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Office Management in the Digital Era: Human Resources Adaptation and Innovation in Digital Transformation

Rifky Gilang Prayuda[1*]
Business Administration
Politeknik Negeri Bandung,
Bandung, Indonesia
E-mail: rifky.gilang.abs423@polban.ac.id

Urfi Asfari[2]
Business Administration
Politeknik Negeri Bandung,
Bandung, Indonesia
E-mail: urfi.asfari.abs423@polban.ac.id

ABSTRACT

The advancement of digital technology has transformed traditional office management into a digital-based model, demanding organizations to adapt in terms of efficiency, productivity, and competitiveness Previous studies have primarily focused on technical aspects such as document digitization and information systems leaving a significant gap in understanding how human resources (HR) and strategic innovation respond to digital disruption. This article aims to analyze adaptation strategies and innovation in digital office management, emphasizing the integration of technology, human resource development, and data-driven policy formulation. The research method used is a critical literature review of prior studies. The findings reveal that successful digital transformation depends not only on technology adoption but also on organizational culture readiness, change management, and adaptive leadership. This article contributes by integrating human and strategic perspectives to tackle digital challenges, offering practical recommendations for both professionals and academics in optimizing office management during the Fourth Industrial Revolution.

Keywords: Human Resource Adaptation; Strategic Innovation; Digital Office Management; Digital Transformation

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 *Corresponding Author: rifky.gilang.abs423@polban.ac.id

INTRODUCTION

The rapid evolution of digital technology has significantly shifted the paradigm of office management. In the era of Industry 4.0, organizations are expected to keep pace with technological change to enhance efficiency, productivity, and competitiveness Piccarozzi *et al.*, (2018). over 80% of companies globally have accelerated the digitization of work processes and the implementation of digital tools, especially in administrative functions. Similarly, a 2022 McKinsey survey reported that 78% of global executives identify digital transformation as their top priority, with a specific focus on office automation, remote collaboration, and paperless operations. Office management, once centered on traditional administrative processes, now faces challenges such as document digitization, task automation, and the implementation of integrated information systems Davenport & Kirby, (2016). These changes have not only reshaped workflows but also demanded the development of new skillsets for administrative staff. Despite this global momentum, (Kwok, n.d.) highlighted a significant regional disparity, where only 43% of organizations in developing countries report having a structured digital office strategy, compared to over 85% in developed economies. This indicates a substantial adoption gap and underscores the need to understand not just the technology, but how human resource development and strategic adaptation influence the success of digital transformation in various contexts.

Previous research has examined various aspects of digital-era office management. For instance, Olatunji, (2013) investigated the impact of information technology on administrative efficiency, while El-Haddadeh, (2020) explored the key factors influencing the adoption of digital document management systems. (El-Haddadeh, 2020) highlighted the importance of cloud computing in office data management. However, many of these studies focused narrowly on technical solutions, lacking a deep exploration of human resource adaptation and strategic innovation in response to digital disruption.

This article offers a fresh contribution by integrating the human and strategic dimensions of digital office management. Unlike earlier research that concentrated mostly on technological tools, this study examines how organizations can effectively manage change, implement employee training, and craft data-driven policies to build more responsive and efficient office environments. Addressing the research gap, the central question of this study is: How can organizations transition from traditional office management to a digital model while considering human resources and strategic innovation? The proposed hypothesis is that successful digital transformation in office management depends not only on adopting new technologies but also on cultivating a supportive organizational culture and adaptive leadership.

This gap is critical because technology alone does not guarantee transformation. Without addressing the human and strategic dimensions, such as employee training, organizational culture, and leadership style, many digital initiatives fail to achieve their intended impact. Therefore, this study offers a fresh contribution by analyzing adaptation and innovation strategies in digital office management, integrating both technological and human-centric perspectives. The main goal of this study is to analyze adaptation and innovation strategies in office management during the digital era, with a focus on technology integration, HR development, and effective policy design. The insights gained are intended to support both practitioners and scholars in enhancing digital transformation in office environments. In addition to technological readiness, organizations must also consider the psychological and cultural readiness of their employees. Transitioning to digital systems is not only a technical upgrade but a cultural shift that requires time, support, and strong leadership commitment. This includes rethinking how decisions are

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made, how teams collaborate, and how individual contributions are recognized in a more digitized workflow.

LITERATURE REVIEW

Availability of Digital Facilities in The Office

The availability of digital means in the office has transformed traditional work environments, enhancing efficiency and productivity. Digital technologies, such as computers, scanners, and software applications, are now integral to office operations. This shift necessitates a workforce skilled in digital employability, ensuring that employees can effectively utilize these tools for optimal performance (Nurain et al., 2024). The following sections elaborate on key aspects of digital means in the office.

Impact on Efficiency and Productivity

Digital technology significantly improves work efficiency and productivity by streamlining administrative tasks Fadillah & Marsofiyati Marsofiyati, (2024). The integration of digital tools allows for faster document creation and management, reducing time spent on manual processes (Employability *et al.*, 2017).

Accessibility and Inclusivity

Digital documentation tools, such as Microsoft Office and similar platforms, play a crucial role in the modern workplace—not just for their functionality, but also for their potential to create a more inclusive environment. When these tools are thoughtfully optimized for accessibility, they open the door for a wider range of users to participate fully and confidently in their work. Accessibility features such as screen readers, voice-to-text functions, adjustable font sizes, high-contrast modes, and keyboard navigation are not simply add-ons—they are essential tools that allow individuals with diverse needs to work effectively and without barriers. Focusing on accessibility sends a powerful message: that every employee matters, and that everyone should have equal opportunities to contribute, collaborate, and succeed. It ensures that no one is left behind simply because the tools they rely on are not built with their needs in mind. Whether it's an employee with a visual impairment navigating a spreadsheet, someone with motor limitations using voice commands to draft a report, or even someone managing cognitive load with simplified interfaces—accessible digital tools create a workplace where people feel supported, valued, and empowered.

Moreover, designing with accessibility in mind often benefits everyone, not just those with specific needs. Clearer interfaces, intuitive layouts, and customizable features can improve usability across the board, making digital workspaces more comfortable and efficient for all employees. In the end, accessibility is not just a technical concern—it is a reflection of organizational values. It shows a commitment to equity, respect, and the belief that technology should serve as a bridge, not a barrier. By embracing accessibility in digital documentation tools, organizations take an important step toward building a truly inclusive and human-centered workplace—one where every individual has the tools they need to thrive.

Skills Development and Training

There is a growing demand for digital employability skills among office managers, including proficiency in electronic record management and digital equipment operation (Employability *et al.*, 2017). Continuous training programs are essential to keep staff

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updated on emerging technologies and enhance their digital competencies (Fadillah & Marsofiyati Marsofiyati, 2024). While the advantages of digital means in the office are clear, challenges such as the need for ongoing training and adaptation to new technologies persist. Addressing these challenges is crucial for maximizing the benefits of digital transformation in office settings.

Employee Effectiveness in The Office

The effectiveness of employees in the office is shaped by a combination of personal attributes and organizational support. Key factors such as the quality of one's work, discipline in meeting responsibilities, adaptability to new tools or systems, and the way tasks are managed all play an important role. An effective employee is not just someone who finishes tasks on time, but someone who understands priorities, maintains a consistent work ethic, and is responsive to the changing demands of their role—especially in a modern workplace that is constantly evolving with technology.

More than just hitting targets, employee effectiveness is also reflected in how well individuals collaborate with others, communicate ideas, and contribute to a healthy team dynamic. Being punctual, proactive, and cooperative are signs of a professional who values not only their own work but also the success of the team. In many ways, effectiveness is less about perfection and more about consistency, adaptability, and the willingness to grow. When employees feel supported, trusted, and given the tools to succeed, they are more likely to bring their best selves to work each day (Efawati, 2020).

This effectiveness can be significantly enhanced when employees are supported by strong management practices and well-designed support systems. When leadership provides clear direction, fair expectations, and the necessary tools or training, employees are better positioned to focus, grow, and perform at their best (Efawati, 2024). A supportive environment not only helps remove obstacles but also builds trust, motivation, and a sense of belonging—all of which contribute to greater overall effectiveness in the workplace (Efawati, 2022).

Key Factors Influencing Employee Effectiveness: Work Quality and Discipline: High-quality work and strong discipline significantly contribute to employee effectiveness. A study found that these factors accounted for approximately 89.7% of the variance in employee performance effectiveness (Prianka, 2023).

Management Practices: Effective office management, which includes planning, organizing, and supervising, is crucial for achieving employee performance goals. Proper management ensures optimal use of resources and clear task assignments Viterouli *et al.*, (2024).

Adaptability and Training: Employees who adapt well to new technologies and participate in ongoing training demonstrate improved performance. This adaptability is essential in environments utilizing electronic systems (Alves & Loureno, 2017).

Collaboration and Communication: Effective teamwork and communication among employees enhance overall performance, as seen in various studies where cooperation was linked to successful task completion (Ramdani *et al.*, 2024).
Conversely, challenges such as employee discipline and varying productivity levels can hinder overall effectiveness, indicating that while many employees perform well, there are still areas needing improvement (Sitorus & Rachmawati, 2024).

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Relationship Between Availability of Digital Facilities in The Office and Employee Effectiveness in The Office

In practice, digital tools help streamline administrative tasks, facilitate collaboration, and improve decision-making. For instance, the integration of E-Office systems and other digital applications has proven to support operational productivity when employees receive proper training (Asri Choirinisa & Ikhwan, n.d.)Their study concludes that digital applications enhance work effectiveness when both the organization and its employees are well-prepared in terms of skills and infrastructure.

Framework of Research

The conceptual framework of this study centers on exploring how the availability of digital facilities within the office environment influences employee effectiveness. Availability here refers not only to the presence of digital tools and applications but also includes factors such as how accessible these technologies are to employees, the extent of digital training provided, and the technical challenges that may arise in using these tools. These elements collectively shape how well employees can integrate technology into their daily workflows.

Employee effectiveness, on the other hand, is understood through various dimensions including work efficiency, collaboration within teams, the ability to adapt quickly to technological changes, and attention to data security concerns. This framework recognizes that digital tools are essential enablers of productivity, but their true value is realized only when employees are equipped and empowered to use them effectively.

Crucially, the relationship between digital facility availability and employee effectiveness does not exist in isolation. It is heavily influenced by supporting factors such as ongoing human resource development—continuous training that helps employees keep pace with evolving digital demands. Moreover, leadership plays a pivotal role; adaptive and empathetic leaders cultivate a culture where innovation and change are embraced rather than resisted. This supportive organizational culture fosters positive attitudes toward technology adoption and encourages employees to experiment, learn, and grow alongside new systems.

Additionally, well-crafted organizational policies provide the necessary structure to address technical barriers, manage change resistance, and align technology use with overall business goals. These policies help create an environment where technology can seamlessly blend into everyday work processes, enabling employees to maximize their performance.

In essence, this framework highlights a holistic view: the availability of digital tools is fundamental, but the true catalyst for effectiveness lies in the synergy between technology, people, and organizational support. When these elements come together harmoniously, organizations can unlock their workforce's full potential, fostering not just efficiency but also resilience and innovation in the ever-changing digital landscape.

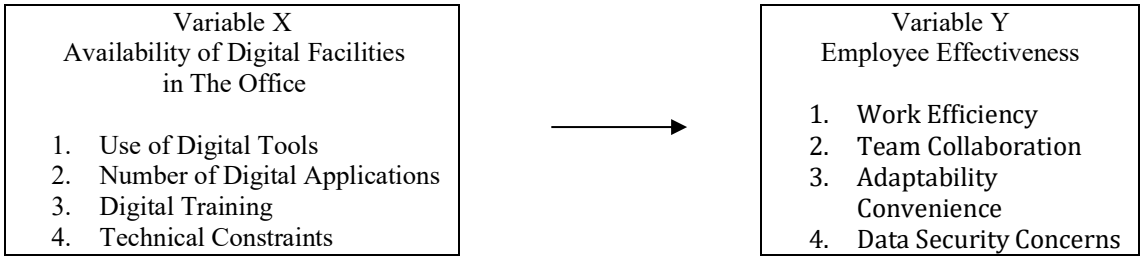

Figure 1. Frame of Mind
Source: taken in 2025 by the author

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Hypothesis

H_0: There is no significant relationship between the availability of digital facilities in the office and employee effectiveness.
H_1: There is a significant relationship between the availability of digital facilities in the office and employee effectiveness.

RESEARCH METHOD

This study adopts a quantitative research approach using a survey method to explore how organizations adapt and innovate office management practices in the digital era. Data was collected through a structured questionnaire distributed to employees across various organizational levels in companies that have undergone digital transformation.

The questionnaire included closed-ended questions using a 5-point Likert scale to assess respondents' perceptions of digital readiness, organizational policy effectiveness, the impact of digital transformation, and the challenges they face. In addition, purposive sampling was used to select respondents, focusing on individuals who have been employed for at least one year and are directly involved in using digital tools at work. The quantitative data was analyzed using descriptive statistics, validity and reliability and correlation tests to identify relationships between variables such as how training influences HR adaptation or the role of leadership in driving strategic innovation.

Meanwhile, responses to the open-ended questions were analyzed thematically to gain deeper insights into local organizational contexts and specific needs. To ensure the reliability of the instrument, a validity test was conducted, and a pilot study involving 31 respondents was carried out to refine the questionnaire before its full distribution.
Ethical considerations were carefully observed by ensuring respondent anonymity and using the collected data strictly for academic purposes.

Operational Research of Variable

In the table that includes the following question indicators, the variables studied in the context of the relationship between revealing. Availability of digital facilities in the office and employee effectiveness can be explained:

Table 1. Operational research of variable

Variables	Indicator	Number of questions
Availability of Digital Facilities in The Office	use of digital tools (Sultan *et al.*, 2016)	4 Question on a Likert scale 1-5
	number of digital applications (Asri Choirinisa & Ikhwan, n.d.)	
	digital training (Laurentin Carolin Tiara *et al.*, 2023)	
	technical constrain (Bangura & Elisabeth Lourens, 2024)	
work efficiency	word efficiency (Syam, 2020)	4 Question on a Likert scale 1-5
	team collaboration (Purnomo *et al.*, 2025)	
	adaptability convenience (Danuri *et al.*, n.d.)	
	data security concern (Al Ihsan & Sekti, n.d.)	

Source: Taken in 2025 by the author

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RESEARCH RESULTS

The Digital Transformation preferences of Employees on Office were investigated in this study using descriptive quantitative methodology. Questionnaires were used to collect data from 31 randomly selected respondents, The sample size of 31 respondents was chosen based on methodological and practical reasons. In quantitative research, 30 participants are generally considered sufficient for basic statistical analysis, as supported by the Central Limit Theorem. Respondents were purposively selected based on their direct experience with digital facilities in the workplace. Given the study's exploratory nature and the specific criteria used, 31 was an appropriate and manageable number to yield relevant insights. Who specifically the research conducted used one X variable, namely Availability of Digital Facilities. While the Y variable in this study is Employee Effectiveness.

Table 2. Characteristic of respondents

Respondent Demographic	Category	Frequency
Gender	Male	17
	Female	14
Age	<25	6
	25-35	17
	36-45	8
Majors	Manager	4
	Staff/Operator	12
	Supervisor	15

Source: Taken in 2025 by the author

A total of 31 respondents participated in this study. The gender distribution was relatively balanced, with 17 male respondents and 14 female respondents. This slight majority of male participants provides a fairly even perspective across genders. In terms of age, the majority of respondents (17 individuals) fell into the 25–35 age group, indicating that most participants were in their early to mid-career stage. Meanwhile, 6 participants were under 25, and 8 were between 36 and 45 years old, showing a good mix of young professionals and more experienced employees. Regarding their job roles, the largest group was Supervisors (15 respondents), followed by Staff/Operators (12 respondents), and Managers (4 respondents). This distribution suggests that the perspectives gathered largely reflect mid-level operational insights, with a moderate representation from both frontline staff and management.

Reliability Test

The results of the reliability test conducted on Thirty-One respondents sent in this research questionnaire show the following results:

Table 3. Reliability test results Availability of Digital Facilities

Reliability Statistics	
Cronbach's Alpha	N of Items
.623	4

Source*:* Taken in 2025 by author

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The reliability test for Table 3, which assesses the construct Availability of Digital Facilities, shows a Cronbach's Alpha value of 0.623 across four items. This value indicates a moderate level of internal consistency. While it falls slightly below the commonly preferred threshold of 0.7, it is still acceptable, especially in exploratory research contexts.

Table 4. Reliability test results employee effectiveness

Reliability Statistics	
Cronbach's Alpha	N of Items
.619	4

Source*:* Taken in 2025 by author

In Table 4, the reliability test for the variable Employee Effectiveness produces a Cronbach's Alpha value of 0.619, also based on four items. Similar to the first construct, this value also falls within the moderate range, suggesting that the measurement items work efficiency, team collaboration, adaptability, convenience, and data security concerns—have an acceptable degree of internal consistency.

Validity Test

Table 5. Questionnaire validity test results

Variable	Item of Questions	Sig	Result
Availability Of Digital Facilities	X*1*	<0,001	Valid
	X2	<0,001	Valid
	X3	<0,001	Valid
	X4	<0,001	Valid
Employee Effectiveness	Y*1*	<0,001	Valid
	Y2	<0,001	Valid
	Y3	<0,001	Valid
	Y4	<0,001	Valid

Source*:* Taken in 2025 by author

Based on the results of the validity test shown in the table, all questionnaire items for the variables have a significance value (Sig) of < 0.001, which is far below the standard threshold of 0.05. This indicates that each item in the questionnaire is statistically valid and can accurately measure the intended variables. For the variable Availability of Digital Facilities (X), all four question items (X1, X2, X3, X4) are valid, with each achieving a significance level of <0.001. This means that every question under this variable effectively measures the availability of digital facilities as intended in the study. Similarly, for the variable Employee Effectiveness (Y), all four question items (Y1, Y2, Y3, Y4) are also valid, each showing a significance level of <0.001. Therefore, all these questions reliably measure employee effectiveness according to the research objectives.
In conclusion, since all items in both variables have been proven valid, the questionnaire can be confidently used for further data collection and analysis. No items need to be revised or removed.

Descriptive Test

Table 6. Questionnaire descriptive test results

Descriptive Statistics	N	Minimum	Maximum	Mean	Standard Deviation
Availability Of Digital Facilities	31	1	5	3.18	.846

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Employee Effectiveness	31	1	5	4.22	.907
Valid N (Listwise)	31				

Source*:* Taken in 2025 by author

The descriptive statistics show responses from 31 participants. For the variable Availability of Digital Facilities in the Office, the mean score is 3.18 (on a scale of 1 to 5) with a standard deviation of 0.846. This suggests that, on average, participants rated the availability of digital facilities at a moderate level, with relatively low variability in responses.

For the variable Employee Effectiveness, the mean score is 4.22, with a standard deviation of 0.907. This indicates that participants generally perceive employee effectiveness as high, with responses showing a slightly wider spread but still consistent overall.

In summary, digital facility availability is perceived as moderate, while employee effectiveness is perceived as high among respondents. The standard deviations for both variables show that participants' answers are fairly consistent.

Correlation Test

Table 7. Questionnaire correlation test results

		Availability of Digital Facilities	Employee Effectiveness
Availability Of Digital Facilities	Pearson Correlation	1	.479**
	Sig		.000
	N	31	31
Employee Effectiveness	Pearson Correlation	.479**	1
	Sig	.000	
	N	31	31

Source*:* Taken in 2025 by author

The correlation test results show a positive and significant relationship between Availability of Digital Facilities and Employee Effectiveness. The Pearson correlation coefficient is 0.479, with a significance value (Sig) of 0.000, which is less than 0.01.This means there is a moderate, positive correlation between the two variables, and the relationship is statistically significant at the 1% level. In other words, as the availability of digital facilities increases, employee effectiveness also tends to improve. With a sample size of 31 respondents, these results suggest that better digital resources in the workplace can contribute to higher employee effectiveness.

DISCUSSION

Based on the demographic data presented in Table 2, the majority of respondents in this study were male (17 out of 31), while females accounted for 14 respondents. Although slightly male-dominated, the gender distribution is fairly balanced, which helps ensure a representative perspective across both groups.

In terms of age, most respondents (17 individuals) were within the 25–35 age range. This age group typically includes employees who are in the early to mid stages of their careers and are generally more adaptable to new technologies in the workplace. The presence of respondents under 25 (6 individuals) and those aged 36–45 (8 individuals)

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also adds diversity, offering insights from both less experienced and more seasoned professionals.

From a job position perspective, the majority of participants were Supervisors (15), followed by Staff/Operators (12), and Managers (4). This suggests that the responses predominantly reflect the views of mid-level employees who are likely to be directly involved in operational activities, including the use of digital tools in their daily routines.

The reliability tests (Tables 3 and 4) show that both research variables, Availability of Digital Facilities and Employee Effectiveness, demonstrate moderate internal consistency, with Cronbach's Alpha values of 0.623 and 0.619 respectively. While these values are slightly below the recommended threshold of 0.7, they remain acceptable in exploratory research (Watkins, 2018) Similar levels of reliability were also reported by op ´t Roodt *et al.*, (2024) who found that moderate reliability can still yield useful insights when instruments are being refined or used in diverse organizational settings.

The validity test (Table 5) confirms that all questionnaire items are statistically valid, with significance levels well below 0.001. This supports the assertion that each item accurately measures the intended construct. Comparable findings were noted by Zhang & Venkatesh, (2013) who also reported high validity in instruments measuring workplace digital integration.

Descriptive results (Table 6) reveal that the average score for Availability of Digital Facilities is 3.18, suggesting moderate perceived availability. Meanwhile, Employee Effectiveness received a higher mean score of 4.22, indicating that employees generally perceive themselves as highly effective. This aligns with Reynolds, (2021) ,who found that digital tools, even when not fully optimized, can still enhance performance through informal practices or personal adaptability. Conversely, a study by Juliadi *et al.*, (2023) highlighted that insufficient digital infrastructure often leads to diminished efficiency, especially in highly structured organizations, indicating that outcomes may vary based on organizational culture and support mechanisms.

Hypothesis testing is reflected in the correlation results (Table 7). The null hypothesis (H_0), which states that there is no significant relationship between the availability of digital facilities and employee effectiveness, is rejected. The alternative hypothesis (H_1), which asserts that there is a significant relationship between the two variables, is supported. This is based on a Pearson correlation coefficient of 0.479 and a significance value of $p = 0.000$, indicating a statistically significant positive relationship. These findings support those of Mondal *et al.*, (2021) who observed a similar positive link between digital infrastructure and employee productivity ($r = 0.47$), and Nkansah *et al.*, (2023) who found that digital adoption significantly improved employee engagement. However, op ´t Roodt *et al.*, (2024) reported weaker correlations in some cases ($r \approx 0.20$), emphasizing that the relationship may depend on contextual factors such as training, managerial support, and employee digital competence.

CONCLUSION

This study began with a timely and important question: How does digital transformation particularly the availability and accessibility of digital tools in the office impact employee effectiveness? In today's fast-evolving digital landscape, office management is no longer just about handling paperwork or routine tasks. It has become a dynamic environment where technology and people must work hand in hand to drive productivity and innovation.

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The findings reveal a clear and significant positive relationship between the availability of digital facilities and how effectively employees perform their work. What's particularly striking is that even though the availability of digital tools was rated only moderately by respondents, employees still reported high levels of effectiveness. This speaks volumes about human resilience and adaptability—employees don't simply rely on ideal tools; they actively find ways to overcome challenges, learn on the job, and innovate solutions to get their work done well.

This insight reminds us that technology is an enabler, but it is people who truly bring value and make transformation possible. Technology alone is never the full story. The culture within an organization, the leadership's openness to change, and ongoing investments in employee development all play crucial roles.

Successful digital transformation is about creating an environment where people feel supported, empowered, and ready to embrace new ways of working. It's about nurturing curiosity, encouraging continuous learning, and trusting employees to grow alongside the tools they use every day.

From a practical standpoint, this study underscores the importance of viewing digital transformation as a holistic journey, one that integrates technology, people, and policies thoughtfully. Organizations need to go beyond simply rolling out new software or hardware. They must cultivate a culture that welcomes change, provide meaningful training that matches employee needs, and design inclusive systems that everyone can access and benefit from, regardless of their background or skill level.

Another important lesson is that digital tools, while boosting efficiency, can also bring challenges. Issues like digital fatigue, information overload, or reduced face-to-face interaction remind us that human well-being must be a priority in this digital age. Leaders should strive to balance the demands of technology with the needs of their workforce, creating a workplace that is not only productive but also healthy and sustainable.

Strategically, the alignment of digital initiatives with clear organizational goals and values cannot be overstated. Digital transformation should serve a purpose that resonates with the people involved. This means involving employees in the decision-making process, listening to their feedback, and continuously adapting strategies to ensure the tools provided truly enhance their work experience.

Based on these insights, the study suggests that organizations should: (1) conduct regular assessments of digital tool availability and relevance, (2) offer ongoing and contextual digital training tailored to employee roles, (3) foster an adaptive and inclusive organizational culture that supports change, and (4) implement strategies that prioritize employee well-being alongside technological advancement. These steps will ensure that digital transformation is not only efficient but also human-centered, sustainable, and empowering.

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