

Investigating Digital Workspaces: Ethnographic Obstacles and Insights

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Abstract

Purpose- The current study investigates the intricacies of conducting digital workplace ethnography within professional environments, focusing on the critical challenges posed by technological constraints, increased digital workloads, the complexities of navigating virtual ecosystems, and limitations in remote collaboration tools and employee digital literacy.

Design/methodology/approach- A mixed-methods research framework encompassed qualitative and quantitative methods. The study involved a pilot sample of 120 participants from a private IT firm, representing diverse roles including employees, managers, and IT professionals. To capture the breadth of digital challenges, structured interviews were administered, probing the participants' interactions with digital tools and assessing the organization's broader digital culture. Statistical analyses, including correlation and chi-square tests, were utilized to evaluate the relationships between the impact of digital transformation on workplace collaboration and organizational adaptability.

Findings-The research findings deliver a detailed exploration of these technological and cultural barriers and their broader consequences for the organization's operational efficacy.

Research limitations/implications- Strategic implications are provided, which emphasize the enhancement of digital infrastructure, workforce training, and leadership development initiatives to foster a more resilient and adaptive digital work environment.

Originality/value- This study explored workplace challenges within the realm of digital innovation. Drawing from existing research, it presents a solution to the existing problem in the form of Adopting Flexible Work Practices: and enhancing Digital Literacy with Training.

Keywords - Digital Workplace, Digital Transformation, Digital Artifacts, Organizational Ethnography, Professional Settings

1. Introduction

The launch of new potentials and professions during the transition of the regular desk and workplace of organizational architecture is wide with the advanced technologies and the demand for them holding. The primal organizational theorists are concerned about the generalization goals and the organizational work, they use abstract insights from ideas to perform the specialized job rather than genuine examples (Barley, 1996). How are the challenges defined in digital workplaces? and How do they enable digital change? These consistently changing organizational spaces adapt to create new runways of organizational ethnography (Luff and Heath, 2019). The fastest growth of the digital world has chased statutes in many areas, leaving confidentiality data and unhindered usage. Unknowingly vast amounts of

personal information individuals share with organizations and the full range of this data collection remain unclear in its potential consequences (Thompson et al., 2021). Innovators and potential users of rising technologies expect the new tools to most importantly enhance the research and teams' collaboration, geographically to improve communication and culture to manage the professional settings with the distributed teams at the twist areas of geographically with work structures (Ruhleder and Jordan, 2001). Digital artifacts approach in professional settings to connect and work in new forms that differentiate the interactions in person (Akemu and Abdelnour, 2020). The successful blending of these digital artifacts relies on professional settings to improve the understanding for knowing the local issues and practices involved with these devices (Ruhleder and Jordan, 1997). The organizational space enables the creation of plans to engage the digital workplace as well as a clear blueprint for enlightening their employees. The role impacts of digital work on productivity have been widely examined, but there remains a relative dearth of research into the more nuanced emotional challenges faced by employees, such as digital burnout, isolation, and mental fatigue. Additionally, there is limited focus on the uneven distribution of digital skills across employees, particularly when considering variables such as age, socio-economic background, or geographical location. The influence of organizational or national culture on the specific challenges associated with the adoption of digital workplaces also remains insufficiently explored. Moreover, the behavioral dimensions of security risks, particularly the difficulties of employees encounter in adhering to digital workplace security protocols, represent an under-researched area. Furthermore, there is a notable gap in understanding the unique challenges posed by hybrid work models that balance remote and in-office teams, especially concerning their effects on productivity, team cohesion, and player dynamics.

2. Literature review

Over the years conditions have improved and people have adapted their behaviors and addressed changes in the conditions. This mostly relies on the ethnographer (Hammersley and Atkinson, 2019). Organizations and tasks are specially modified according to the benefits of employees' skills in the digital workplace, secure collaboration, and cultural communication neatly (Colbert et al., 2016). Digital tools are based on (Luff and Heath, 2000), innovative ideas, and support people in their workplace by combining remote collaboration and culture. Digital tools are widely earning attention through online behavior among generations, engaging digital technology in residents' interest on the far side of academia (Mills, 2010). The time devoted to collaborations and cultural communication is complementary, but there were contrasting times to being involved in digital workplace ethnography (Jeffrey and Troman, 2004). The insights into digital tools have inherent properties, visualize to advance and release the qualities to spread globally (Ruppert et al., 2013). The collaboration and cultural communication blend with an emotional breadth and emotional job as entire parts of the information structure (Hoffmann, 2007). The workplace is recognized as the learning organizational space where different features have been detected that usually affect the workplace and the professional settings (Karhapää et al., 2024). In the early, disciplines like anthropology, computational sociologists, media studies, and communications have expanded the rooms and difficulties of studying virtual worlds, social media, and face-to-face interactions and connections (Forberg and Schilt, 2023). The digital ethnography of the digital world is exploring the participants and digital technology to know more about their evolution of anything from becoming the orc in an online game, where suitable pics are posted in digital connect. The initial stage of, the ethnography of human-computer interactions

in the workplace was pictured on video data and numerical to spotlight the design practices and the use of artifacts (Ritter, 2022). Digital tools have played a very significant role in the life of human beings hence the tool was first endorsed to complete the most basic job. (Woodcock, 2021). The digital workplace (Murthy, 2008), nowadays has replaced the ways of communication, collaboration, culture, thinking, and connectivity. The workplace won't be the exact physical location anymore, involving online companionships, hence everyone can connect anywhere through the digital resource which defines the room and digital workplace to understand the expansion beyond the assembly. The fame of digital renovation is (Rafferty and Jimmieson, 2017), essentially based on employee awareness and keenness to change. Their zeal to enfold new ideas and conquer any resistance is important for executing the transition.

Regular actions of digital workplace routines follow the workplace. In workplace technologies artifacts play a crucial role in performing the routines. These are the insights where generalization and complexity occur in the digital workplace (Zimmeret *al.*, 2023). Clubbing together these digital tools such as cameras, apps, and smartphones benefits society, attain the best information, and acquire creative participation with complexity (Weidle, 2019). There is a challenge between digital natives, born with technology, and digital residents, who learn when come in ways. Digital residents frequently encounter to accommodate to the digital workplace in their daily routine and academic behavior, digital natives have peculiar thinking and learning practices (Prensky, 2009). Scanning the features of a digital workplace (Bader and Kaiser, 2017), can become both an opportunity and a challenge at the same time and this recurrently denotes digital workplace incongruity. For example, digital tools can be helpful and harmful when the data is overloaded, and the execution of digital media in several work procedures has changed (Ritter, 2023). In the cutting-edge office workplace and constructed challenges for the traditional workplace research approach, today numerous professionals target screen workplaces, foremost using digital platforms for their assignments.

Research is certainly at the forefront that every two to ten minutes are being interrupted by these digital tools in the workplace and it is very hard to target one job for more than minutes unless the key is turned off for communication, hence if this is done than it won't seem that a good team player is enacting in the digital workplace. The workplace has changed predominately over the last couple of years and the digital workplace presently is full of interruptions. Lost the command over the digital workplace such as social media, emails, collaborations, research, and virtual team applications simply the term where the connections are connected for a better space, seems like it is involved to be interrupted (White, 2012). In a digital world, they entered with numerous challenges, particularly regarding the safety and security of data. Mostly care about trade secrets and intellectual property, which play important roles in professional settings and organizational research development in running projects. when these valuable things and data are not protected well, it deals with serious issues for the organization. (Attaranet *al.*, 2020). Digital workplace raises productivity and saves the costs (Wehartaty and Ellitan, 2023), of the professional as well as deals with stress, overreliance, and concern about employees. Worldwide workers notice that excess information would introduce daily stress and excess digital tools at the workplace direct conflicts, interrupt work-life balance, and attach to emails, and messaging tools (Marshet *al.*, 2024). The digital workplace has advantages and also welcomes multiple challenges in the business field. Organizations and individuals know how to identify these challenges to decrease them and increase the advantage of digital workplaces (Rakovicet *al.*, 2022). employees do not have assigned hours and still stay connected to their jobs and engaged all the

time, freedom is a threat a feeling is being encountered (Gilson *et al.*, 2015). In the digital workplace (Deloitte, 2020), seems that the absence of supervision can be harmful to the team players and decrease productivity. Remote employees count on digital communication, misplaced information from personnel communication shows faint relationships between employees and it is tough to build relationships with new employees. The fastest-moving technology in the virtual world seems to be expanding the shortage of skilled employees in professional settings, hence training and retraining the employees is a necessity and a challenge for organizations in this digital workplace (Trenerry *et al.*, 2021). Digitalization shifts do not adapt to the construct of the workplace and also an employee conversation and master each other work performance, in the digital workplace the new pieces of information systems are on center subject, and training on this process of work is not sufficient to produce constructive digital workplaces (Vallo Hult and Byström, 2022). It is known to everyone that (Faina and Almeida, 2020), employers come with resilience and innovation with significant skills for tech jobs, which adds more skills and can manage the digital changes in the digital workplace. Digital skills are the expertise and skills necessary for an individual, to utilize optimum technology appropriately. Engage in Internet literacy, managing data collaboration jobs, content creation, security, problem-solving, and communicating effectively in virtual reality (Barreto and Córdova, 2022). Implementation of new technologies productivity at first falls due to the natural response of the employee resistance to accept new technologies (Ghani and Jayabalan, 2000). Digital work shifts the organizational framework and culture, boosting the most independent work practice. Since management looks ahead for assistance and models the new technologies to uplift performance, some team players are hesitant to adjust. The organization demands transformational leaders who promote employee creativity (Dittes *et al.*, 2019). Enhance the digital workplace and virtual worlds to support professional settings and inspire skilled employees, uplifting the resources and efficiency of employees (Gruber *et al.*, 2015). Individual employees have advantages when an organization is in a successful position as they manage to operate the digital tools in their jobs and are connected and informed through the technology, a crucial role is earned in resilience and skills growth for achieving a work-life balance (Marsh *et al.*, 2022)

3. Research objectives and hypotheses

Research methodology involves a structured process for carrying out a study, encompassing the tools, techniques, and methods used for data collection and analysis. The first objective is to identify key challenges in digital workplaces and their effect on employees. The second is to examine organizational adaptation to digital change. In the context of the objectives of this study, hypotheses were formulated to explore the impact of digital transformation on employee collaboration and how to prepare organizations and their playerto adapt the digital changes. The primary hypotheses were showing the relationship.

HA1: There is a significant correlation between the impact of digital change in workplaces on employee collaboration.

HB1: There is a significant correlation between the impact of digital change on organizational adaptation.

4. Research Design

4.1 Questionnaire and Measurement Variables

Digital workplace challenges are multifaceted, often involving both subjective (qualitative) experiences like employee well-being and satisfaction, and objective (quantitative) metrics such as productivity, efficiency, and technology usage. A mixed-methods approach allows to capture of both perspectives a data was collected quantitatively. To gather insights, surveys and questionnaires were used, incorporating Likert scales ranging from "strongly agree" to "strongly disagree." Interviews were conducted with professionals and managers(categorized based on gender, age, designation, and workplace) to understand the specific challenges they face in qualitative data, the organizational culture around digital work, and suggestions for improvement.

4.2 Research sample and collection

The researchers selected a private limited IT company as the sample for this study, employing a cross-sectional approach in which data was collected only once from the population. Through a pilot study, a sample size of 120 respondents was chosen to ensure statistical analysis of the quantitative data.

4.3 Reliability and validity tests

Cronbach's Alpha is used to measure how well a set of items (questions) in a scale are positively correlated with each other, indicating they measure the same underlying construct. The results of Cronbach's Alpha are approximately 0.94 indicating very high internal consistency.

4.4 Demographic Profile and Analysis of Questions

A total of 150 questionnaires were distributed by the researcher to participants as part of the pilot study. Of these, 120 filled questionnaires were successfully collected, resulting in an 80% response rate. This high return rate provides a robust dataset for analysis, ensuring that the findings are reflective of the target population. The given table provides an overview of the demographic distribution.

GENDER	%	AGE	%	QUALIFICATION	%	DESIGNATION	%	WORKPLACE	%
MALE	87.5	20-30	12.5	MCA	12	ENGINEER	50	Remote(work from home)	37.5
FEMALE	12.5	30-40	75	M.TECH	20	TEAM LEAD	12.5	Hybrid {work from home	50
		40-50	12.5	B.E.	38	MANAGER	37.5	Office	12.5
		50-60	-	B.TECH	30				
TOTAL	100		100		100		100		100

Source(s) Authors compiled data.

The frequency of responses to the questionnaire questions related to challenges in digital workplace ethnography are presented as percentages (number of respondents). The data is displayed in bar chart form for easier understanding, with theoretical notes offering interpretations for each observation.

Responses	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Strongly Agree (%)	15	14.2	19.2	15.8	25.8	25.8	16.7	25	15.8	19.2
Agree (%)	31.7	37.5	35.8	23.3	55.8	56.7	21.7	55.8	34.2	37.5
Neutral (%)	13.3	24.2	21.7	16.7	12.5	10.8	15.8	16.7	35.8	17.5
Disagree (%)	28.3	14.2	18.3	25.8	5	5.8	36.7	2.5	8.3	19.2

Strongly Disagree (%)	11.7	10	5	18.3	0.8	0.8	9.2	0	5.8	6.7
	100	100.1	100	99.9	99.9	99.9	100.1	100	99.9	100.1

Source(s) Authors compiled data.

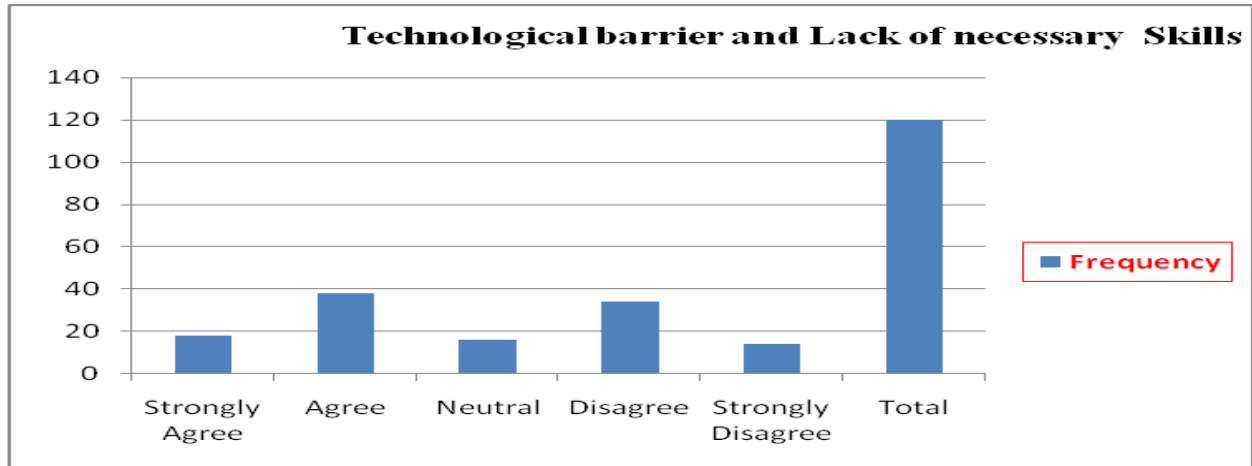


Figure 1

While technology offers significant potential to optimize processes and enhance operational efficiency, a substantial portion of both employees and management lack the requisite competencies or technical knowledge to leverage these tools effectively. This skill gap often results in delayed adoption, increased resistance to technological integration, and a consequent decline in productivity. Notably, 46% of employees report facing technological barriers, while only 38% possess the necessary skill set to successfully adapt to digital transformations.

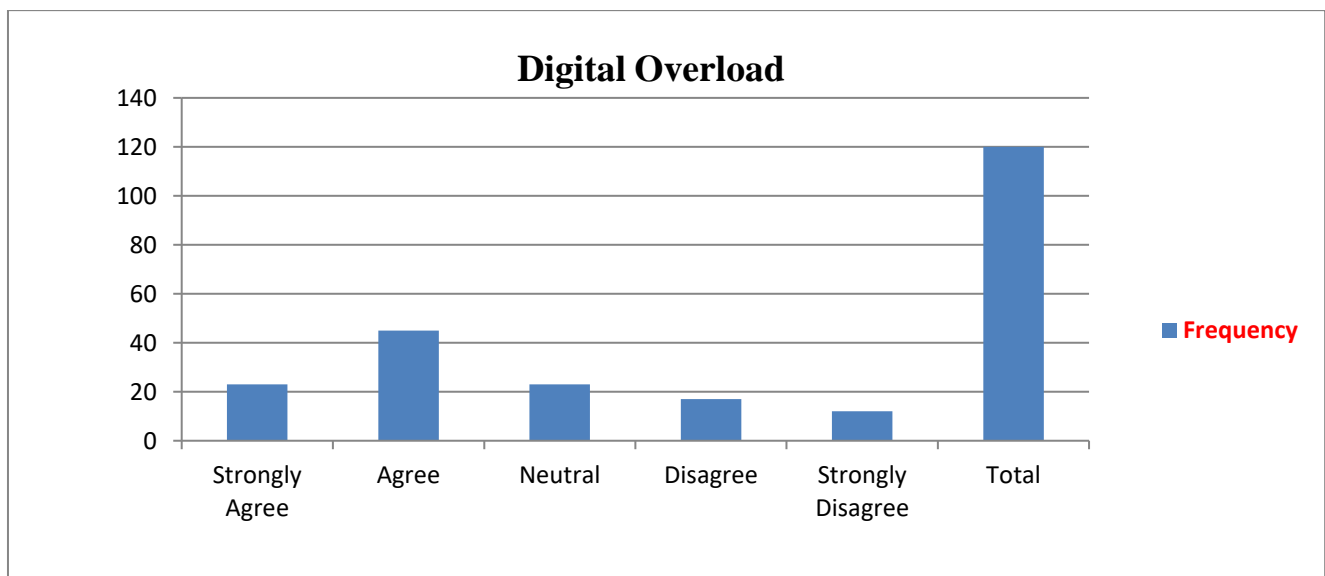


Figure 2

The next challenge involves managing the escalating digital workload, as emerging technologies, while offering significant benefits, also introduce potential drawbacks. Despite the increased flexibility afforded by digital work environments, employees may experience techno-stress, characterized by a sense of being overwhelmed by the continuous stream of new digital tools and demands. Approximately

51% of employees reported that they are working extended hours, often exceeding traditional office time boundaries, due to the pressure of managing this digital influx.

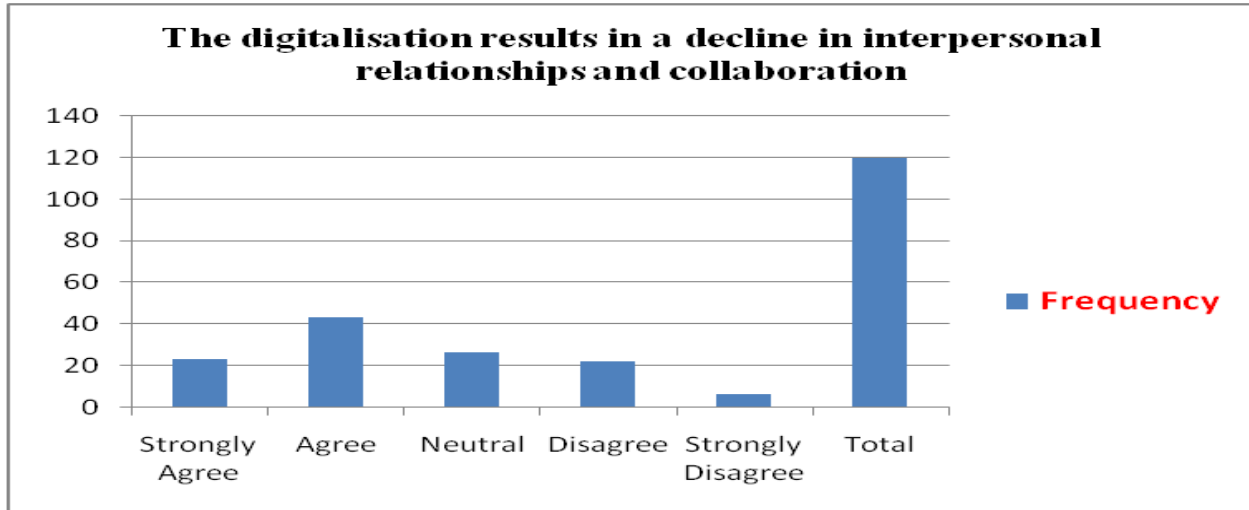


Figure 3

The presumed positive association between digital workplace and *social isolation* can be understood in light of the reduced quality and quantity of interpersonal interactions when workers engage in hybrid or work from home rather than work on location. 65% respondent believed that the shift to digital and hybrid workspaces results in a decline in interpersonal relationships and collaboration. The literature indicates that employees often experience diminished social exchange relationships with supervisors and colleagues, which in turn leads to reduced social support in their work.

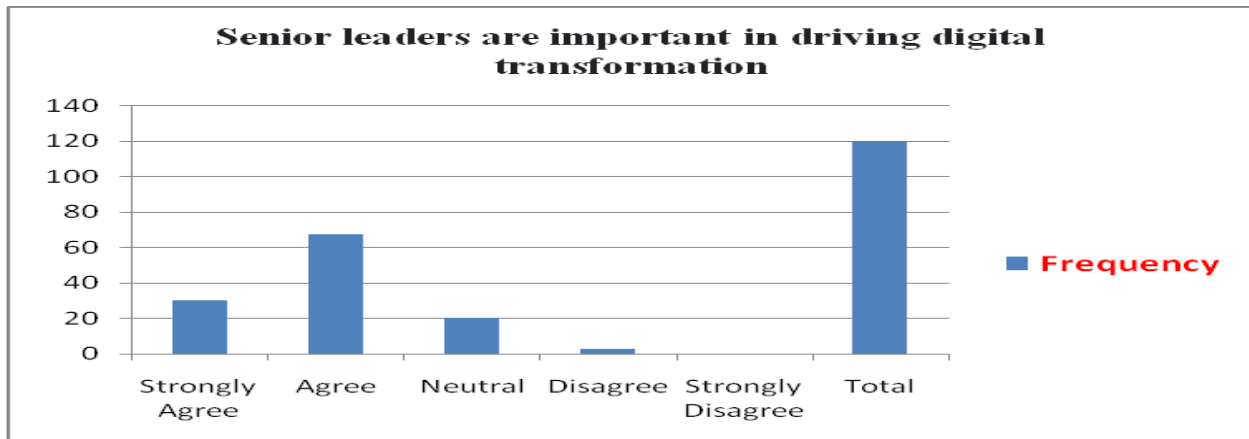


Figure 4

In the digital work environment, top management holds the responsibility for both initiating and exemplifying the effective utilization of technologies that can optimize organizational performance. A significant majority, 81%, strongly agree that senior leadership plays a crucial role in driving digital transformation. However, a considerable portion of top management often exhibits reluctance or resistance to adopting and applying these new digital tools themselves.

4.5 Correlation Analysis

Spearman's rank correlation technique was employed to measure the relationship between the data sets

under consideration. Specifically, two key variables were examined: (X) representing the Digital Change Impact Score, which quantifies the extent of digital transformation's influence in the workplace, with higher values indicating a greater impact, and (Y) representing collaboration, measuring how effectively employees collaborate, where a higher score denotes better collaboration. Additionally, another pair of variables were analyzed: (X) denoting the Organization's Preparedness for Digital Transformation, which reflects the extent to which organizations are integrating effective technologies to boost performance, and (Y) representing the Role and Support of Leaders in Digital Transformation, highlighting the critical role senior leaders play in steering digital transformation efforts and emphasizing continuous learning.

Table 3. Testing of Hypothesis by Spearman's Rank Correlation Technique

<i>Factor</i>	<i>Objectives</i>	<i>Hypothesis</i>	<i>Results</i>
Technological Barriers, Digital Workload, Lack of Skill, and Lack of Physical Interaction.	To identify key challenges in digital workplaces and their effect on employees.	There is a significant correlation between digital change's impact on employee collaboration in workplaces.	A correlation of 0.68 suggests that there is a fairly strong relationship between the two variables digital change and collaboration
Organization's preparedness for digital transformation, the Role and support of players in digital transformation, and a strong focus on continuous learning.	To examine organizational adaptation to digital change.	There is a significant correlation between the impact of digital change and organizational adaptation.	A correlation of 0.92 suggests a fairly strong relationship between digital change and organizational adaptation.

Source(s) Authors compiled data.

5. Results and discussion

The research results of correlation and chi-square test indicate that the evolution of technology within the digital workplace has introduced significant challenges for individuals across various professional domains. Technological challenges, collaboration, and productivity issues have become pronounced with digital overload, and coordination difficulties affecting cross-functional teams. The role of specialists and leadership remains pivotal. These challenges persist regardless of different organizational settings.

5.1 Implications of the study

A thorough analysis of these challenges reveals opportunities for enhancing operational efficiency and

exploring new business models. This understanding is crucial for Human Resources (HR) departments in designing policies that safeguard employee well-being, such as introducing flexible work hours, and wellness initiatives, and defining clear boundaries for work-life balance. A significant challenge often encountered during digital transformations is resistance to new technologies. To ensure a seamless digital transformation, organizations should adopt comprehensive digital strategies encompassing employee training, infrastructure improvements, and policies that support this transition. It should also provide a balance between remote and in-office work, enabling a healthier mix of online and offline collaboration. Leadership development programs should prioritize skills in managing virtual teams, fostering remote employee engagement, and emphasizing results-based management practices, ensuring that leaders are equipped to drive performance in a digitally driven workplace.

6. Research limitations and future perspectives

Bias in self-reported data presents a challenge, as participants may not always provide accurate reflections of their experiences, either due to misinterpretation, peer suggestions, or social desirability bias. Additionally, obtaining data that covers to a wide range of diverse organizations can be difficult, limiting the ability to gather a more representative sample that accurately reflects different industries and organizational cultures. Moreover, the fast-moving nature of technological progress adds another dimension of challenge. As digital tools and innovations continuously evolve, research findings can quickly lose relevance, with conclusions becoming outdated as new technologies emerge and practices shift.

7. Conclusion

The digital workplace has become a vital component of the digital transformation. For organizations, establishing a robust digital workplace is essential for effective business operations. To thrive in this environment, organizations need to strengthen their dynamic capabilities, especially in information technology and innovation. It is equally important for Organizations to recognize and mitigate the challenges associated with implementing a digital workplace, as this can help prevent potential setbacks during the transformation journey. Although the digital workplace presents various advantages these can include dependency on digital tools, workload management issues, and increased anxiety levels. Consequently, organizations should formulate flexible and tailored digital workplace policies that align with their culture and leadership styles, fostering a balanced and supportive environment for employees. The transition to a digital workplace brings its share of challenges, organizations that take a proactive approach can experience greater flexibility, enhanced productivity, and access to a diverse global talent pool.

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