



Technology Adoption in Modern Workplaces: Trends, Challenges, and Managerial Implications

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ABSTRACT

Background: Technology adoption in modern workplaces has become an increasingly important issue in management and organizational studies, particularly in response to digital transformation, evolving business environments, and post-pandemic work arrangements.

Purpose: This study aims to examine the major trends, challenges, and managerial implications of technology adoption in modern workplaces through a systematic review of the existing literature.

Methods: This study employs a systematic literature review approach by analyzing peer-reviewed articles published between 2010 and 2024. Data were collected from Scopus, Web of Science, and Google Scholar, and 28 studies were selected based on relevance, recency, and methodological rigor.

Results: The findings reveal four major trends in workplace technology adoption: the growing use of remote work technologies, increased reliance on automation and artificial intelligence, stronger attention to cybersecurity, and wider implementation of cloud-based collaboration tools. The review also identifies several key challenges, including resistance to change, skills gaps, digital fatigue, and limited technological infrastructure, particularly in developing economies. These findings suggest that technology adoption has significant implications for organizational performance, human resource management, strategic adaptability, and innovation.

Conclusions: Technology adoption in modern workplaces remains essential for improving productivity, flexibility, communication, and organizational effectiveness. Although organizations face various barriers in implementation, the strategic integration of technology is indispensable for sustaining competitiveness in contemporary work environments.

Research Contribution: This study contributes to management literature by providing a comprehensive understanding of the trends, challenges, and managerial implications of workplace technology adoption. It offers useful insights for managers, policymakers, and researchers in developing effective strategies for technology-driven organizational transformation.

Keywords: workplace technology, digital transformation, technology adoption, organizational change, systematic review, post-pandemic work.

INTRODUCTION

In today's rapidly evolving digital economy, technology adoption in modern workplaces has become a central issue in management and organizational studies (Sarfraz et al., 2022). Organizations across sectors increasingly rely on digital

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technologies such as artificial intelligence (AI), cloud computing, collaborative platforms, Internet of Things (IoT) systems, automation tools, and remote work technologies to improve productivity, streamline operations, strengthen communication, and respond more effectively to changing market demands. This transformation has accelerated significantly in recent years, particularly in response to the COVID-19 pandemic, which forced many organizations to adopt remote and hybrid work arrangements within a short period of time. As a result, technology adoption is no longer regarded merely as an operational option, but as a strategic necessity for organizational sustainability, adaptability, innovation, and competitiveness.

The increasing use of digital technologies in workplace settings offers substantial benefits for organizations, including improved efficiency, cost reduction, better communication, faster decision-making, and greater organizational responsiveness (Şişu et al., 2024a). In the context of management, these developments also have important implications for human resource management, organizational behavior, strategic adaptability, innovation management, and overall organizational performance. However, the adoption of workplace technology is not always straightforward. Many organizations continue to face significant barriers, including employee resistance to change, limited digital skills, inadequate infrastructure, cybersecurity and data privacy concerns, digital fatigue, and the high cost of technological implementation (Şişu et al., 2024b; Valtonen & Holopainen, 2025). The success of technology adoption is therefore shaped not only by the availability of technological tools, but also by managerial and organizational factors such as leadership support, organizational culture, employee readiness, training opportunities, and effective change management. This indicates that technology adoption in modern workplaces should be understood not only as a technical process, but also as a managerial and organizational challenge.

A growing body of literature has examined technology adoption in workplace contexts across different sectors, including education, healthcare, finance, manufacturing, and information technology, in both public and private organizations. Prior studies have used a range of theoretical perspectives, such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Diffusion of Innovations Theory, to explain how individuals and organizations adopt, use, or resist new technologies. Existing research has also explored various dimensions of workplace technology adoption, including its effects on employee outcomes, organizational processes, collaboration patterns, and strategic performance. Nevertheless, the available literature remains fragmented across disciplines, industries, and regional contexts, making it difficult to develop a comprehensive understanding of the major trends, recurring challenges, and broader managerial implications of technology adoption in modern workplaces.

This fragmentation highlights the need for a systematic review that can consolidate empirical and theoretical insights into a more coherent perspective. A comprehensive synthesis is important for identifying the dominant technological trends that shape modern workplaces, such as the expansion of remote work technologies, the growing use of automation and artificial intelligence, the increasing emphasis on cybersecurity, and the wider implementation of cloud-based collaboration tools (Hesselbarth et al., 2024). In addition, such a review is necessary to examine the benefits and impacts of technology adoption on organizational performance and employee outcomes, to explore common barriers encountered during implementation, and to analyze the theoretical frameworks that

have been used to study this phenomenon. A systematic literature review can also help identify best practices and future directions for organizations seeking to manage digital transformation more effectively while contributing to academic understanding of technology-driven workplace change. In this regard, reviewing studies published between 2010 and 2024 provides an appropriate basis for tracing how technology adoption in workplaces has evolved in response to changing organizational needs and broader digital transformation.

From the perspective of management research, this topic is highly relevant because technology adoption has direct implications for organizational effectiveness, employee performance, leadership practices, innovation capacity, and strategic competitiveness. Managers and policymakers are increasingly required to make informed decisions about how digital technologies should be introduced, integrated, and governed within organizations. Understanding the trends and challenges of technology adoption is therefore essential for designing appropriate managerial strategies, developing workforce readiness, and improving long-term organizational resilience. At the same time, a clearer synthesis of the literature can support future scholarly work by bridging fragmented findings and providing a stronger conceptual basis for further studies on workplace transformation in the digital era.

Accordingly, this study systematically reviews the existing literature on technology adoption in modern workplaces with particular attention to its trends, challenges, and managerial implications. The review focuses on peer-reviewed studies published between 2010 and 2024 and covers various organizational settings and technological applications discussed in previous research. The novelty of this study lies in its comprehensive synthesis of dispersed literature on technology adoption in modern workplaces by integrating discussions on technological trends, implementation challenges, and managerial implications within a management and organizational studies perspective. By doing so, this study is expected to provide a more comprehensive understanding of workplace technology adoption and to offer practical and academic insights for managers, policymakers, and researchers dealing with digital transformation in contemporary organizations.

This study employed a systematic literature review to synthesize existing research on technology adoption in modern workplaces (Saad et al., 2021). This approach was chosen to ensure a comprehensive, transparent, and replicable process in identifying, selecting, and analyzing relevant studies. The literature search was conducted through several major academic databases, namely Scopus, Web of Science, IEEE Xplore, ScienceDirect, and Google Scholar, using keywords such as “workplace technology adoption,” “digital transformation,” “ICT in organizations,” “remote work tools,” “employee resistance to technology,” “technology implementation challenges,” and “digital workplace trends.”

The selected studies were limited to peer-reviewed journal articles and reputable conference papers published between 2010 and 2024, written in English, and focused on the adoption, impact, or challenges of workplace technologies. Studies that addressed consumer technologies outside workplace settings or lacked empirical and theoretical relevance were excluded. From an initial pool of more than 120 articles, 28 studies met the inclusion criteria and were further analyzed. Data were extracted based on publication year, regional context, industry sector, type of technology, theoretical framework, and key findings. Subsequently, thematic analysis was applied to identify recurring patterns, major trends, research gaps, and managerial implications across the selected studies.

LITERATURE REVIEW

Workplace technology adoption has gained significant scholarly attention, especially as organizations seek to improve productivity, remote collaboration, and service delivery through digital innovation. Davis (1989) introduced the Technology Acceptance Model (TAM), which identifies perceived usefulness and perceived ease of use as critical factors influencing user acceptance of technology. This model has been extensively applied in workplace contexts to explain employee attitudes toward new systems. Venkatesh et al. (2003) expanded this framework through the Unified Theory of Acceptance and Use of Technology (UTAUT), incorporating constructs such as performance expectancy, effort expectancy, social influence, and facilitating conditions. The UTAUT model has proven particularly useful for understanding complex, organizational-level adoption processes (Dwivedi et al., 2019).

Rogers' (2014) Diffusion of Innovations theory also remains relevant, especially in examining how innovations spread within organizational cultures. The innovation-decision process outlined in this theory supports a deeper understanding of the role of early adopters and organizational readiness. Yoo, Henfridsson, and Lyytinen (2010) introduced the concept of digital innovation, highlighting how digital technologies fundamentally alter organizational processes and business logic. Their work underscores the importance of viewing digital transformation as more than tool adoption—it is a reconfiguration of the workplace.

Recent studies such as Abubakar et al. (2020) and Al-Emran et al. (2018) identify key trends like remote work, automation, mobile tools, and AI integration. These technologies have reshaped work environments, particularly in response to the COVID-19 pandemic, which accelerated adoption. However, gaps remain in training, user engagement, and implementation strategies. The literature also reveals regional imbalances in research output, with a strong emphasis on developed economies. There is limited empirical data from developing countries, suggesting a need for more inclusive, context-sensitive studies (Zhao et al., 2018). These insights contribute to identifying both global trends and context-specific challenges in workplace technology adoption.

Nair et al. (2019) emphasized the importance of organizational context in successful technology adoption, noting that internal readiness, leadership support, and technological infrastructure significantly affect outcomes. Their work suggests that even the most innovative tools may fail if the organization lacks strategic alignment or clear communication channels. Wang et al (2020) explored the effects of digital technology on job design and employee well-being. They argued that while digital tools improve efficiency, they may also increase workloads, introduce complexity, and blur work-life boundaries—factors which can influence employee resistance to adoption.

Hameed et al (2012) conducted a meta-analysis of IT adoption determinants and found that individual, organizational, and environmental factors all play key roles. Their findings suggest that top management support, perceived usefulness, and training quality are critical success factors across various sectors. Suhada et al (2026) investigated the role of digital skills in workplace readiness. They noted that adoption success heavily relies on employees' digital literacy and ability to learn new systems. Lack of technical proficiency remains a barrier, particularly among older or under-trained staff.

Ahmad et al (2023) reviewed digital transformation in the public sector and

found that leadership mindset, agile processes, and cross-functional collaboration are critical enablers of tech adoption. Their study reinforces the notion that human and cultural factors are as vital as the technologies themselves. Azouri et al (2022) analyzed employee resistance during enterprise system implementation. They discovered that resistance often stems from fear of change, lack of involvement, and poor communication. Effective change management and participatory decision-making can significantly reduce these obstacles. During and post-COVID-19, rapid shifts to remote and hybrid work models forced organizations to adopt collaboration platforms, automation tools, and cloud services. Studies by Chandratreya (2025) highlight how these changes spurred unprecedented digital transformation, while also challenging traditional workplace norms and requiring quick upskilling of staff.

Despite the growing body of literature on workplace technology adoption, the existing studies remain fragmented across theoretical approaches, technological focus, sectoral settings, and geographical contexts. Previous research has made important contributions in explaining the determinants of technology acceptance, the organizational conditions supporting implementation, and the broader impact of digital transformation on work processes and employee behavior. However, much of the literature tends to examine these dimensions separately, resulting in a limited integrated understanding of how technology adoption in modern workplaces develops in relation to emerging digital trends, persistent implementation challenges, and broader managerial implications. In addition, the dominance of studies conducted in developed-country settings suggests that the current knowledge base may not yet fully capture the realities of organizations operating in different institutional and infrastructural contexts. Therefore, this study seeks to address these gaps by providing a systematic review that synthesizes prior research within a more comprehensive management and organizational framework. The novelty of this study lies in its effort to integrate discussions on technological trends, organizational and human barriers, and managerial implications into a single analytical perspective, thereby offering a more holistic understanding of technology adoption in modern workplaces and a stronger conceptual foundation for future research and practice in the era of digital transformation.

RESULTS AND DISCUSSION

Result

The systematic review of 28 peer-reviewed studies published between 2010 and 2024 reveals that technology adoption in modern workplaces has become an increasingly important organizational issue. The findings indicate that workplace technology adoption is not merely a technical process, but also a strategic and managerial phenomenon that affects organizational performance, employee behavior, communication patterns, and long-term competitiveness. Across the reviewed studies, technology adoption was consistently associated with digital transformation efforts, organizational adaptation, and the need for greater flexibility in increasingly dynamic work environments. Based on the analysis, the findings are grouped into four major themes: emerging trends in workplace technology, positive impacts of technology adoption, implementation challenges and barriers, and the theoretical frameworks used in previous studies.

Emerging Trends in Workplace Technology

The review identified a clear increase in the use of digital technologies across workplace settings. One of the most dominant trends is the adoption of cloud-based collaboration platforms, such as Microsoft Teams, Google Workspace, Zoom, and Slack. These tools have become essential in supporting communication, file sharing, coordination, and teamwork, particularly in remote and hybrid work arrangements. Their widespread use reflects the growing need for flexible and connected work systems that allow employees to collaborate regardless of physical location.

Another important trend is the growing reliance on artificial intelligence (AI) and automation technologies. The reviewed studies show that organizations increasingly use AI to automate repetitive tasks, improve operational efficiency, and support managerial decision-making through predictive analytics and data processing. In many workplace contexts, AI is not only used to reduce manual workload but also to enhance decision quality and support strategic planning. This trend suggests that organizations are moving toward more intelligent and data-driven management practices.

The review also highlights the emergence of Internet of Things (IoT) technologies in workplace environments. IoT devices are used to create smart workplaces by facilitating real-time monitoring, improving coordination, optimizing resource use, and supporting workplace safety and comfort. In addition, Virtual Reality (VR) and Augmented Reality (AR) have started to gain attention, particularly in training, simulation, and employee development. These technologies offer more interactive learning experiences and are especially useful in industries that require practical training or high-risk operational simulations.

A further trend identified in the literature is the rapid expansion of remote work technologies, especially after the COVID-19 pandemic. The pandemic accelerated the transition toward digital workplaces and forced organizations to adopt virtual communication systems, online meeting platforms, and digital workflow management tools. This has led to a broader transformation in how work is organized and performed. Overall, these trends indicate that modern workplaces are becoming increasingly flexible, connected, automated, and data-oriented.

Positive Impacts of Technology Adoption

Most of the reviewed studies reported positive outcomes associated with technology adoption in workplace settings. One of the most frequently mentioned benefits is increased operational efficiency and productivity. Digital technologies help organizations automate routine processes, reduce manual workload, minimize errors, and improve the speed of task completion. As a result, employees can focus more on strategic, analytical, and value-added activities.

Another major positive impact is the improvement of employee collaboration and communication. Collaboration tools and digital communication platforms enable faster information exchange, more efficient teamwork, and better coordination among employees and departments. This is especially important in remote and hybrid work contexts, where digital communication becomes the main channel for organizational interaction. In many cases, the adoption of these tools has helped maintain continuity of operations and improve responsiveness across teams.

The literature also shows that technology adoption contributes to better decision-making. Technologies such as AI, analytics platforms, and digital dashboards allow managers to access real-time information, generate insights from data, and make more informed decisions. This strengthens managerial capacity in

planning, monitoring, and evaluating organizational performance. In addition, some studies found that technology adoption supports greater work flexibility and work-life balance, particularly through remote work systems that allow employees to perform tasks from different locations and manage time more effectively.

From a strategic perspective, technology adoption also provides competitive advantage through innovation. Organizations that actively invest in digital infrastructure, employee capability development, and innovation-friendly practices are often better positioned to adapt to market changes and improve organizational resilience. In this sense, workplace technology adoption is not only beneficial for daily operations but also for long-term organizational sustainability and competitiveness.

Challenges and Barriers to Adoption

Despite its many benefits, the review shows that technology adoption in modern workplaces is often accompanied by significant challenges. One of the most commonly reported barriers is resistance to change among employees. New technologies may disrupt existing routines, create uncertainty, and generate concerns about job security or increased performance pressure. Resistance becomes even stronger when organizations fail to communicate the purpose and benefits of the new technology clearly or when employees are not adequately involved in the transition process.

Another major challenge is the existence of skill gaps and inadequate training. Several studies indicate that employees often struggle to use newly introduced technologies effectively due to limited digital literacy or insufficient training opportunities. In such cases, the mere availability of technology does not guarantee successful adoption. Organizations need to support implementation with continuous learning, technical assistance, and capacity-building initiatives to ensure that employees can use the technology confidently and productively.

The review also identifies cybersecurity concerns and data privacy issues as major barriers, especially in organizations that rely heavily on cloud-based systems, digital communication tools, and remote work technologies. As workplaces become more digitally connected, the risks related to data breaches, unauthorized access, and system vulnerabilities also increase. These concerns may slow down adoption or create reluctance among both managers and employees. Therefore, cybersecurity readiness has become an essential dimension of workplace technology management.

In addition, high implementation costs and limited infrastructure remain important obstacles, particularly in developing economies or smaller organizations with restricted financial resources. The cost of acquiring technology, upgrading systems, maintaining digital infrastructure, and training employees may hinder full-scale adoption. Some studies also emphasize the importance of leadership support and digital strategy. Without strong managerial commitment, clear strategic direction, and supportive organizational policies, technology adoption often becomes fragmented or underutilized. These findings confirm that successful implementation requires not only technological investment but also effective organizational leadership and change management.

Theoretical Frameworks Used in Previous Studies

The review found that several theoretical models were frequently used to explain workplace technology adoption. One of the most widely applied frameworks is the Technology Acceptance Model (TAM), which explains technology adoption based on

users' perceptions of usefulness and ease of use. TAM has been particularly useful in understanding individual acceptance of workplace technologies and employee attitudes toward new systems.

Another commonly used framework is the Unified Theory of Acceptance and Use of Technology (UTAUT). This model extends earlier technology acceptance theories by incorporating factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions. In the reviewed studies, UTAUT was often used to examine how both personal and contextual factors shape employees' willingness to adopt new technologies in workplace environments.

The Diffusion of Innovations Theory also appeared frequently in the literature, especially in studies exploring how new technologies spread across organizations or industries. This framework is useful for understanding adoption as a gradual process influenced by innovation characteristics, communication channels, organizational context, and time. In addition, the Technology-Organization-Environment (TOE) Framework was widely used to analyze adoption at the organizational level. TOE emphasizes that technology adoption is influenced by technological readiness, organizational capabilities, and external environmental factors such as competition, regulation, and industry pressure.

The use of these frameworks demonstrates that technology adoption in modern workplaces is shaped by a combination of individual, organizational, and environmental factors. This also indicates that no single perspective is sufficient to explain adoption comprehensively. Rather, successful analysis requires an integrated understanding of user behavior, managerial support, technological characteristics, and institutional context.

Managerial Implications

The findings of this review carry important implications for managers and organizational leaders. First, workplace technology adoption should be treated as a strategic organizational initiative, not merely as a technical upgrade. Managers need to ensure that technology investments are aligned with organizational goals, operational needs, and long-term competitiveness. Second, organizations should place strong emphasis on employee readiness, including training, digital skill development, and supportive communication during implementation. This is essential to reduce resistance and improve user acceptance.

Third, organizations need to strengthen leadership commitment and digital governance. Technology adoption is more likely to succeed when leaders actively support change, provide clear direction, and foster a culture that encourages innovation and learning. Fourth, managers must pay close attention to cybersecurity and data privacy, especially in increasingly digital and remote work environments. Finally, organizations should recognize that technology adoption is an ongoing process that requires continuous adaptation, evaluation, and improvement rather than a one-time implementation effort.

Summary of Findings

In summary, the review demonstrates that technology adoption in modern workplaces is characterized by several major trends, including the growth of cloud-based collaboration tools, AI and automation, IoT applications, immersive technologies, and remote work systems. These technologies offer considerable benefits in terms of productivity, communication, flexibility, and competitiveness. However, organizations also face persistent barriers such as resistance to change, digital skill gaps, cybersecurity concerns, high implementation costs, and weak

strategic support. The reviewed studies further show that workplace technology adoption has been widely examined through frameworks such as TAM, UTAUT, Diffusion of Innovations, and TOE, confirming that adoption is influenced by a complex interaction of human, organizational, and technological factors.

Discussion

The findings of this systematic literature review confirm that technology adoption in modern workplaces has become one of the most significant developments in contemporary organizational life. As reflected in the reviewed studies, the adoption of digital technologies is no longer limited to operational support, but has evolved into a broader strategic mechanism through which organizations seek to improve productivity, flexibility, communication, innovation, and long-term competitiveness (Giannakos et al., 2021; Saad et al., 2021; Wolor et al., 2021). This is highly consistent with the broader context presented in this study, which emphasizes that digital transformation and post-pandemic workplace change have accelerated the integration of digital systems into everyday organizational processes. In this regard, technology adoption should be understood as an organizational transformation process that affects not only work tools and procedures, but also managerial practices, employee behavior, and institutional readiness.

One of the most important implications of the findings is that modern workplace technology adoption reflects a clear transition toward more flexible, connected, and data-driven organizational environments. The increasing use of cloud-based collaboration platforms, artificial intelligence, Internet of Things systems, virtual or augmented reality applications, and remote work technologies indicates that organizations are actively reconfiguring how work is coordinated and performed (Wolor et al., 2021). This shift demonstrates that digital technologies are being adopted not simply because they are available, but because they are perceived as essential in supporting organizational responsiveness, coordination, and continuity in rapidly changing environments (Wolor et al., 2021). The prominence of remote work technologies in particular shows how work arrangements have been fundamentally reshaped in recent years, with organizations increasingly relying on digital communication and collaboration tools to sustain operations across dispersed teams. The movement toward digitally enabled work environments therefore reflects not only technological modernization, but also a broader managerial effort to align organizational structures and practices with contemporary business demands.

The positive outcomes identified across the reviewed studies also reinforce the strategic relevance of technology adoption in workplace contexts. Technologies implemented in organizational settings were consistently associated with improved operational efficiency, faster communication, stronger collaboration, better decision-making, and greater work flexibility (Chatterjee et al., 2022). These findings suggest that digital technologies can generate value at multiple organizational levels. At the operational level, they help streamline workflows, reduce repetitive tasks, and enhance speed and accuracy. At the human resource level, they facilitate communication and cooperation among employees, especially in remote and hybrid working environments. At the strategic level, they support innovation, adaptability, and performance improvement. This multidimensional impact is important because it shows that the value of workplace technology adoption cannot be reduced to cost reduction or technical efficiency alone. Rather, the adoption of technology increasingly functions as an enabler of organizational

agility and strategic renewal, especially in organizations seeking to remain competitive under conditions of uncertainty and rapid change.

However, the review also makes clear that the benefits of technology adoption are not automatic. A recurring theme across the studies is that successful implementation depends heavily on the readiness of individuals and organizations to adapt to technological change. Employee resistance to change remains one of the most persistent barriers. This resistance may stem from fear of job displacement, discomfort with unfamiliar systems, disruption of established routines, or perceptions that the new technologies are difficult to use or insufficiently beneficial. In this sense, the findings strongly support the view that technology adoption is deeply shaped by human attitudes and behavioral responses. The frequent use of theoretical models such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) in the reviewed studies confirms that perceived usefulness, perceived ease of use, social influence, and facilitating conditions play central roles in determining whether technology will be accepted and effectively utilized (Ursavaş, 2022). Thus, the success of technology adoption cannot be explained solely by technological sophistication; it is equally dependent on how users interpret, experience, and respond to the technology in everyday work settings.

Beyond individual acceptance, the findings further indicate that organizational and infrastructural conditions are equally critical. Several studies highlighted that skill gaps, inadequate training, limited infrastructure, and weak strategic planning continue to undermine the effective adoption of workplace technologies. These barriers are particularly important because they illustrate that technology adoption is embedded in organizational systems that require investment, coordination, and leadership (Haber & Carmeli, 2023). Even highly advanced digital tools may fail to deliver meaningful outcomes if employees are not adequately prepared to use them, if digital infrastructure is insufficient, or if the organization lacks a coherent strategy for integrating technology into its operational and managerial processes. This finding is especially relevant from a management perspective, because it underscores the need for leaders to move beyond a purely technological view of digital transformation. Organizations must ensure that adoption efforts are accompanied by structured training, supportive leadership, clear communication, and long-term digital planning. In other words, technology adoption is most effective when it is managed as an organizational change process rather than as a stand-alone technical intervention.

Another critical dimension emerging from the review concerns cybersecurity, data privacy, and governance challenges. As workplace technologies become more interconnected, cloud-based, and reliant on real-time data exchange, organizations are exposed to a wider range of digital risks. The increasing dependence on digital communication systems, online platforms, and intelligent technologies creates new vulnerabilities related to information security, employee privacy, and organizational resilience (Saeed et al., 2023). This is particularly relevant in remote and hybrid work settings, where the boundaries between organizational systems and personal digital environments are often blurred. The findings therefore suggest that technology adoption in modern workplaces requires not only technological implementation, but also stronger governance mechanisms to protect data, ensure responsible use, and maintain trust among employees and organizational stakeholders. For managers, this means that digital transformation strategies should incorporate cybersecurity readiness, compliance awareness, and risk management as integral elements rather than secondary considerations.

The role of the COVID-19 pandemic as a catalyst for accelerated technology adoption also deserves particular attention. The review indicates that the pandemic dramatically increased the use of remote work technologies and digital collaboration tools, pushing many organizations to implement technology at a pace that would likely not have occurred under normal circumstances. This accelerated transition reveals both the adaptive potential of organizations and the fragility of their prior digital preparedness. On one hand, many organizations demonstrated remarkable flexibility by moving work processes online and maintaining operational continuity through digital platforms (Gupta et al., 2023). On the other hand, the rapid shift exposed significant weaknesses, including insufficient infrastructure, uneven digital skills, limited employee readiness, and increased experiences of digital fatigue. These findings suggest that crisis-driven technology adoption, while effective in the short term, may produce uneven outcomes if not followed by deeper organizational learning and capacity building. Therefore, the pandemic should not be seen merely as a temporary trigger, but as a turning point that exposed the importance of long-term digital readiness, workforce resilience, and adaptive leadership in modern workplaces.

From a theoretical standpoint, the frequent reliance on TAM, UTAUT, Diffusion of Innovations Theory, and related frameworks demonstrates that workplace technology adoption is shaped by an interaction of individual, organizational, and contextual factors. TAM and UTAUT are especially useful for explaining user perceptions and behavioral intentions, while broader frameworks help explain how adoption is influenced by organizational capabilities, innovation characteristics, and environmental conditions. The prominence of these frameworks in the literature indicates that scholars recognize the complexity of workplace technology adoption and the need to examine adoption behavior from multiple levels of analysis. At the same time, the recurrence of similar frameworks across studies may also suggest an opportunity for future research to integrate behavioral and organizational perspectives more explicitly. Given that technology adoption in workplaces increasingly involves issues such as strategic alignment, change management, leadership, and organizational culture, future studies may benefit from theoretical models that combine technology acceptance with management and organizational change perspectives. This would help produce a more holistic understanding of adoption processes in modern organizations.

An equally important finding concerns the geographical imbalance in the literature. As indicated in the review, a considerable proportion of studies on workplace technology adoption originate from developed countries, while comparatively less attention is given to emerging and developing economies. This imbalance is important because the conditions influencing technology adoption may vary significantly across contexts. Infrastructure availability, access to digital resources, organizational culture, workforce capabilities, regulatory environments, and levels of technological maturity differ greatly between developed and emerging economies. Consequently, findings generated in highly digitized settings may not fully explain adoption patterns in contexts where infrastructure is limited, financial resources are constrained, or organizational priorities differ. This gap suggests that the current body of literature, while valuable, may not yet provide a sufficiently inclusive picture of global workplace technology adoption. Future research should therefore pay greater attention to underrepresented regions and sectors in order to generate more context-sensitive knowledge and strengthen the practical relevance of the field for a wider range of organizations.

From a managerial perspective, the implications of these findings are

substantial. First, managers must recognize that technology adoption is not simply about purchasing or installing digital tools; it involves building organizational readiness, aligning technology with strategic goals, and ensuring that employees are supported throughout the adoption process. Second, leaders should prioritize workforce development by investing in digital literacy, training, and continuous learning mechanisms. This is essential not only to improve technical competence, but also to reduce anxiety, resistance, and underutilization. Third, organizations should strengthen change management practices by communicating the rationale for technology adoption clearly, involving employees in implementation processes, and fostering a culture that encourages experimentation and innovation. Fourth, digital transformation strategies should address issues of infrastructure, cybersecurity, governance, and long-term sustainability rather than focusing only on immediate operational outcomes. These managerial implications are highly consistent with the orientation of this study, which places workplace technology adoption within a management and organizational studies perspective (Leesakul et al., 2022).

Discussion confirms that technology adoption in modern workplaces is best understood as a dynamic and multidimensional phenomenon shaped by technological opportunities, organizational capacities, employee perceptions, and contextual constraints. The reviewed studies reveal that digital tools can significantly enhance organizational performance and flexibility, but they also show that adoption outcomes depend on how effectively organizations manage the human and structural dimensions of technological change. In line with the title and abstract of this study, the discussion demonstrates that workplace technology adoption is characterized by identifiable trends, persistent challenges, and far-reaching managerial implications. The novelty of this review lies in its integrative discussion of these three dimensions within a single management-oriented framework, thereby offering a more comprehensive understanding of how technology adoption is transforming modern workplaces. By synthesizing fragmented evidence in this way, the study contributes not only to academic debate, but also to practical efforts by managers and policymakers to design more inclusive, strategic, and sustainable approaches to workplace digital transformation.

CONCLUSION

This study concludes that technology adoption in modern workplaces has become a critical component of organizational transformation in the digital era. The findings of this systematic literature review demonstrate that the adoption of workplace technologies offers substantial benefits, including improved productivity, greater flexibility, enhanced communication, and stronger organizational competitiveness. At the same time, the review shows that successful adoption depends not only on technological availability, but also on human readiness, organizational capacity, strategic planning, and leadership support. In this regard, technology adoption should not be understood merely as the acquisition of digital tools, but as a broader managerial and organizational process that requires cultural adaptation, employee engagement, and continuous capability development.

Based on these findings, organizations are encouraged to invest in digital literacy and ongoing training to address employee skill gaps and improve readiness for technological change. It is also important to foster an organizational culture that supports innovation, learning, and openness to change in order to minimize resistance and encourage effective technology use. In addition, managers should

develop clear implementation strategies that align technology adoption with organizational goals, operational needs, and long-term competitiveness. The use of user-centered perspectives in technology implementation is equally important, as employee perceptions and behavioral responses play a significant role in shaping adoption outcomes. Furthermore, future studies should give greater attention to workplace technology adoption in developing regions, where infrastructural, cultural, and institutional conditions may differ substantially from those in developed economies. Further research is also recommended to employ longitudinal approaches in order to examine the long-term effects of workplace technologies and to explore adoption patterns across specific sectors and organizational contexts.

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CONFLICTS OF INTEREST

The author declares no conflict of interest.

AUTHOR CONTRIBUTIONS

All authors were involved in the development and design of the study. The processes of material preparation, data collection, data analysis, and manuscript drafting were carried out jointly by all authors. Each author reviewed and approved the final version of the manuscript.

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DATA AVAILABILITY

Data sharing is not applicable to this article because no new data were created or analyzed in this study.

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