

Digital Transformation in the Workplace: A Bibliometric Exploration of Co-Occurrence Networks and Emerging Themes in Scholarly Literature

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Abstract

Background: The COVID-19 pandemic accelerated digital workplace transformation, sparking global research into its socio-technical and human-centric impacts. This study maps scholarly trends to uncover key themes and gaps. **Methods:** A bibliometric analysis of 133 Scopus-indexed Social Sciences articles (open-access, 2012–2025) was conducted using VOSviewer. Keywords digital, workplace, and experience guided data extraction, with co-occurrence networks and bibliographic coupling identifying thematic clusters. **Results:** Post-2020, publications surged (peaking at 31 in 2023), driven by remote work and AI integration. Thematic clusters highlighted pandemic-driven pedagogy, workplace well-being, gig economy exploitation, and blurred work-life boundaries. The UK and Australia led research output, while Progress in Human Geography and BMC Medical Education anchored high-impact contributions. Keywords like “Covid-19,” “digitization,” and “gender”

underscored tensions between efficiency and equity. Conclusion: Digital workplace research remains fragmented, dominated by Anglophone perspectives and theoretical silos. Future work must prioritize equitable policies, cross-cultural collaboration, and ethical frameworks to balance technological advancement with human well-being.

Keywords: Bibliometric; Digital; Experience; Review; Workplace

INTRODUCTION

The digital workplace experience encompasses the comprehensive integration of digital tools, technologies, and cultural practices that define how employees interact, collaborate, and perform tasks in a technology-driven work environment (Marsh, Vallejos, & Spence, 2022). It extends beyond the mere adoption of digital tools to emphasize the seamless fusion of technology, organizational culture, and human behavior, aiming to enhance productivity, engagement, and employee well-being. At its core, this experience relies on cloud-based collaboration platforms (e.g., Microsoft Teams, Slack), AI-driven automation, and data analytics systems that streamline workflows and decision-making (Badmus, Rajput, Arogundade, & Williams, 2024). Communication is redefined through real-time messaging, virtual meetings, and shared digital workspaces, enabling teams to collaborate across geographies and time zones. Over time, the concept has evolved from basic digitization (e.g., email, intranets) to sophisticated ecosystems shaped by mobile-first tools, hybrid work models, and immersive technologies like virtual reality (VR) and the metaverse (Xi, Chen, Gama, Korkeila, & Hamari, 2024). The COVID-19 pandemic accelerated this transformation, forcing organizations to prioritize remote work infrastructure, digital resilience, and employee-centric tools such as mental health apps and burnout detectors (Battisti, Alfiero, & Leonidou, 2022; Neupane et al., 2025).

An effective digital workplace prioritizes flexibility, allowing employees to work from any location or device, and personalization, where AI tailors tools to individual needs (e.g., adaptive learning platforms). Integration of systems (e.g., HR, IT, operations) ensures seamless workflows, while robust security protocols (e.g., zero-trust architecture) protect sensitive data. However, challenges persist, including digital fatigue from constant connectivity, cybersecurity threats, and disparities in digital literacy across generational or

regional lines (Lund, Lee, Wang, Wang, & Mannuru, 2024). Additionally, the shift to hybrid models has blurred work-life boundaries, creating urgency to address "always-on" cultures and inequities in access to technology. Ultimately, the digital workplace experience reflects a balancing act: leveraging technological innovation to drive efficiency while fostering inclusive, human-centered environments that prioritize well-being, equity, and sustainable work practices in an increasingly interconnected world (Lee & Joseph Sirgy, 2019; Mahat, 2024).

Recent studies have delved into various facets of the digital workplace experience, highlighting its impact on employee satisfaction, performance, and organizational dynamics. Firdaus and Anindita (2024) examined how flexible work arrangements and digital workplaces influence job performance among IT professionals in Jakarta, revealing that both factors enhance employee satisfaction, which in turn mediates improved job performance. Similarly, Duan et al. (2023) investigated the effects of digital work on work-life balance and job performance from a technology affordance perspective, finding that digital technologies significantly improve coordination and knowledge sharing, leading to better work-life balance and enhanced job performance. Furthermore, Moganadas and Goh (2022) conducted a comprehensive review to construct a measurement framework for digital employee experience (DEX), concluding that DEX positively influences employee engagement, motivation, and productivity. In the telecommunications sector in Oman, Porkodi et al. (2023) assessed the effect of DEX on organizational performance, identifying that elements like work environment, organizational culture, training availability, technology accessibility, digital tool usability, and leadership support are significantly associated with improved performance. Collectively, these studies underscore the critical role of digital workplace strategies in fostering employee satisfaction and organizational success.

In this context, conducting bibliometric research is highly significant as it helps analyze the existing body of knowledge on a particular topic. It enables researchers to track publication trends, identify influential studies, and understand the intellectual structure of the field (Karki, D'Mello, Mahat, & Shrestha, 2024). By systematically examining citations, keywords, and research collaborations, bibliometric analysis provides insights into emerging themes and research gaps. This approach also helps in evaluating the impact of scholarly work across different regions, institutions, and disciplines (Acharya et al., 2024). Additionally, bibliometric research supports the identification of leading authors, journals,

and countries contributing to the field (Shrestha & Mahat, 2024). Therefore, it is essential to conduct such an analysis to address the following research questions effectively.

Research Questions

1. How has the number of publications per year evolved in the field of Digital Workplace Experience from 2012 to 2025?
2. Which documents are most cited in the field of Digital Workplace Experience?
3. Which academic sources have published the majority of research on Digital Workplace Experience?
4. Which countries have contributed the most to research on Digital Workplace Experience?
5. What are the most frequently occurring keywords in Digital Workplace Experience research?
6. What are the dominant research themes identified through bibliographic coupling in the Digital Workplace Experience domain?

METHODS

This study employed a qualitative bibliometric analysis of 133 open-access journal articles to map research trends in digital workplace experiences within the Social Sciences, sourced from Scopus. Articles were identified using a search string combining digital, workplace, and experience in titles, abstracts, or keywords, filtered to Social Sciences. The 133 documents were cleaned, analyzed in VOSviewer, and visualized through keyword co-occurrence networks, revealing thematic clusters such as remote collaboration, employee well-being, and technological adaptation (Mahat & Kumar, 2024). Key findings included publication trends, influential authors, and emerging themes, enriched by qualitative interpretation of abstracts and cluster contexts. While the analysis provided a structured overview of the field, limitations included potential Scopus coverage biases, open-access filter constraints, and a sample size of 133 articles that may exclude non-English or region-specific studies. The methodology blended quantitative bibliometric rigor with qualitative insights, ensuring reproducibility through transparent search parameters and analytical workflows.

RESULTS

Results section display the result number of publications per year, most cited documents, majority sources, most contributed countries, keywords, bibliographic coupling in the Digital Workplace Experience domain.

Numbers of Publication per year

Documents by year

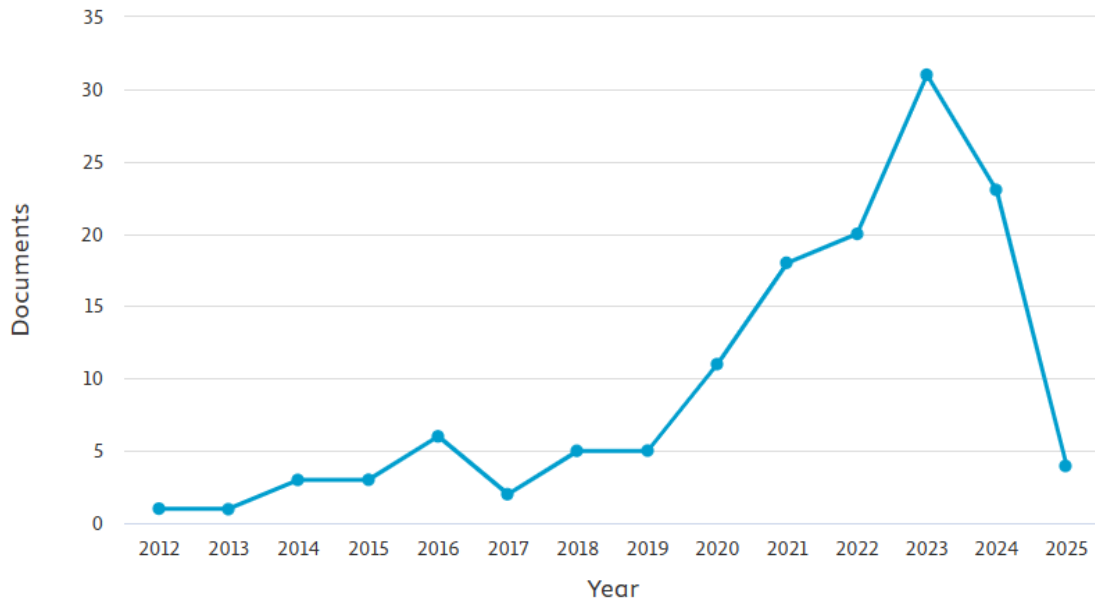


Figure 1: Numbers of Publication per year

The data reveals a fluctuating yet generally upward trend in research output over time, with notable peaks and troughs. From 2012 to 2020, publication numbers grew gradually, starting at just 1 document in 2012 and slowly rising to 11 documents in 2020, reflecting steady but modest scholarly interest. A significant surge occurred in 2021 (18 documents) and 2023 (31 documents), suggesting accelerated research activity, likely driven by global shifts such as the COVID-19 pandemic, remote work adoption, and digital workplace transformations. The sharp rise to 31 documents in 2023 marks the highest output, aligning with post-pandemic reflections on hybrid work models, AI integration, and employee well-being. However, the drop to 23 documents in 2024 (if accurately labeled, as 2024 is future-dated at the time of this analysis) may indicate incomplete data collection for the current year or a normalization of research focus after peak pandemic-related studies. The overall trajectory highlights how global crises (e.g., COVID-19) and technological

advancements (e.g., digitalization) catalyzed scholarly attention to workplace dynamics, with 2020–2023 emerging as pivotal years for innovation and adaptation in this field.

Majority Documents cited in digital workplace experience

Table 1: Majority Documents cited in digital workplace experience

Id	document	citations	links
10	schwarz (2020)	55	0
32	murillo-zamorano (2021)	98	0
52	gkinko (2022)	65	0
100	cuerdo-vilches (2021)	55	0
104	chin (2019)	58	0
107	chan (2018)	44	0
110	kerr (2015)	44	0
112	gegenfurtner (2020)	71	0
124	englert (2020)	52	0
129	richardson (2018)	110	0
133	chase (2018)	85	0

The dataset identifies Richardson (2018) as the most impactful publication, with 110 citations, likely offering foundational insights into themes like digital workplace dynamics, remote collaboration, or sociotechnical systems. Close behind is Murillo-Zamorano (2021) with 98 citations, suggesting significant contributions to digital education or hybrid work models during the pandemic era. Schwarz (2020) and Cuerdo-Vilches (2021) (55 citations each) may address niche topics such as sustainable workplace practices or digital fatigue, while Gkinko (2022) (65 citations) reflects emerging research on technology-driven labor markets or AI ethics. Chin (2019) (58 citations) and Gegenfurtner (2020) (71 citations) highlight interdisciplinary explorations of workplace training and digital pedagogy. Notably, older works like Chase (2018) (85 citations) and Kerr (2015) (44 citations) retain relevance, underscoring enduring themes such as digital literacy or organizational adaptability. The absence of links (all zero) implies these studies operate in thematic silos, with limited cross-referencing or collaborative networks. The concentration of high-impact works between 2018–2021 aligns with global shifts toward digital transformation and pandemic-driven workplace changes, positioning these documents as critical references for understanding modern work environments.

Majority Source in digital workplace experience

Table 2: Majority Source in digital workplace experience

id	source	docu- ments	citatio- ns	total strength	link
7	bmc medical education	4	92	0	
24	energy research and social science	1	55	0	
42	information technology and people	1	65	0	
49	international journal of educational technology in higher education	1	98	0	
55	international journal of training and development	1	71	0	
80	mindfulness	1	58	0	
81	new technology, work and employment	5	56	0	
87	progress in human geography	1	110	0	
99	sustainable cities and society	1	55	0	
104	triplec	2	60	0	

The dataset highlights Progress in Human Geography as the most influential source, with just 1 document accruing 110 citations, suggesting its contribution to digital workplace research likely on themes like spatial dynamics of remote work or sociotechnical systems resonates strongly across disciplines. BMC Medical Education follows with 4 documents and 92 citations, reflecting its role in bridging workplace training, digital competence, and healthcare education. Notably, International Journal of Educational Technology in Higher Education (1 document, 98 citations) and International Journal of Training and Development (1 document, 71 citations) emphasize the growing intersection of workplace learning and digital pedagogy. New Technology, Work and Employment stands out for volume, with 5 documents (56 citations), indicating sustained focus on technology-driven labor practices, though with comparatively lower citation impact. Smaller but impactful contributions from Information Technology and People (1 document, 65 citations) and TripleC (2 documents, 60 citations) underscore niche explorations of digital ethics, labor rights, or human-computer interaction. The absence of total link strength across all sources suggests limited inter-journal collaboration or thematic silos in digital workplace research, with most publications operating in domain-specific bubbles (e.g., education, geography, sustainability). This distribution reveals a fragmented yet impactful landscape, where high-impact journals like Progress in Human Geography drive theoretical discourse, while applied fields like BMC Medical Education address practical challenges in workplace digitization.

*Major Country in digital workplace experience***Table 3:** Major Country in digital workplace experience

id	Country	documents	citations	total link strength
3	Australia	16	208	1
6	Canada	6	74	0
11	Finland	8	55	0
13	Germany	11	170	0
25	Netherlands	9	234	1
27	Norway	7	37	0
35	Spain	9	209	0
36	sweden	6	49	0
37	switzerland	5	88	0
40	united kingdom	24	577	2
41	united states	12	168	0

The bibliometric data reveals significant disparities in research contributions and influence across countries. The United Kingdom dominates with 24 documents and 577 citations, indicating both high productivity and substantial scholarly impact, likely driven by its robust academic institutions and focus on workplace innovation. Australia follows with 16 documents and 208 citations, reflecting strong engagement in topics like digital workplace dynamics or remote work policies. Smaller European nations such as the Netherlands (9 documents, 234 citations) and Spain (9 documents, 209 citations) punch above their weight in citation influence, suggesting their research addresses globally relevant themes like organizational resilience or technology adoption. Germany (11 documents, 170 citations) and the United States (12 documents, 168 citations) show moderate output but significant reach, aligning with their roles as hubs for interdisciplinary workplace studies. Despite lower document counts, countries like Switzerland (5 documents, 88 citations) demonstrate efficient research quality. Notably, total link strength values are minimal across most nations (e.g., Australia: 1, UK: 2), implying limited international collaboration or fragmented thematic networks in this field. This pattern underscores the UK's leadership in both volume and visibility, while highlighting opportunities for greater global cooperation to address emerging workplace challenges.

Keywords in digital workplace experience

captures research on academic job satisfaction, faculty well-being, and the pressure to adapt curricula to meet digital-era demands.

Together, these keywords reveal a research landscape shaped by post-pandemic adaptability, digital transformation, and a deepening focus on human well-being within evolving work structures. Themes like remote work, mental health, and technological integration act as bridges between traditional job satisfaction studies and emerging interdisciplinary inquiries.

Bibliographic coupling- network visualization (Theme) in digital workplace experience

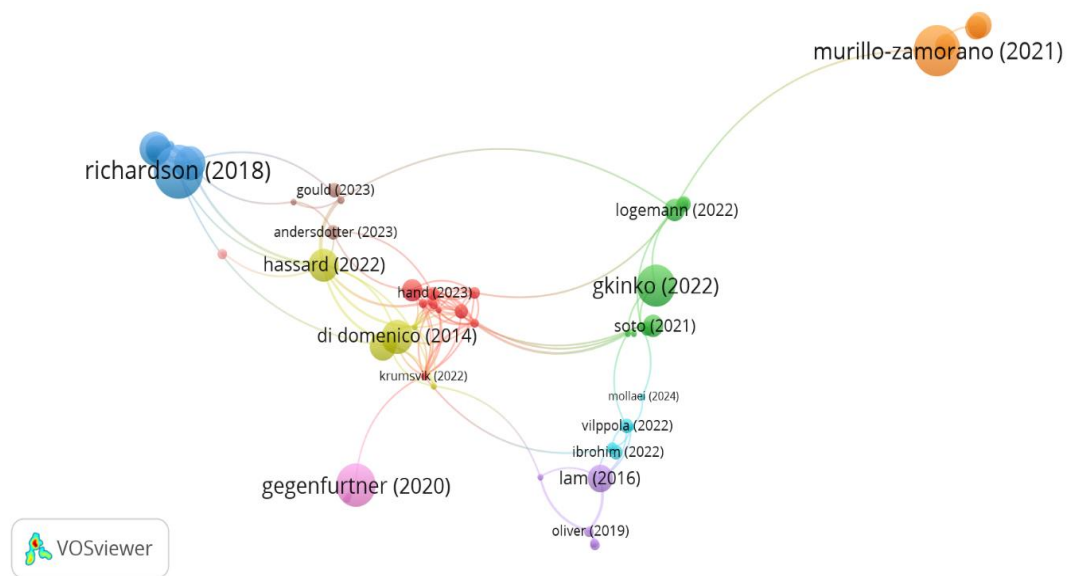


Figure 3: Theme

The bibliometric analysis reveals six distinct clusters of research themes centered on digital workplace dynamics, each addressing unique yet interconnected challenges and transformations.

Red Cluster: Pandemic-Driven Transformation in Education and Work: This cluster focuses on adapting to the COVID-19 pandemic’s disruption, particularly in education and collaborative work. Key studies explore how institutions reimaged online learning and internships during crises. For example: Charbonneau et al. analyze lessons from the pandemic to redesign sustainable online learning frameworks. Vaage Øie et al. examine journalism education’s shift to virtual newsrooms using collaborative tools like Slack or Zoom. Krumsvik et al. highlight Ph.D. students’ challenges during lockdowns, emphasizing resilience and digital resource gaps. Silva et al. and Ferguson et al. extend the discussion to

ethical dilemmas in digital communication, such as hate speech and information ethics. Gardner ties digital transformation to organizational learning in architecture, stressing situated, practice-based adaptation.

Theme: Crisis as a catalyst for redefining digital pedagogy, ethics, and hybrid collaboration.

Green Cluster: Workplace Well-Being and Digital Adaptation: This group addresses employee well-being, cognitive demands, and leadership in digital environments: Soto et al. track stress and focus in knowledge workers using wearable sensors, linking productivity to mental states. Johnson et al. and Willermark et al. explore how software interaction affects cognitive skills and virtual leadership affordances. Borger and Svensson et al. study collaborative online learning (COIL) and healthcare professionals' adoption of digital tools for patient care. Logemann et al. and Jensen et al. emphasize learning from digital failures, such as errors in patient communication or crisis management. Leiß et al. and Sjöberg et al. investigate informal learning through problem-solving in digital workplaces and police training.

Theme: Balancing productivity with mental health, skill development, and adaptive leadership in tech-saturated workplaces.

Blue Cluster: Labor Exploitation and Alienation in Digital Economies: This cluster critiques power dynamics, emotional labor, and worker alienation in tech-driven industries: Kerr & Kelleher expose how digital game companies exploit community managers' passion and unpaid labor. Chan & Humphreys analyze Uber drivers' mediatized social spaces, highlighting surveillance and autonomy erosion. Byrne et al. and Nepal et al. delve into burnout among hospital doctors and cybersecurity responders, linking stress to systemic pressures. Bissell theorizes the "anaesthetic politics" of gig work, where workers numb themselves to platform-induced insecurity.

Theme: Structural inequities, emotional tolls, and resistance in platform capitalism.

Yellow Cluster: Spatial-Temporal Shifts in Post-Pandemic Work: This group examines how digital tools reconfigure work-life boundaries and urgency cultures: Watson et al. dissect the "COVID digital home assemblage," where domestic spaces became contested worksites. Pritchard & Symon and Mergener et al. study time-pressure technologies (e.g., always-on apps) and employee resistance to remote work. Hassard & Morris critique the "extensification" of managerial work, where digital tools blur work-life limits. Foley et al.

highlight gendered connectivity burdens in law, where women face amplified “always-on” expectations.

Theme: The erosion of traditional work boundaries and the paradox of hyper-connectivity.

Purple Cluster: Institutional Digital Readiness and Equity: This cluster focuses on integrating digital tools into education, healthcare, and aging workforces: Armah et al. and Lam et al. assess digital literacy gaps in Ghanaian higher education and health sciences training. Oliver & Williams-Duncan explore faith leaders’ digital skill development across career stages. Awori et al. and Sun et al. emphasize socio-technical trust in digital tools, particularly in non-Western contexts. Solem et al. investigate older workers’ preferences for work exit strategies in digitized environments.

Theme: Equity-focused digital transformation, bridging generational, cultural, and institutional divides.

Key Insights

Interconnected Challenges: Themes like pandemic adaptation (Red), well-being (Green), and labor equity (Blue) reveal how digital workplaces amplify both opportunities and vulnerabilities.

Geographic and Generational Gaps: The Purple Cluster underscores disparities in digital readiness, while the Yellow Cluster highlights universal struggles with work-life boundaries.

Methodological Diversity: Studies range from sensor-based stress tracking (Green) to ethnographic critiques of gig labor (Blue), reflecting multidisciplinary approaches to understanding digital work.

This clustering illustrates the complexity of modern workplace ecosystems, where technology’s benefits are inseparable from its ethical, psychological, and structural costs.

CONCLUSION

This bibliometric exploration of scholarly literature on digital workplace experiences reveals a field in flux, shaped by global crises, technological disruption, and evolving human needs. The COVID-19 pandemic emerges as a defining catalyst, propelling rapid scholarly engagement with remote work, hybrid models, and digital resilience. However, the research landscape remains fragmented, marked by disciplinary silos and

uneven geographic engagement. While high-impact contributions from the United Kingdom, Australia, and European nations dominate discourse, limited cross-regional collaboration underscores missed opportunities for holistic solutions to workplace challenges. Thematic clusters highlight tensions inherent to digital transformation: the promise of flexibility and innovation clashes with systemic inequities, worker alienation, and mental health crises. Studies interrogate the erosion of work-life boundaries, the emotional toll of platform capitalism, and the paradox of hyper-connectivity in hybrid environments. Simultaneously, human-centric themes; such as adaptive leadership, digital literacy, and equitable access signal a growing emphasis on safeguarding well-being amid technological change. Methodologically, the field leans heavily on theoretical critiques and case studies, with gaps in applied, intersectional, and non-Western perspectives. Overreliance on open-access articles and Scopus-indexed journals risks narrowing the lens through which workplace digitization is understood, potentially marginalizing voices from underrepresented regions or industries. Moving forward, the field must prioritize ethical frameworks that balance efficiency with equity, particularly as AI and automation reshape labor markets. Interdisciplinary collaboration, participatory research designs, and attention to generational and cultural divides will be critical to fostering inclusive digital workplaces. Ultimately, this study underscores the urgency of reimagining work as a symbiotic relationship between technology and humanity one that prioritizes resilience, dignity, and collective stewardship in an era of perpetual disruption.

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