defined digital strategy further guides the adoption process by aligning technological initiatives with organizational goals, ensuring that technology adoption contributes to both operational improvements and long-term strategic success.

In the context of HRM, the adoption of technology has profound implications for both work processes and employee experiences. On one hand, technology can enhance efficiency by automating repetitive tasks, improving communication systems, enabling data-driven decision-making, and supporting flexible work arrangements such as remote or hybrid work. These advancements can significantly increase employee productivity, accuracy, and responsiveness. On the other hand, technology adoption may also introduce new challenges, including digital overload, technostress, and feelings of psychological pressure arising from the constant demand to learn new systems, handle rapid technological changes, or remain digitally connected. According to Khalequzzaman et al. (2025), while technology can elevate employee performance, it can simultaneously generate cognitive strain, reduce well-being, or create anxiety among employees with lower digital literacy levels. Therefore, effective HRM strategies must balance the benefits of technological efficiency with initiatives that protect employee mental health, such as training programs, workload management, supportive leadership, and digital well-being policies.

2.3 Performance

Performance results from a complex interaction of competencies, motivation, work environment, and organizational support. It reflects the extent to which employees are able to accomplish their tasks effectively, efficiently, and in alignment with organizational goals. Competencies—both technical and digital—serve as the foundation that enables employees to perform their jobs, while motivation drives the willingness to exert effort, persist, and strive for excellence. The work environment, including leadership style, communication patterns, and availability of resources, further shapes employees' ability to achieve optimal performance. Organizational support, such as training, recognition, and access to necessary tools, reinforces these factors by creating conditions that encourage sustained high performance.

Studies show that technology significantly enhances performance through various mechanisms, including automation, reduction of manual workload, improved access to information, and increased accuracy in task execution (Purnamasari et al., 2025). By leveraging digital systems, employees can complete tasks more quickly and with fewer errors, enabling greater productivity and more informed decision-making. Technology also facilitates collaboration across departments and geographic boundaries, supports real-time monitoring, and enhances transparency in workflow processes. These advancements allow employees to shift their focus from routine administrative tasks to higher-value activities that contribute more directly to organizational innovation and competitiveness.

However, the impact of technology on performance is not universally positive and depends significantly on several contextual factors. One key determinant is task– technology fit, which refers to the degree of alignment between the technology's capabilities and the requirements of the job. When the technology supports the nature of the tasks, performance improves markedly; however, when the fit is poor, technology can complicate workflow and hinder productivity. Employee engagement also plays an essential role, as individuals who are more engaged tend to explore technological tools more deeply, adapt more readily, and leverage digital features more effectively. Additionally, perceived digital fairness, employees' perception of fairness in digital monitoring, performance evaluation, and access to technological resources—shapes how willingly they embrace technology. When employees perceive digital systems as transparent, equitable, and supportive, the positive impact of technology on performance is amplified. Conversely, perceptions of unfairness or excessive monitoring may

reduce motivation and negatively affect overall performance.

3. RESEARCH METHODS

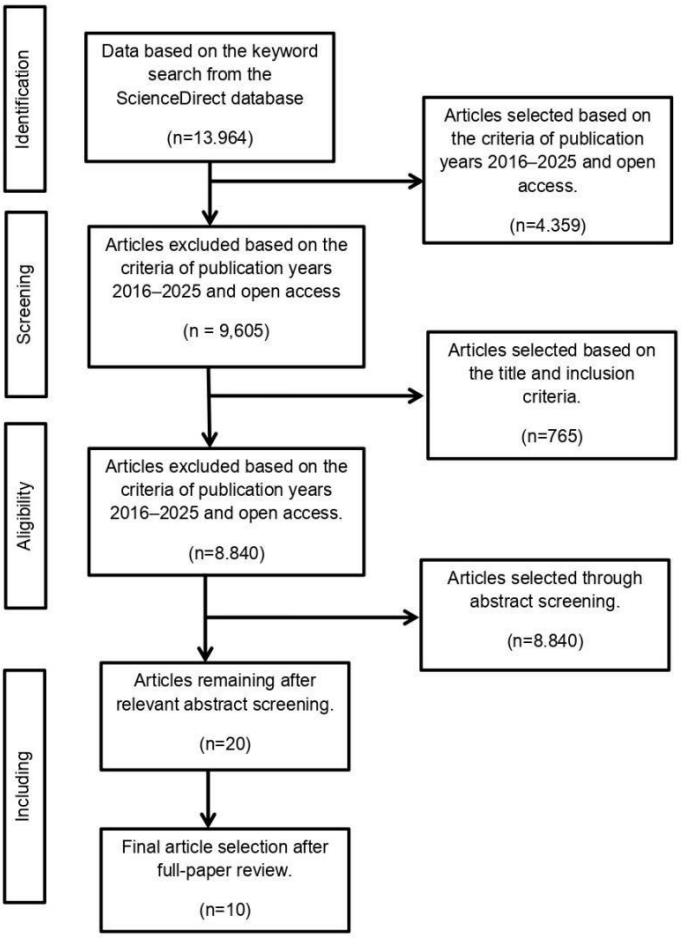

Foto 1: PRISMA Diagram

This study employs the Systematic Literature Review (SLR) method using the PRISMA guidelines. The steps carried out are as follows:

3.1 Data Sources

Data were collected from the Science Direct database and included only Scopus- indexed journals.

3.2 Keywords

Keywords used: technology adoption, digital culture, work culture, employee performance, organizational performance. The initial search yielded 13,964 articles.

3.3 Inclusion Criteria

The authors filtered articles based on: Publication years 2016–2025, open-access availability, and relevance to the topic.

A total of 4,359 articles remained after filtering, from which 10 were selected for relevance and theoretical contribution.

3.4 Data Analysis

Researchers extracted data on research objectives, methods, findings, variables, and relationships among technology, work culture, and performance. A thematic synthesis approach was used.

Tabel 1: Journals and Research Relevance

No	Title	Authors	Journal & Year	Relevance
1	Digitalization strategy adoption: The roles of key stakeholders, big data organizational culture, and leader commitment	Nguyen et al.	International Journal of Hospitality Management (2024)	Explains the role of big data culture and leader commitment in digitalization adoption
2	Organizational	Cao, Duan &	Information &	Links
	culture, digital transformation, and product innovation	Edwards	Management (2025)	Organizational culture types to digital transformation capabilities and product innovation
3	Digital transformation stressors in banking: Technostress…	Khalequzzaman et al.	Acta Psychologica (2025)	Explains the impact of digital pressure (technostress) on employee performance
4	Leadership behaviours t promote organisational performance in private sector digital transformation – SLR	Orkamo et al.	Digital Business (2025)	Reviews leadership behaviours in digital transformation and their effects on performance
5	Reframing the digital strategy– organisational culture relationship	Cyfert et al.	Journal of Strategy and Management (2025)	Explains how digital strategy shapes digital culture
6	Embracing the digital shift: Leveraging AI… employee well-being	Aulia & Lin	Asia Pacific Management Review (2025)	Connects the use of AI with employee well- being and work engagement
7	High involvement work system and organizational and employee resilience	Nguyen et al.	Technological Forecasting & Social Change (2024)	Analyzes the impact of digitalization on organizational and employee resilience and performance
8	Digitalization beyond technology: Predictive model for digital culture	Leal-Rodríguez e al.	Journal of Innovation & Knowledge (2024)	Develops a predictive model of digital culture based on cultural archetypes
9	Technological infrastructure and financial resource availability government performance	Purnamasari et al.	Social Sciences & Humanities Open (2025)	Explains the role of technological infrastructure in enhancing public sector performance

10	Digitalization beyond technology: Proposing an explanatory and predictive model for digital culture in organizations	Antonio L et al.	Journal of Innovation & Knowledge (2023)	Reinforces the relationship between digital transformation and individual performance

4. RESULTS AND DISCUSSION

4.1 The Impact of Technology Adoption on Work Culture

Most reviewed journals emphasize that technology drives significant changes in work culture. Key findings include:

1) Increased data-driven culture and digital mindset.
2) Factors such as IT skills and digital capabilities play crucial roles (Nguyen et al., 2024; Cyfert et al., 2025).
3) Shift toward digital leadership.
4) Digital leadership enhances cultural readiness and serves as a key mediator (Orkamo et al., 2025).
5) Digital collaboration and work flexibility.
6) Organizations increasingly adopt flexible work patterns supported by AI and collaboration systems (Aulia & Lin, 2025).
7) Cultural readiness as a determinant of success.
8) Traditional hierarchical cultures hinder digital culture formation (Leal-Rodríguez et al., 2024).

These findings indicate a bidirectional relationship: technology drives cultural change, while digital-ready culture accelerates technology adoption.

4.2 The Impact of Technology Adoption on Performance

Technology adoption affects performance both directly and indirectly:

1) Employee performance improvement through digital competence. Digitaltools enhance work effectiveness, innovation, and service speed (Purnamasari et al., 2025).
2) Organizational performance improvement through digital innovation. Digital transformation capability correlates positively with product innovation and organizational outcomes (Cao et al., 2025).
3) Technostress as a paradoxical impact. Digital overload may increase job stress (Khalequzzaman et al., 2025).

Thus, technology alone does not guarantee performance; HR and cultural factors remain central.

4.3 Integrated Findings: Conceptual Model

The SLR reveals the pathway: Technology Adoption → Digital Work Culture → Employee & Organizational Performance

Reinforcing factors:

- Digital leadership
- Organizational support
- Digital competencies
- Technological infrastructure Inhibiting factors:
- Cultural resistance
- Technology overload
- Lack of training

Thus, successful technology adoption requires cultural readiness and effective leadership.

CONCLUSION

This study concludes that technology adoption has a very strong influence on work culture as well as organizational and individual performance. Digital transformation is not merely about introducing new tools or systems; it also triggers fundamental changes in work methods, operational values, communication patterns, and relationships among employees. These shifts create a more dynamic, collaborative, and data-driven work environment, requiring employees to adjust to new rhythms and demands.

The findings indicate that the use of technology can significantly improve performance when supported by an adaptive digital culture, sufficient digital competence, and leadership that encourages innovation. Organizations that are able to integrate these three aspects tend to maximize the potential of technology to enhance efficiency, support data-driven decision-making, and create sustainable added value.

However, the study also highlights the challenges that arise from the digitalization process. Intensive use of technology has the potential to cause technostress, digital fatigue, and cultural resistance, particularly among employees who are less prepared to adapt or who feel burdened by rapid changes. These risks may hinder the transformation process if not managed with appropriate change management strategies, such as continuous training, effective organizational communication, mentoring, and the creation of a more inclusive work culture.

To deepen the understanding of how technology influences work culture, future research is recommended to examine the dynamics of digital stress in greater detail, including its triggers and mitigation strategies. Additionally, the role of artificial intelligence in shaping values, behaviors, and modern work habits represents an important area for exploration. Comparative studies across different industrial sectors are also relevant to identify how digital culture evolves uniquely within various organizational contexts and job characteristics. In this way, future studies are expected to provide more comprehensive insights into work culture transformation in the digital era.

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