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Mapping the Intellectual Structure of Digital Stress (1981-2025): Evolution, Geography, and Future Directions

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ABSTRACT

As digital technologies increasingly saturate personal and professional spheres, “digital stress” has emerged as a critical multi-dimensional construct linking constant connectivity to psychological strain, yet the literature remains fragmented across disciplines. To address this, the study presents a comprehensive bibliometric analysis of the field's intellectual structure and evolution, utilizing data from 1,231 publications in the Web of Science Core Collection spanning 1981 to 2025. By employing the R-based bibliometrix package for science mapping and network analysis, findings reveal a dramatic exponential surge in scholarly output post-2018, driven largely by the COVID-19 pandemic and the normalization of remote work. A significant structural shift was identified in global knowledge production, transitioning from early Western dominance to emerging leadership in Asian institutions, particularly in China and India, while thematic evolution analysis highlights a pivot from early ‘technology adoption” frameworks to a contemporary focus on “psychosocial outcomes” such as burnout, mental health, and work-life conflict. The study concludes that while the field is becoming more globalized and human-centric, future inquiries must address the “blind spots” of algorithmic management and prioritize longitudinal designs over cross-sectional self-reports to better understand digital resilience.

Keywords: Digital Stress, Technostress, Bibliometric Analysis, Mental Health, Workplace Well-being

Introduction

Digital stress has emerged as a central construct for understanding how digital technologies creates psychological and physiological strain across work, educational, and everyday life contexts. Digital stress as a multidimensional, includes availability stress, approval anxiety, fear of missing out (FoMO), connection overload, and online vigilance (Hall et al., 2021). These dimensions are experienced in relation to constant connectivity through smartphones and social media, resulting in the blurring of boundaries between personal and professional spheres (Dragano & Lunau, 2020). Across domains, empirical studies show that digital stress is linked to a wide range of

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adverse outcomes, including anxiety, burnout, depressive symptoms, and reduced productivity. In workplaces, technostress and related digital stressors such as information overload and permanent connectivity contribute to cognitive fatigue, emotional exhaustion, and impaired performance (Bondanini et al., 2025).

Clinical and developmental research further links digital stress to psychosocial distress, with meta-analytic evidence indicating medium-sized associations between digital stress components and measures of psychological wellbeing (Khetawat & Steele, 2023) and qualitative work documenting adolescents' own accounts of how digital demands and social expectations generate strain (Weinstein & Selman, 2016). At the same time, physiological and neurobiological studies using heart rate variability, endocrine markers, and electroencephalography are beginning to validate objective indicators of stress reactions to digital multitasking and interruptions, though these approaches remain less common than self-report methods (Becker et al., 2022).

Despite rapid conceptual and empirical advances, the digital stress literature exhibits several important research gaps. Theoretically, many studies continue to frame digital stress primarily as an intrapersonal reaction, while emerging work highlights the importance of social-relational processes including interpersonal conflict, peer norms, and hostile online climatesin shaping experiences of stress, especially among adolescents and marginalized groups (De Groote & Van Ouytsel, 2022). Methodologically, digital stress research relies heavily on self-report instruments such as the Digital Stress Scale and its derivatives; although these scales show good reliability and have been adapted into Chinese, Arabic, and other languages, studies reveal inconsistencies in factor structures, scale length, and measurement invariance across gender and cultural groups (Krägeloh et al., 2023; Zhang et al., 2023).

Given this fragmented and uneven landscape, a focused bibliometric analysis of digital stress research is necessary to systematically map the field and guide its future development. Existing science-mapping and bibliometric studies on technostress, digitalization, and related topics show that such approaches can illuminate the evolution of research fronts, identify dominant countries, institutions, authors, and journals, and reveal thematic clusters and intellectual structures that are not readily visible from narrative reviews alone (Ali et al., 2021). Bibliometric work on digital mental health and digital amnesia further demonstrates how co-citation and co-word analyses can expose conceptual fragmentation, methodological biases, and underexplored intersections with public health, organizational studies, and education (Armaou et al., 2024; Lu et al., 2024). Applying similar techniques to digital stress will make it possible to quantify growth patterns since 2010, examine the impact of the COVID-19 period, and systematically assess geographic and demographic imbalances in the evidence base. In doing so, a bibliometric study can provide a robust empirical foundation for future theory-building, encourage multimethod and cross-cultural work, and inform human-centered policies and interventions aimed at mitigating digital stress in increasingly digitalized societies.

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Literature review

Measurement instruments and psychometric developments

Measurement work has been central to consolidating digital stress research, with the Digital Stress Scale (DSS) and the Digital Stressors Scale for the workplace (often abbreviated DSS-W) becoming prominent tools for capturing multidimensional stress in general and organizational populations (Fischer et al., 2023; Rafiq et al., 2024). Hall et al.'s (2021) multidimensional DSS operationalizes availability pressure, FoMO, approval anxiety, connection overload, and online vigilance, and initial validation studies report good internal consistency and evidence of construct validity (Hall et al., 2021). Complementary instruments such as the DSS-W and the Digital Transformation Stress Scale (DTSS) extend this measurement tradition by targeting stressors linked to organizational digitalization and change, highlighting perceived overload, uncertainty, and competence demands during digital transformation processes (Makowska-Tłomak et al., 2023; Riedl et al., 2023).

Context-Specific Manifestations and Outcomes

Workplace settings

Research on algorithmic management and platform work adds a critical layer by documenting how food couriers and other gig workers experience digital stress as a function of opaque rating systems, automated task allocation, and limited voice in platform governance (Kinowska & Sienkiewicz, 2020). These studies highlight psychosocial risks, including job insecurity, perceived unfairness, and heightened strain, although they are often based on specific sectors and national contexts, which restricts the generalizability of findings to broader labor markets (Mbare et al., 2024). At the same time, bibliometric work on technology-related stressors in flexible working arrangements indicates that technostress and digital stress are increasingly central to human-centric workplace design discourses, yet the literature remains fragmented across information systems, organizational psychology, and occupational health outlets (Ali et al., 2021; Rafiq et al., 2025).

Educational contexts

In educational settings, digital stress manifests differently for students and educators, reflecting distinct roles and expectations (Khrapov & Baeva, 2022). Teachers and university staff report their own forms of digital stress, including emotional risks linked to the digitalization of pedagogy, such as feelings of alienation, instability of professional self-esteem, and strain from rapid shifts to online teaching, especially during the pandemic (Yadav & Rahaman, 2024). At the same time, some studies highlight protective effects of digital competence and supportive digital cultures, which can buffer stress and enable more creative and student-centered uses of technology, indicating that digitalization is not uniformly negative but interacts with contextual resources (Antón-Sancho et al., 2022; Santoveña-Casal & López, 2024).

Theoretical and Methodological Limitations

All three attached syntheses converge on substantial theoretical and methodological gaps that limit the cumulative progress of digital stress research (Lu et al., 2024). Theoretically, many studies continue to conceptualize digital stress primarily as the

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intensity of exposure to technological demands, paying comparatively less attention to appraisal processes, coping strategies, and relational dynamics such as peer norms, social support, and conflict in digital environments (Angelini & Gini, 2025). Scale development and validation studies frequently exhibit inconsistent dimensionality, varying scale lengths, and incomplete testing of measurement invariance across gender, age, and cultural groups, which complicates the synthesis of evidence and may obscure true cross-group differences (Gao et al., 2024).

Empirical and structural gaps relevant to a bibliometric study

From the perspective of a planned bibliometric analysis, several structural gaps in the literature are particularly salient. First, the geographic and demographic distribution of digital stress research is highly uneven, with bibliometric mapping and narrative overviews alike indicating a concentration of output in the United States, Europe, and China, and much lower representation of work from low-income regions and the Global South (Gupta & Srinivas, 2024). This imbalance is mirrored in the underrepresentation of vulnerable populations such as homeless individuals, older adults, and youth in majority-world contexts, despite evidence that these groups face distinctive digital stressors related to exclusion, discrimination, and infrastructural constraints (Huang & Chen, 2025).

Second, the construct space surrounding digital stress is fragmented across multiple, partially overlapping labels technostress, digital stress, digital transformation stress, digital amnesia, often studied in different disciplinary silos with limited cross-citation (Kadhiravan & Robert, 2025; Salazar-Concha et al., 2021). Existing bibliometric analyses on technostress, digital amnesia, digital mental health, and technology-related stressors in flexible work demonstrate that science-mapping methods can successfully identify influential authors, core journals, and thematic clusters, but they have not yet been applied systematically to the full spectrum of digital stress constructs (Ali et al., 2021). Finally, there is limited quantitative evidence on how methodological choices such as reliance on self-report, absence of longitudinal designs, or lack of multimodal data cluster within specific subfields or regions, an issue that has been flagged qualitatively but not yet mapped at scale (Lu et al., 2024; Schindler & Domahidi, 2023).

Collectively, these gaps provide a strong rationale for a focused bibliometric analysis of digital stress research that can chart the evolution of concepts and methods, reveal patterns of collaboration and influence, and identify underexplored populations, technologies, and theoretical approaches (Ali et al., 2021). Such an analysis would not only synthesize a rapidly expanding and heterogeneous evidence base but also support the development of more integrative, inclusive, and methodologically robust research agendas for understanding and mitigating digital stress (Alan, 2025; Lu et al., 2024).

Based on the above literature following question has been constructed:

RQ1: How has global scholarly production, intellectual influence, and geographical leadership in digital stress and technostress research evolved over time, and what factors have driven the post-2018 surge in publication activity and Asian-led research expansion?

RQ2: What are the dominant theoretical, thematic, and conceptual structures underpinning digital stress scholarship, and how do core constructs (e.g., technostress,

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burnout, coping, overload, digital stress) differ, overlap, and interact across human-centric, behavioural, and technology-adoption research streams?
RQ3: How are international collaboration networks, author clusters, and institutional partnerships shaping knowledge diffusion, research specialization, and methodological diversification within the global digital stress research ecosystem?

Method

Data Retrieval and Search Strategy

This bibliometric analysis utilized the Web of Science Core Collection as the primary database for retrieving scholarly publications on digital stress and technostress, selected for its comprehensive coverage of high-impact, peer-reviewed literature across multidisciplinary fields such as psychology, information systems, and organizational behavior (Clarivate Analytics, 2024). The search was conducted on April 17, 2025, using a combination of title, abstract, and keyword fields with Boolean operators to ensure exhaustive capture of relevant documents: ("digital stress" OR "technostress" OR "techno-stress"). The temporal scope was delimited to publications from 1981, the approximate year of the first documented use of the term "technostress", through 2025, encompassing over four decades of scholarly evolution to trace long-term trends while aligning with the field's maturation post-2010 (Aria & Cuccurullo, 2017; Donthu et al., 2021). Language restrictions were applied reflecting the database's indexing biases.

Document Selection and Processing

Documents were initially screened for relevance based on automated filters within Web of Science Core Collection, yielding a raw dataset that was then refined through manual verification to exclude non-empirical or irrelevant records, such as conference proceedings without full peer review, book chapters, or editorials not directly addressing digital stress constructs (e.g., excluding general technology adoption studies without stress components). Inclusion criteria prioritized peer-reviewed journal articles, reviews, and early access publications that explicitly discussed psychological, physiological, or organizational dimensions of technology-induced strain, ensuring a focus on core bibliometric indicators like publication type and subject categories (e.g., psychology, management, computer science). Exclusion criteria eliminated duplicates, non-academic outputs (e.g., patents, datasets), and publications predating 1981 or lacking identifiable authorship networks, resulting in a cleaned corpus suitable for network analysis (Zupic & Čater, 2015). Data export included full bibliographic details titles, authors, affiliations, abstracts, keywords, citations, and references for downstream processing, with ethical considerations upheld by anonymizing personal data and adhering to web of science usage policies.

Bibliometric Analysis Procedure

The analysis followed established bibliometric protocols to evaluate productivity, impact, collaboration, and thematic structures without inferential statistics, emphasizing descriptive and network-based metrics to map the intellectual landscape (van Eck & Waltman, 2014). Key indicators included annual publication trends, citation counts (total and normalized), h-index approximations for authors/institutions,

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and co-occurrence metrics for keywords and references, computed to assess growth trajectories, influential entities, and knowledge diffusion (Ellegaard & Wallin, 2015). Collaboration networks were examined via co-authorship links at author, institutional, and country levels, using centrality measures (e.g., degree, betweenness) to identify core-periphery structures and international partnerships (Newman, 2004). Thematic mapping involved keyword co-occurrence, document coupling, and multiple correspondence analysis (MCA) to delineate conceptual clusters, evolution, and density-centrality quadrants, providing a multidimensional view of research fronts and gaps (Cobo et al., 2011). All procedures prioritized transparency, with normalization for field-specific citation rates to mitigate biases from document age or discipline.

Software and Visualization Tools

Data processing and analysis were performed using the bibliometrix R package (version 4.3.0) for initial cleaning, descriptive statistics, and network generation, integrated with RStudio (version 2024.09.0) for reproducible scripting (Aria & Cuccurullo, 2017). Visualization of co-authorship, co-citation, and keyword networks employed for distance-based clustering and density plots, enabling intuitive representation of thematic evolution and collaboration densities. Supplementary thematic mapping utilized. Moreover, R Studio was used for supplementary trend graphing, ensuring methodological rigor through open-source validation and adherence to bibliometric best practices.

Results

The bibliometric dataset retrieved from the Web of Science Core Collection comprised 1,231 publications spanning the period 1981 to 2025, demonstrating more than four decades of scholarly engagement with the subject. These documents were disseminated through 517 distinct publication sources, reflecting wide disciplinary diffusion and indicating that research on digital stress and technostress extends far beyond a single disciplinary core. The field also exhibits significant topical diversity, as reflected in 1,629 Keywords Plus and 3,436 Author Keywords, suggesting a continuously evolving conceptual vocabulary and an expanding empirical and theoretical landscape. The data further confirm that research within this domain is predominantly disseminated in the form of peer-reviewed journal articles, with 1,139 full articles, 84 early access articles, and only limited representation of other document types.

Productivity patterns reveal that the domain has experienced strong and sustained growth, reflected in an annual growth rate of 13.81%, positioning digital stress and technostress scholarship as a rapidly expanding knowledge area. This growth trajectory coincides with an increasingly collaborative publishing culture, evidenced by 3,489 contributing authors, a co-authorship average of 3.56 authors per publication, and 28.11% international co-authorship, suggesting global scientific integration. Despite the relatively young document age (mean = 3.21 years), the collection has achieved notable academic influence, with an average of 29.04 citations per publication, demonstrating accelerated citation uptake and scholarly relevance. Collectively, these patterns characterize digital stress research as a dynamically evolving and internationally networked field that is both methodologically active and

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intellectually influential.

The annual publication trajectory depicts a long period of minimal and steady output from 1981 through approximately 2010, followed by a noticeable upward shift after 2012 and a dramatic escalation beginning around 2018, culminating in the highest documented peak in 2025 (Figure 1). This pattern indicates that the research domain remained relatively nascent and fragmented for more than three decades, with only sporadic scholarly contributions, before transitioning into a phase of accelerated knowledge production likely driven by the proliferation of digital technologies, the ubiquity of smart devices, and growing awareness of technology-induced psychological and physiological strain. The sharp post-2018 surge aligns with global digital transformation, intensified remote work transitions, pandemic-related technology dependence, and rising policy and clinical interest in digital well-being, collectively marking the field's emergence from foundational inquiry to a mature, high-velocity research frontier.

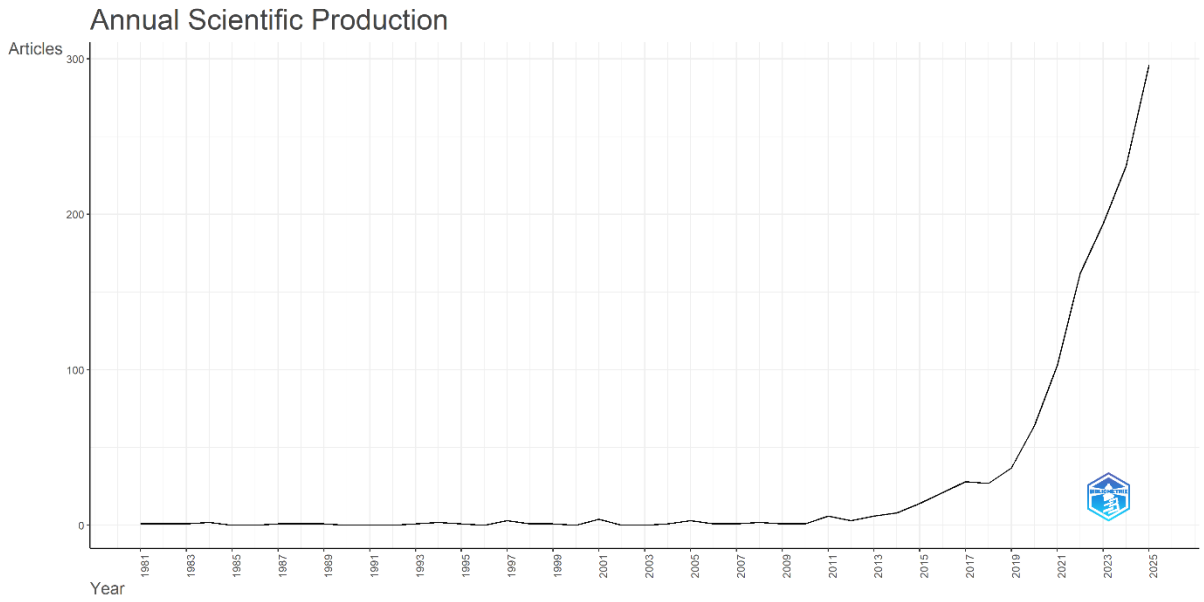


Figure 1 Annual Scientific Production

The trend in average citations per year demonstrates a prolonged period of negligible citation impact from 1981 to the early 2000s, followed by intermittent but pronounced citation spikes between 2006 and 2012, with the highest peak occurring around 2007 (Figure 2). These citation surges likely reflect the appearance of seminal or highly influential publications that shaped subsequent theoretical and empirical development within the domain. However, after 2012, the trend shows a gradual decline and stabilization at moderate citation levels, despite the exponential rise in publication volume. This indicates that while the field has rapidly expanded in recent years, newer publications have had less time to accumulate citations, reflecting a typical lag effect in fast-growing scientific domains rather than diminished scholarly relevance.

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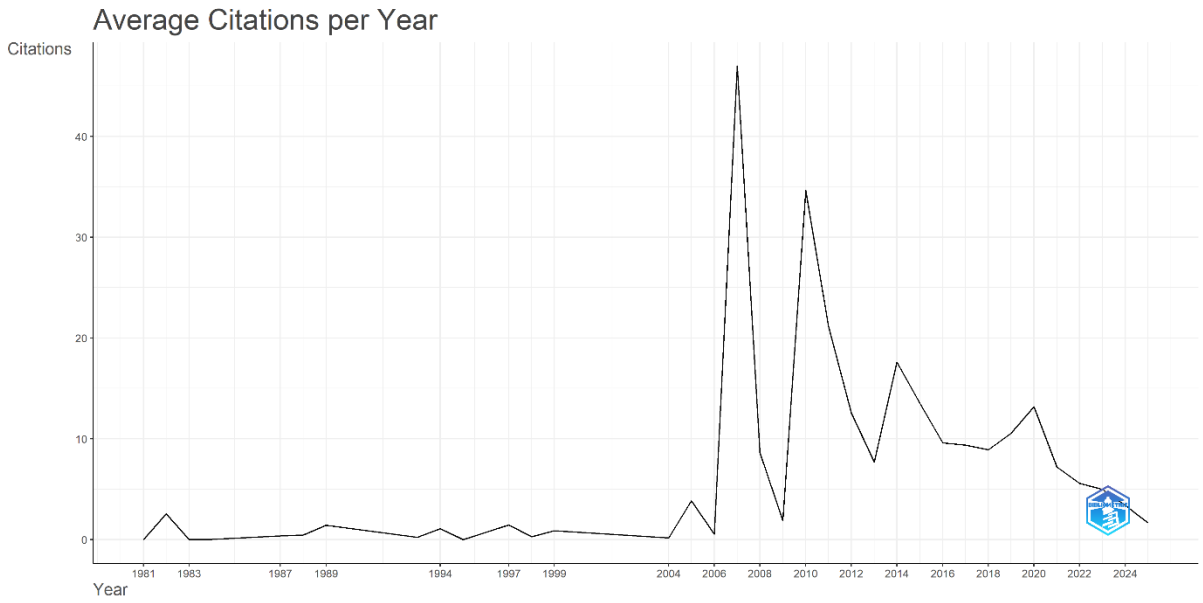


Figure 2 Average Citations per year

The three-field plot reveals a tightly interconnected scholarly ecosystem in which foundational cited references, leading authors, and dominant thematic keywords converge around the construct of technostress (Figure 3). Seminal works by Tarafdar et al, (2020) and colleagues, along with influential earlier contributions such as Wrede (2023) and Ragu-Nathan et al. (2008), form the intellectual backbone of the field, demonstrating a cumulative theoretical progression. The central positioning of authors such as Monideepa Tarafdar, Christian Maier, Tim Weitzel, and Markus Salo indicates their role as key knowledge producers driving conceptual refinement and empirical expansion. The keyword cluster, dominated by terms including technostress, stress, dark side, impact, information technology, performance, and users, confirms that research emphasis remains largely oriented toward the adverse psychological, behavioural, and organizational consequences of technology use. The linkage of contemporary terms such as social media and COVID-19 suggests recent thematic diversification and contextual adaptation, indicating that the field is evolving in response to emerging digital-era stressors and societal disruptions.

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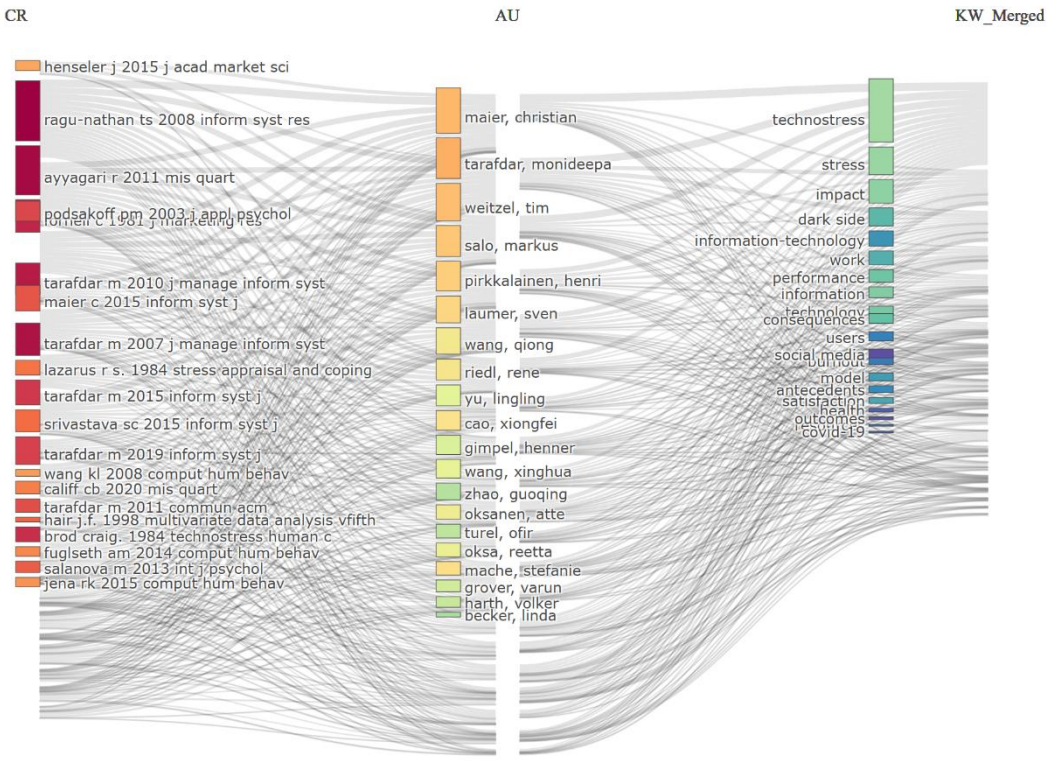


Figure 3 Three-field Plot

The analysis of source productivity indicates that research on digital stress and technostress is concentrated in a set of high-impact and technologically oriented journals, with Computers in Human Behavior emerging as the leading outlet, publishing 41 articles, followed closely by Frontiers in Psychology with 40 publications (Figure 4). Other core journals include Information Technology & People (36 articles), Behaviour & Information Technology (27 articles), and the International Journal of Environmental Research and Public Health (27 articles), illustrating a multidisciplinary publishing landscape spanning psychology, human–computer interaction, management information systems, and public health. The presence of journals such as Sustainability, Education and Information Technologies, and Internet Research further reflects the field's thematic diffusion into environmental, educational, and digital society research streams. Collectively, this distribution suggests that digital stress scholarship is not confined to a single disciplinary hub but is instead embedded across multiple knowledge domains, highlighting its conceptual relevance to both individual-level psychological well-being and broader socio-technological systems.

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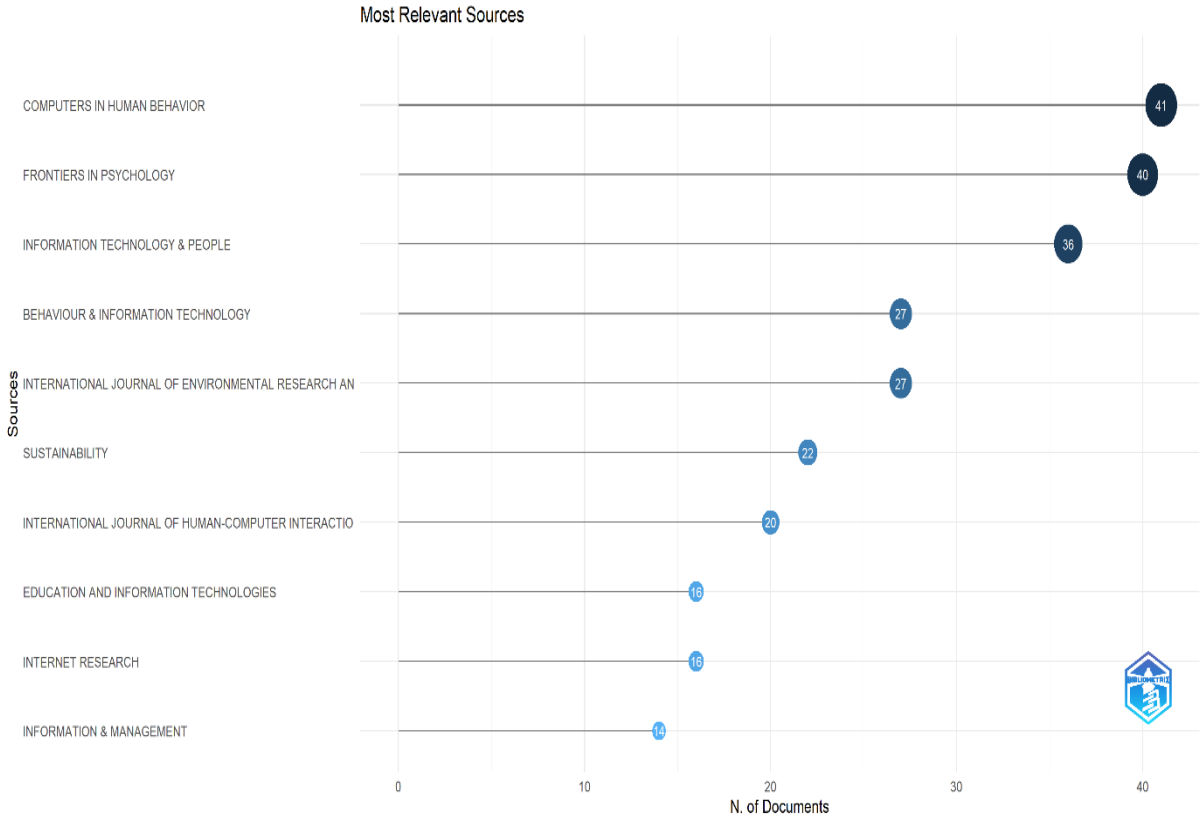


Figure 4 Most relevant Sources

The cumulative source growth analysis shows that publication activity across the five leading journals remained negligible until after 2010, followed by a gradual emergence period between 2011 and 2016, and then a sharp acceleration beginning in 2017, coinciding with the broader surge of digital stress–related research (Figure 5). Computers in Human Behavior demonstrates the most substantial cumulative growth, indicating its position as the dominant and sustained knowledge dissemination hub, while Frontiers in Psychology and Information Technology & People also display steep upward trajectories, reflecting their increasing prominence in publishing work at the intersection of technology use, psychological outcomes, and organisational behaviour. More recent and rapid adoption by Behaviour & Information Technology and the International Journal of Environmental Research and Public Health suggests evolving interdisciplinarity, where digital stress scholarship is expanding beyond information systems and behavioural science to include health-oriented and environmental–societal perspectives. Collectively, these patterns signal both consolidation in core publication outlets and diversification into broader thematic journals aligned with emerging socio-technological concerns.

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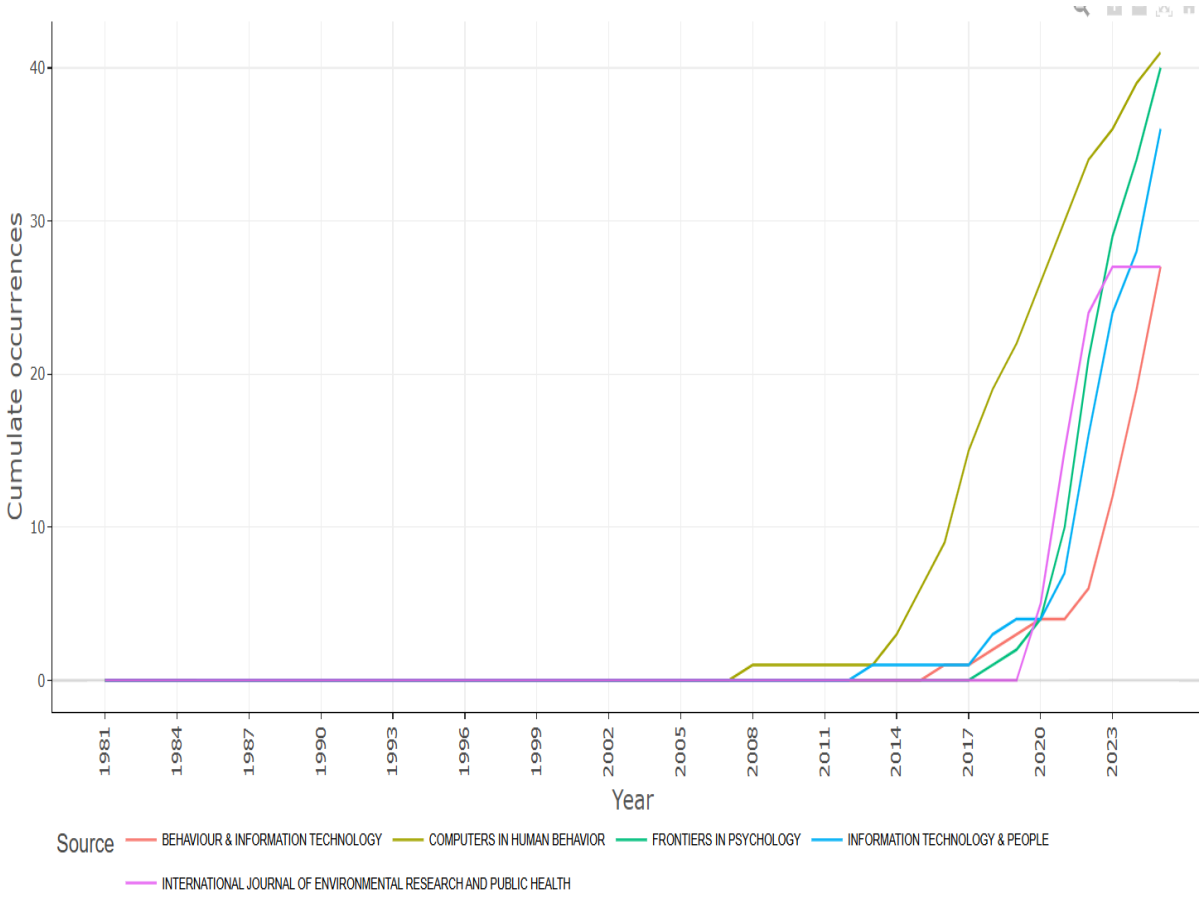


Figure 5 Cumulative source growth analysis

The author productivity ranking highlights a clearly defined core group of influential scholars who have shaped and advanced the conceptual and empirical foundations of digital stress and technostress research, with Monideepa Tarafdar emerging as the most prolific contributor with 20 publications, followed closely by Christian Maier (18 publications) and Tim Weitzel (16 publications) (Figure 6). These authors represent a central intellectual cluster within the field, frequently co-authoring and driving theoretical development related to the antecedents, mechanisms, and consequences of technology-induced strain in organizational contexts. Additional key contributors such as Markus Salo, Henri Pirkkalainen, Sven Laumer, Stefanie Mache, Xiongfei Cao, Rene Riedl, and Qiong Wang demonstrate a broader yet tightly connected scholarly community, indicating sustained multi-institutional and multi-country collaboration. The pattern reflects a domain where knowledge production is concentrated among a small group of consistently publishing scholars, reinforcing their role as central knowledge gatekeepers, agenda setters, and citation anchors for subsequent research.

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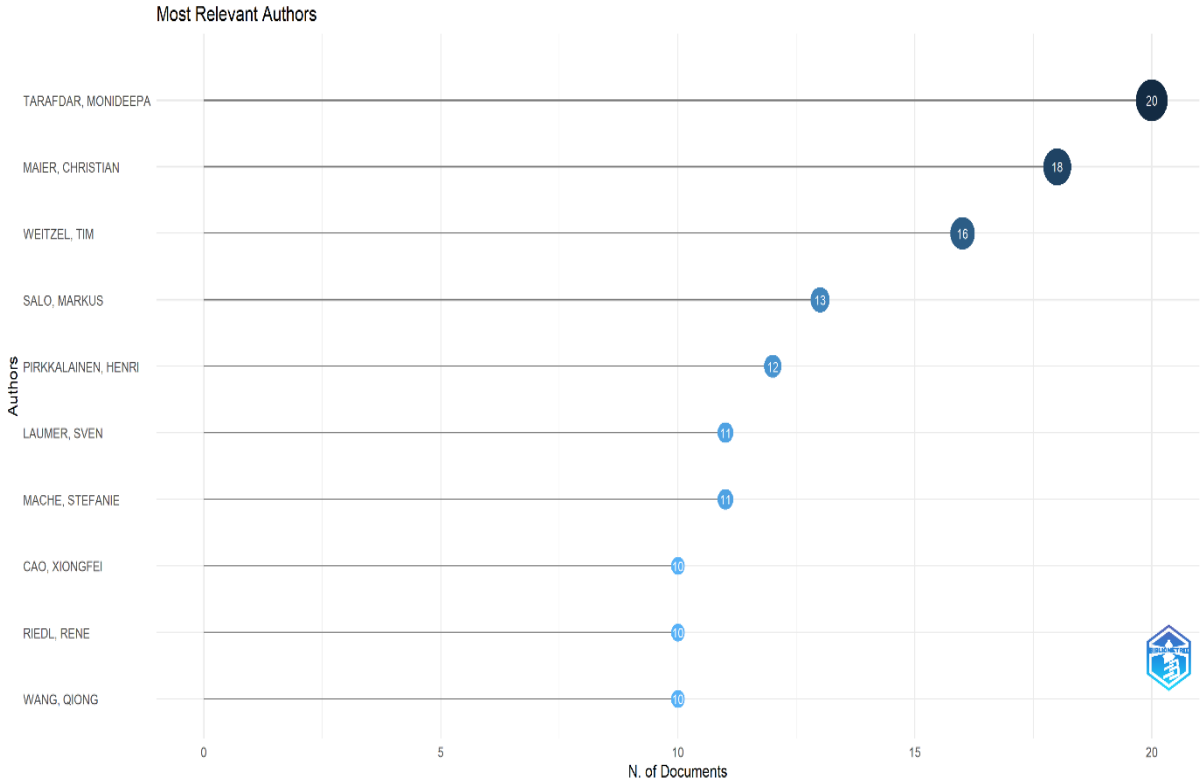


Figure 6 Most Relevant Authors

The temporal author production analysis reveals a differentiated yet converging pattern of scholarly engagement, indicating both foundational continuity and successive waves of intellectual contribution within the domain (Figure 7). Tarafdar demonstrates the longest and most consistent trajectory, publishing from 2007 through 2024 with multiple high-impact outputs, affirming her position as the conceptual anchor of technostress scholarship. In contrast, Maier, Weitzel, and Laumer display a highly synchronized publication pattern concentrated between 2015 and 2020, reflecting a tightly knit collaborative research stream that produced several highly cited works on technology-related strain and behavioural consequences. Authors such as Salo, Pirkkalainen, and Cao show shorter but intense productivity clusters between 2017 and 2020, primarily focusing on social media overload and discontinuance behaviour, while Mache and Wang emerge as recent high-output contributors from 2021 onward, indicating a generational renewal of research leadership. Overall, the distribution suggests a field shaped initially by sustained theoretical grounding followed by collaborative expansion in the late 2010s, and currently transitioning into a phase of diversified, multidisciplinary, and globally dispersed authorship.

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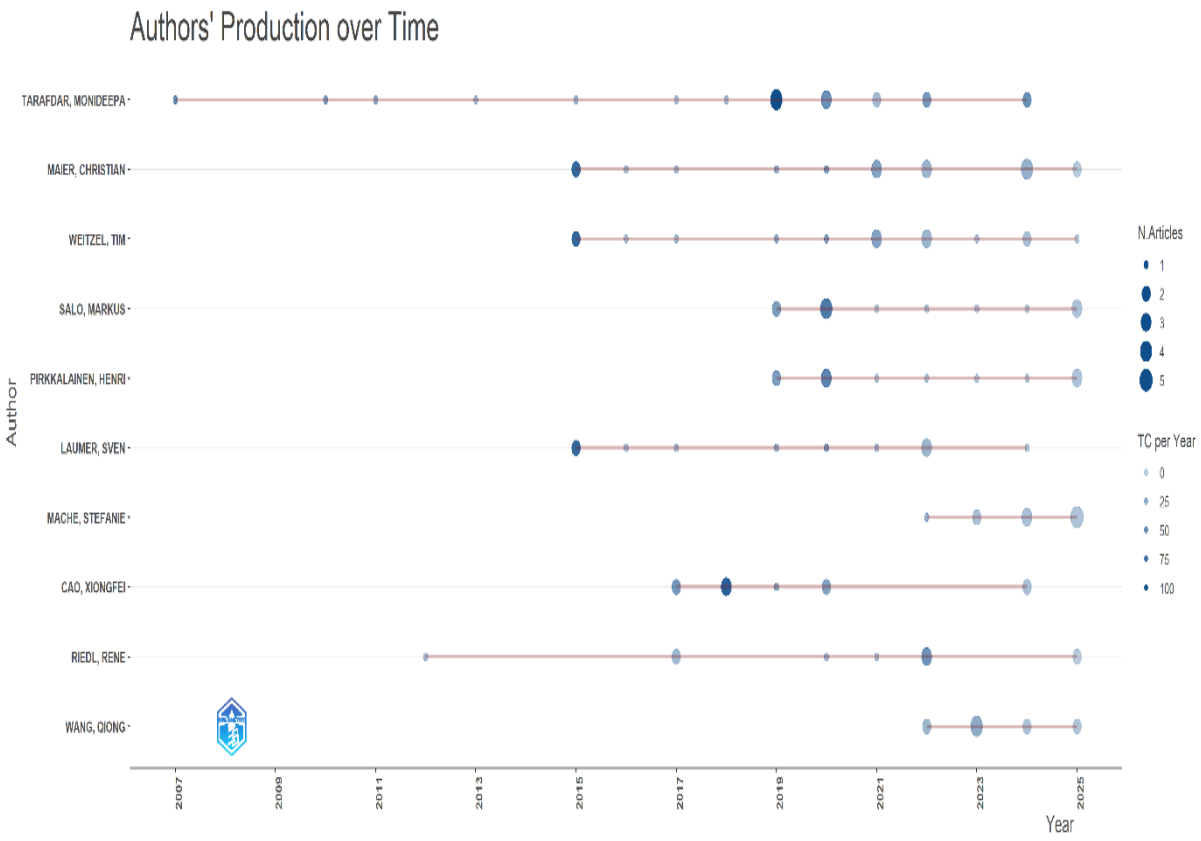


Figure 7 Authors' Production over time

The institutional productivity distribution shows a concentration of scholarly output among a small set of internationally recognized research institutions, with the Indian Institute of Management (IIM System) leading significantly with 41 publications, followed by Tampere University (29 publications) and Otto Friedrich University Bamberg (26 publications) (Figure 8). The strong representation from European and Asian institutions, including the Chinese Academy of Sciences, University of Jyväskylä, and University of Science and Technology of China, indicates a geographically diverse but research-intensive network that dominates contributions to digital stress and technostress scholarship. The presence of both management- and technology-oriented institutions, alongside multidisciplinary universities such as California State University System, Qingdao University, and Beijing Normal University, reflects the inherently cross-disciplinary nature of the topic, drawing from information systems, psychology, organizational studies, public health, and digital society research. This distribution suggests that institutional leadership in the field is primarily driven by research groups with established information systems and behavioural technology expertise rather than isolated contributions from single departments or countries.

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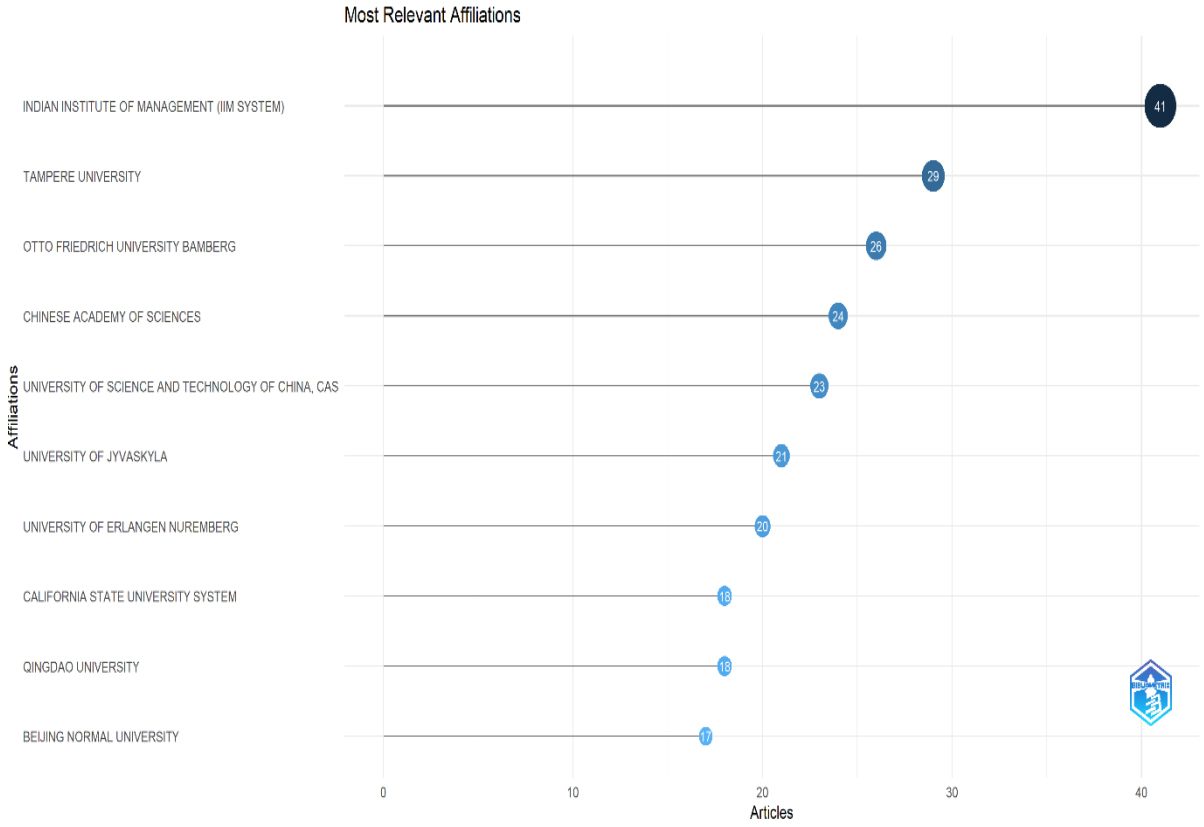


Figure 8 Most Relevant affiliations

The temporal evolution of institutional contributions shows that meaningful scholarly output began to emerge only after 2014, followed by a sharp and sustained rise across all leading affiliations from approximately 2017 onward, reflecting a collective global response to the escalating relevance of digital stress and technostress research (Figure 9). While Tampere University and Otto Friedrich University Bamberg demonstrated early and steady growth, the Indian Institute of Management (IIM System) exhibited the most accelerated increase after 2020, ultimately surpassing all other institutions and positioning itself as the most dominant contributor in the most recent period. Similarly, both the Chinese Academy of Sciences and the University of Science and Technology of China (CAS) show strong upward trajectories, particularly from 2020 onwards, reflecting the rapid expansion of technology-centric behavioural and organizational research within China. Overall, the pattern suggests that institutional leadership has transitioned from early European dominance to a more pluralistic and globally competitive landscape, with rapid recent growth driven by Asian institutions aligned with large-scale digitalisation, platform economies, and technology adoption contexts.

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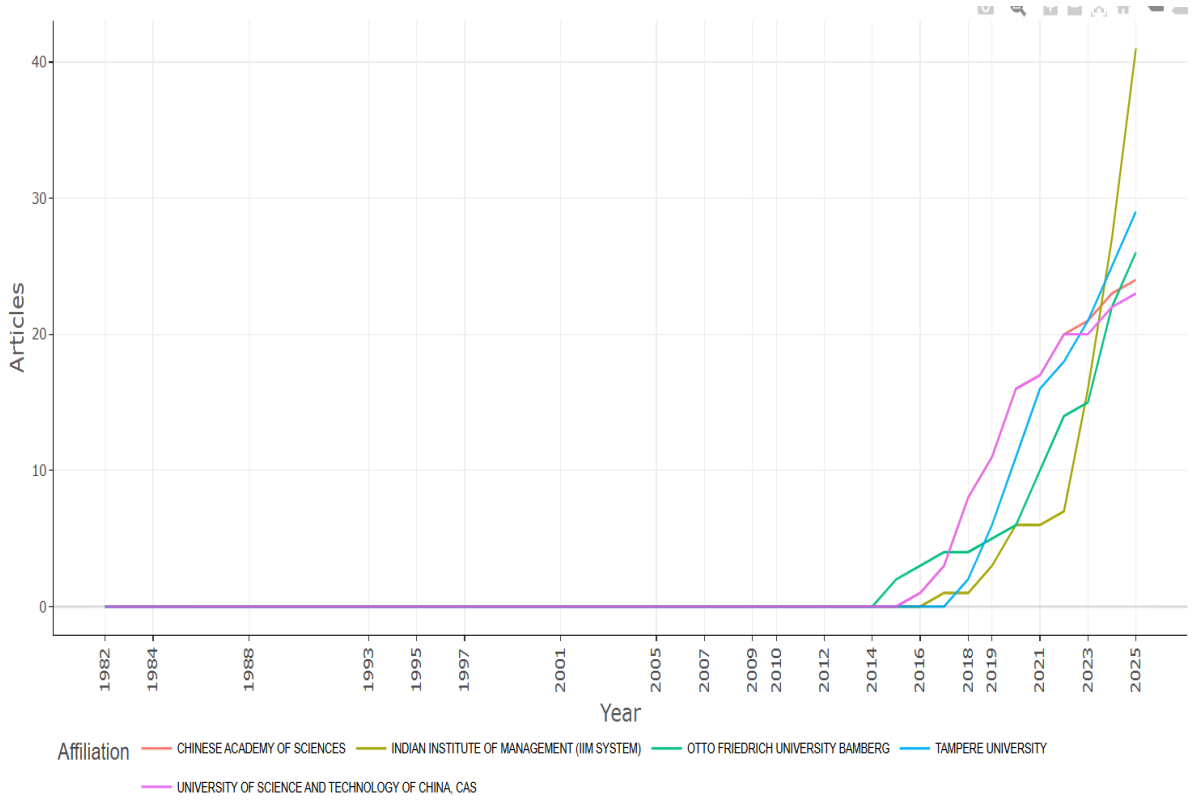


Figure 9 Temporal Evolution

The country-level distribution of corresponding authors demonstrates a clear global concentration of research leadership, with China emerging as the most dominant contributor, followed by the United States and Germany, together forming the core geographic hubs driving digital stress and technostress scholarship (Figure 10). China's strong presence is reinforced by a high volume of multiple-country publications (MCP), indicating extensive international collaboration, whereas the United States exhibits a comparatively balanced mix of single-country (SCP) and MCP outputs, reflecting both strong domestic research capacity and global co-authorship networks. European countries, including Germany, Italy, the United Kingdom, Spain, and Finland, also feature prominently, underscoring the field's intellectual roots in Western research traditions before expanding into Asia. Notably, the inclusion of countries such as Malaysia, Korea, Saudi Arabia, Pakistan, and Romania signals a diversification of regional academic participation, aligning with the increasing global relevance of technology-induced psychological and organizational challenges. Collectively, the patterns suggest that research production is transitioning from Western-centric origins to a more distributed and collaborative global research ecosystem.

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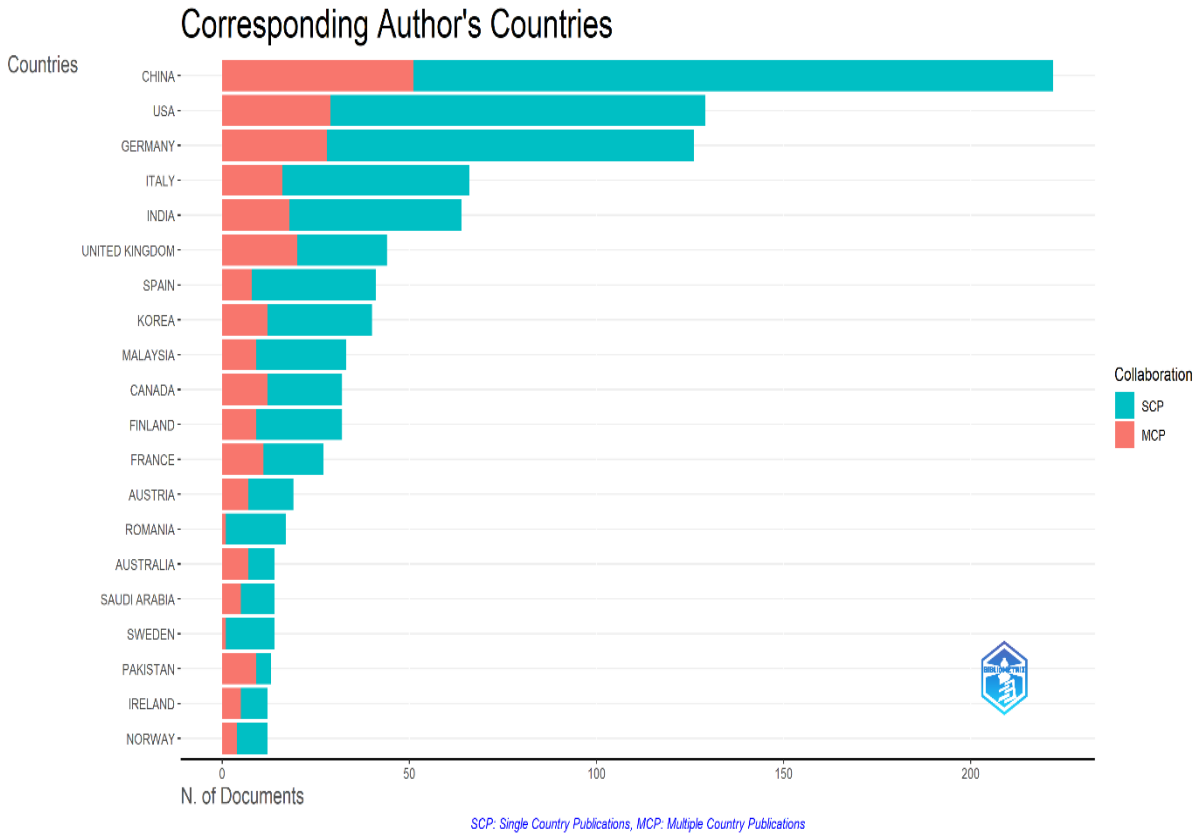


Figure 10 Corresponding Author's Countries

The frequency analysis confirms a clear global concentration of research output, with China (547 publications) leading by a significant margin, followed by the United States (347) and Germany (322), together forming the dominant triad of scientific production in the field (Figure 11). European countries such as Italy (200), the United Kingdom (143), and Spain (99) also contribute substantial publication volumes, reflecting Europe's strong historical involvement in information systems, digital work, and technology-related behavioural research. Meanwhile, India (148) and Malaysia (87) indicate growing Asian research leadership, aligning with rapid digitalisation and large technology-dependent populations. Moderate contributions from Canada (77) and South Korea (75) further broaden the global research geography. Overall, the distribution reveals a transition from Western-led scholarship to a more pronounced Asian research leadership, although notable gaps persist in regions such as Africa, South America, and parts of Eastern Europe, signalling opportunities for geographically diversified future inquiry.

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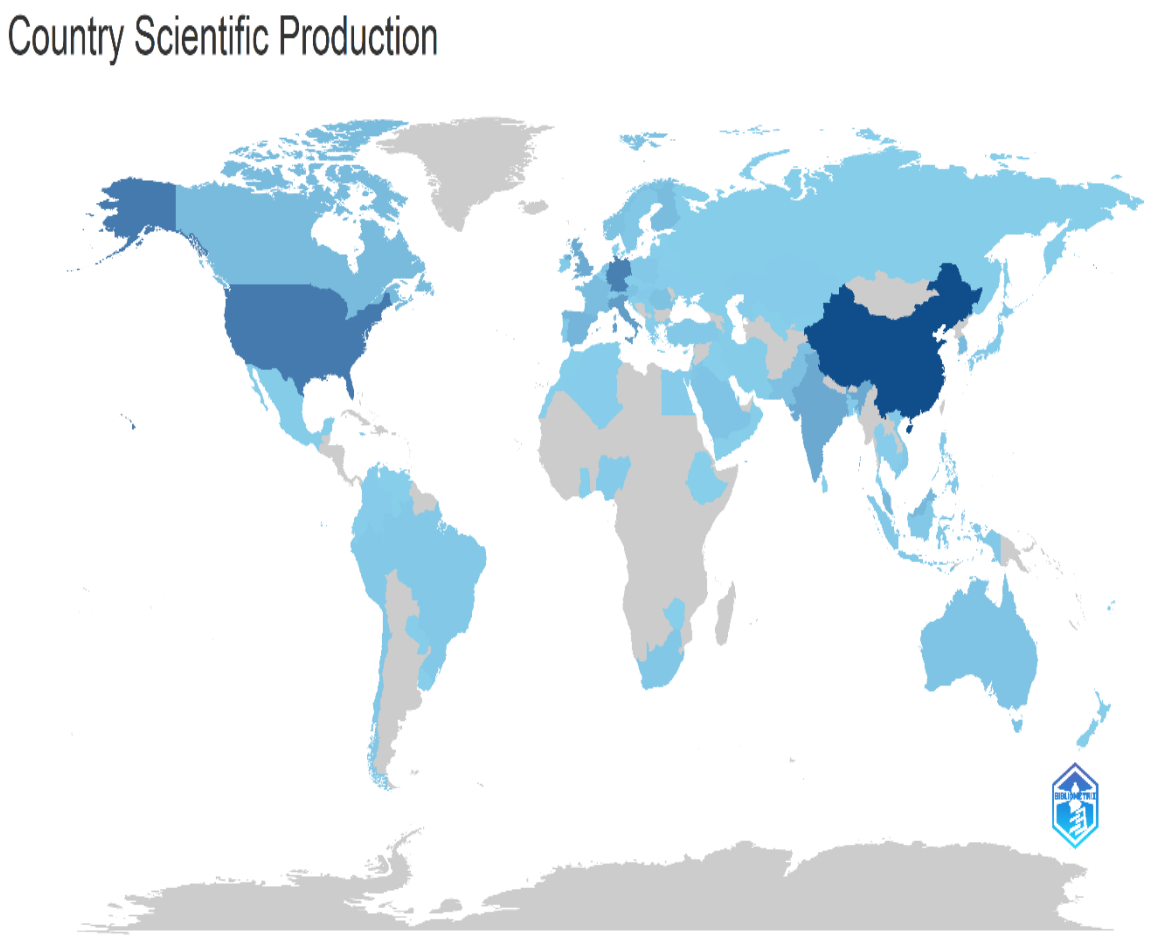


Figure 11 Country Scientific Production

The longitudinal comparison of national publication trajectories reveals a shared pattern of minimal activity across all leading countries until the early 2010s, followed by a steep and sustained acceleration from approximately 2017 onward, coinciding with the global digital transformation and intensified reliance on technology in work, education, and social life (Figure 12). Among the five most productive countries, China exhibits the most dramatic growth curve, particularly after 2020, ultimately surpassing all other nations and indicating its emergence as the dominant global knowledge producer in the field. The United States maintains a consistently strong trajectory over time, reflecting its early intellectual leadership and continued research capacity, while Germany, Italy, and India also demonstrate pronounced upward trends in recent years, signalling expansion from European and Asian research hubs. The sharp rise across countries suggests that technostress and digital stress have transitioned from niche academic concerns to globally recognised socio-technological challenges, with research momentum increasingly shaped by rapidly digitalising and densely networked societies.

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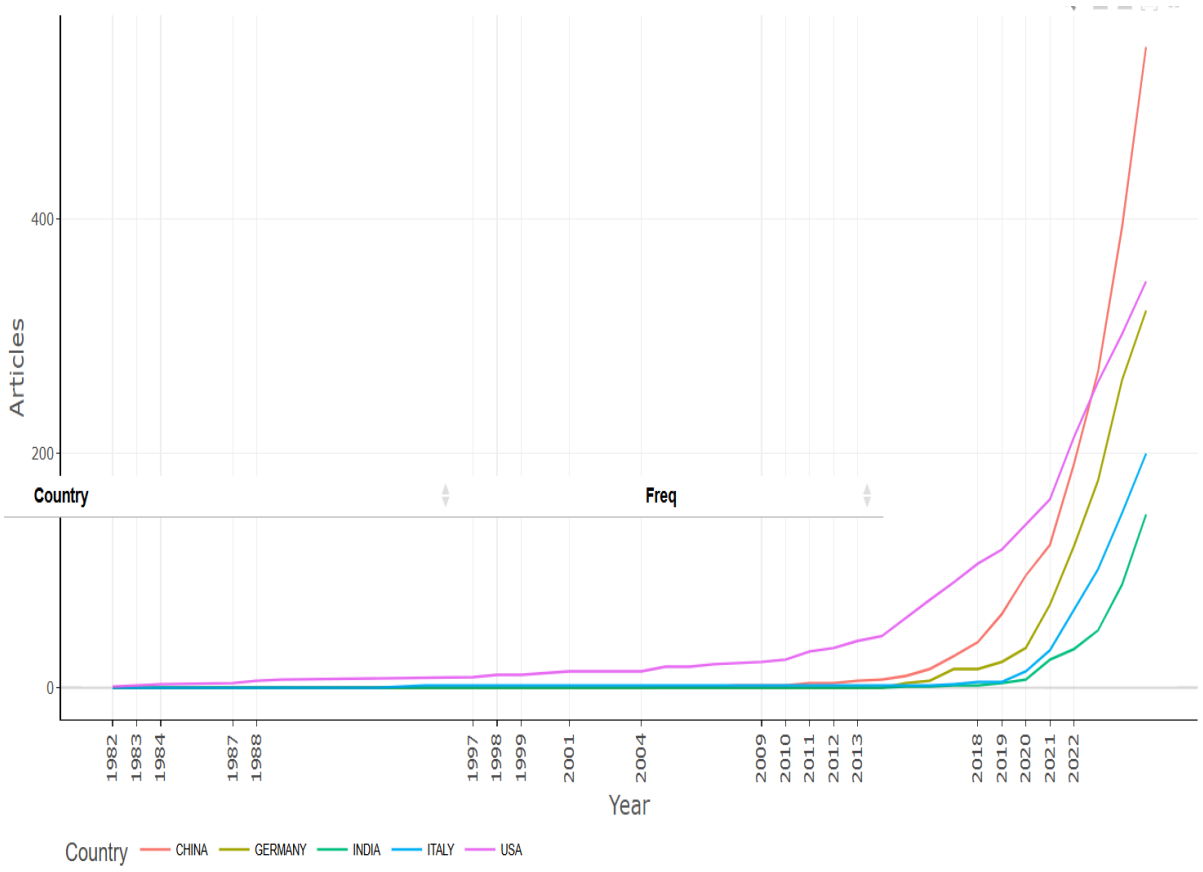


Figure 12 Longitudinal comparison of Countries publication

The citation impact analysis reveals a clear hierarchy of scholarly influence, with the United States achieving the highest total citation count (8,560) and the strongest citation intensity (66.40 citations per article), positioning it as the intellectual epicentre of high-impact knowledge creation in the field despite not being the most prolific in publication volume (Figure 13). China ranks second in total citations (7,057), reflecting substantial global influence driven by accelerated recent productivity, although its lower average citation rate (31.80) suggests that its rapid publication growth is still in the process of accumulating long-term scholarly visibility. European countries, including Germany (3,261; 25.90), Italy (1,630; 24.70), and the United Kingdom, which displays a comparatively high citation intensity (36.60), demonstrate sustained intellectual contributions. Notably, Korea, Finland, and Canada exhibit strong average citation scores (ranging from 37.70 to 38.60), indicating high research quality relative to output volume. These combined patterns reflect a field shaped initially by American conceptual leadership, increasingly complemented by strong Asian productivity growth and consistent European theoretical and empirical contributions.

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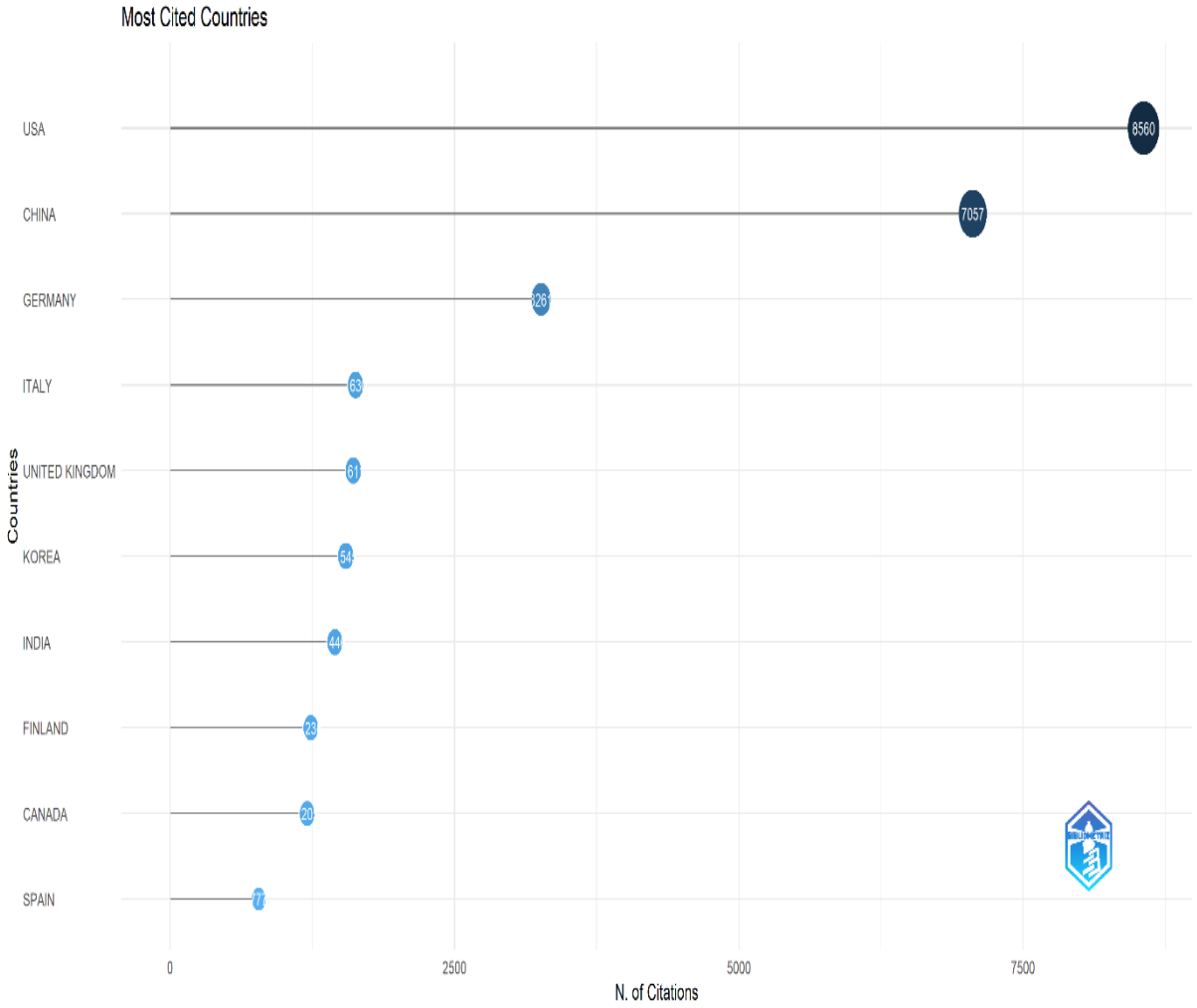


Figure 13 Most Cited Countries

The ranking of the most globally cited documents reveals a clear dominance of conceptual and empirical contributions situated within the information systems (IS) and human–computer interaction (HCI) domains, with Ayyagari et al. (2011) leading as the most influential publication (1,201 citations) and demonstrating an exceptional citation velocity (80.07 citations per year) (Figure 14). This is followed by Tarafdar et al. (2007) (893 citations) and Lee et al. (2014) (615 citations), confirming these works as foundational anchors in defining technostress constructs, mechanisms, and outcomes. Recent publications, such as De et al. (2020) and Yazdanmehr & Wang (2023), show remarkably high normalized and annual citation rates, signaling an emerging shift where contemporary research is rapidly gaining global traction due to its relevance to digital transformation, remote work, and platform-mediated environments. Multiple entries from Tarafdar across different years further reflect her sustained scholarly influence and continued theoretical refinement over time. Overall, the citation patterns suggest that the field is shaped by a mix of early conceptual frameworks and newly accelerated empirical contributions that align with recent socio-technological disruptions.

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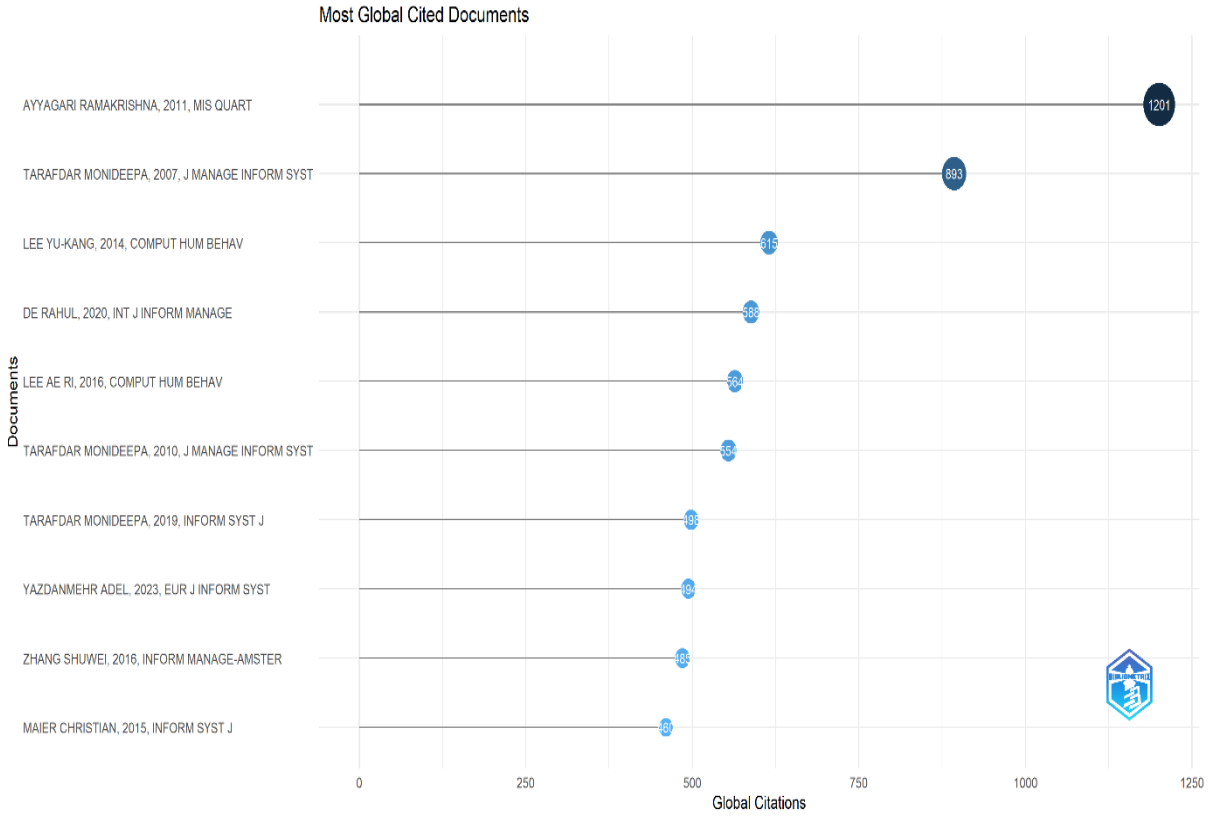


Figure 14 Most Global Cited Documents

The Reference Publication Year Spectroscopy (RPYS) analysis reveals the historical intellectual development of the field, demonstrating that current research on digital stress and technostress is rooted primarily in classical stress and coping theories, which gained noticeable citation relevance from the mid-1970s, followed by a marked conceptual shift linked to the advent of personal computing in the early 1980s (Figure 15). Distinct citation peaks in 1974, 1984, 1989, 2003, 2007, 2011, 2015, and 2020 highlight seminal works that shaped theoretical, methodological, and empirical directions. Early peaks correspond largely to foundational psychological stress models (e.g., Lazarus and Selye), while the 1984 peak coincides with the formal introduction of the technostress concept by Brod, signalling the domain's emergence as a distinct research stream. Subsequent spikes reflect progressive integration of information systems theories and methodological advancements, particularly TAM, UTAUT, JD-R, and PLS-SEM, along with increasingly influential empirical studies on technology-induced strain. The steep rise in overall cited references from the early 2000s and especially after 2015 indicates a rapid expansion of knowledge production driven by intensified digitalisation, social media reliance, and pandemic-accelerated technological dependency.

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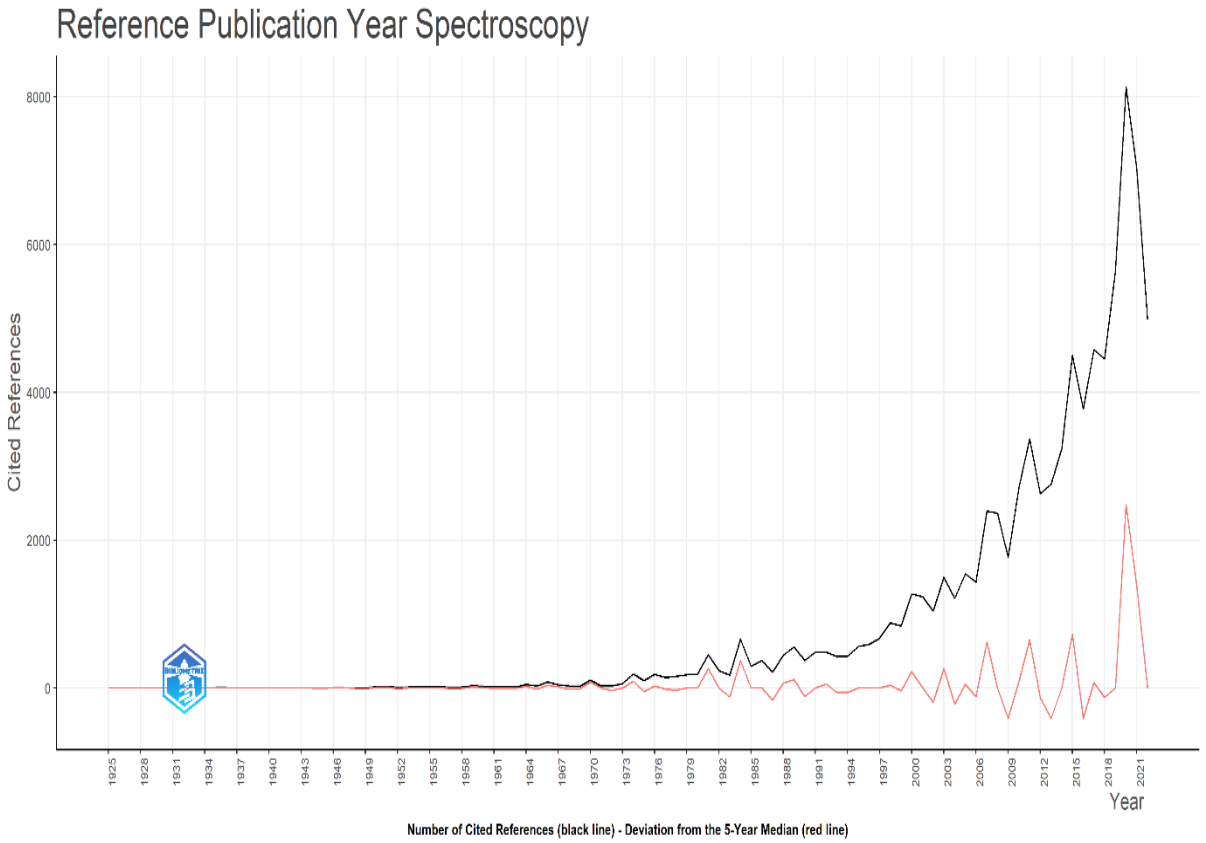


Figure 15 Reference Publication Year Spectroscopy

The keyword treemap reveals a concentrated thematic structure in which "technostress" overwhelmingly dominates the research landscape, appearing in 942 records (17%), reflecting its status as the primary conceptual anchor around which the field has evolved (Figure 16) Secondary but substantial clusters include "stress" (7%), "impact" (7%), and terms relating to information, technology, performance, and consequences (each 2–4%), indicating that most scholarship focuses on understanding the psychological and organisational effects of technology use. Surrounding these core clusters, a wide array of contextual and explanatory concepts, such as "work," "satisfaction," "antecedents," "users," "burnout," "mental health," "job demands," "self-efficacy," "communication," and "personality", suggests a multi-level research orientation spanning individual, behavioural, and workplace outcomes. The presence of emerging terms, including "social media," "covid-19," "overload," "anxiety," and "depression," reflects an expanding focus on digital-era stressors beyond traditional organisational settings. Collectively, this thematic distribution suggests that while the field is theoretically anchored in technostress, it is diversifying into contemporary psychosocial, clinical, and socio-technical domains, signalling continued conceptual evolution and potential for interdisciplinary synthesis.

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Figure 16 Tree map

The trend-topic analysis shows a clear thematic evolution from technology-use and adoption-focused concepts during the early period (2014–2018) toward psychosocial, organisational, and well-being-oriented themes in more recent years, indicating a decisive theoretical and empirical shift within the field (Figure 17). Early research centred on digital communication, user behaviour, and methodological development, whereas the period from 2019 onwards reflects growing emphasis on socio-psychological consequences such as conflict, social overload, and behavioral responses. From 2022 onward, the most dominant clusters shift toward negative occupational and psychological outcomes, technostress, stress, impact, burnout, and anxiety, followed by a strong surge in organisational and employee-centric constructs in 2023–2024, including employee well-being, work performance, engagement, and resources. The recent prominence of artificial intelligence marks a new research frontier, suggesting that scholars are increasingly addressing the implications of advanced automation and algorithmic systems for worker experience, mental health,

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and organisational sustainability.

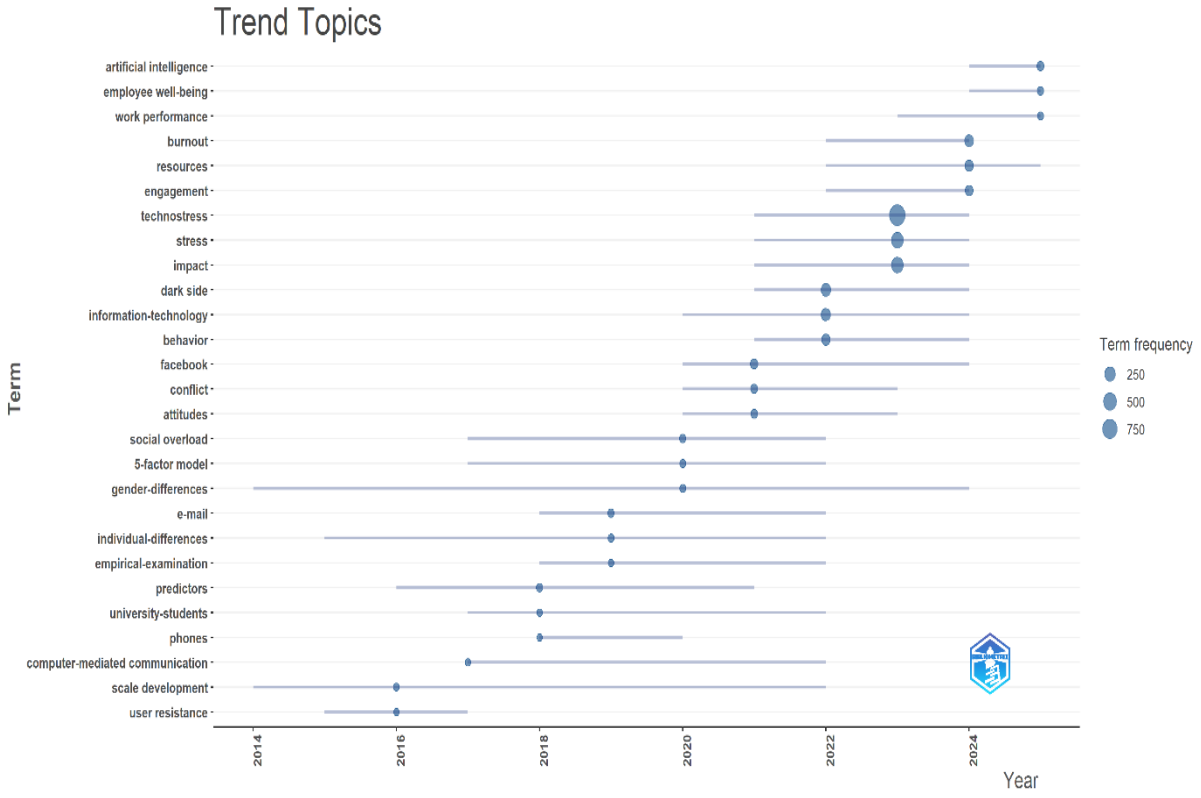


Figure 17 Trend Topics

The document-coupling cluster map reveals three conceptually cohesive yet closely aligned thematic groups, all situated in the high-impact quadrant, confirming the central role of technostress as the dominant intellectual anchor across the literature (Figure 18). Cluster 1, labelled technostress - coping, represents the most conceptually dense grouping, characterised by strong internal cohesion (100% co-coupling) and high relevance to theoretical and intervention-focused scholarship, suggesting that coping responses, stress-appraisal frameworks, and psychological resilience studies form a core explanatory stream. Cluster 2, centred around technostress - covid-19 - burnout, reflects research produced during and after the pandemic, highlighting how intensified digital reliance, remote work, and crisis-driven technology immersion amplified psychological strain and exhaustion, thus expanding the technostress discourse into occupational health and emergency-context research. Cluster 3, linking technostress - burnout - covid-19, exhibits slightly higher centrality values, positioning it as a bridge between conceptual and applied scholarship, particularly concerning digital work-life challenges and chronic technology-induced fatigue. Collectively, the clustering structure indicates that while technostress remains the conceptual nucleus, the field is increasingly co-evolving toward coping science, pandemic-driven digital psychology, and burnout-centred organisational well-being research.

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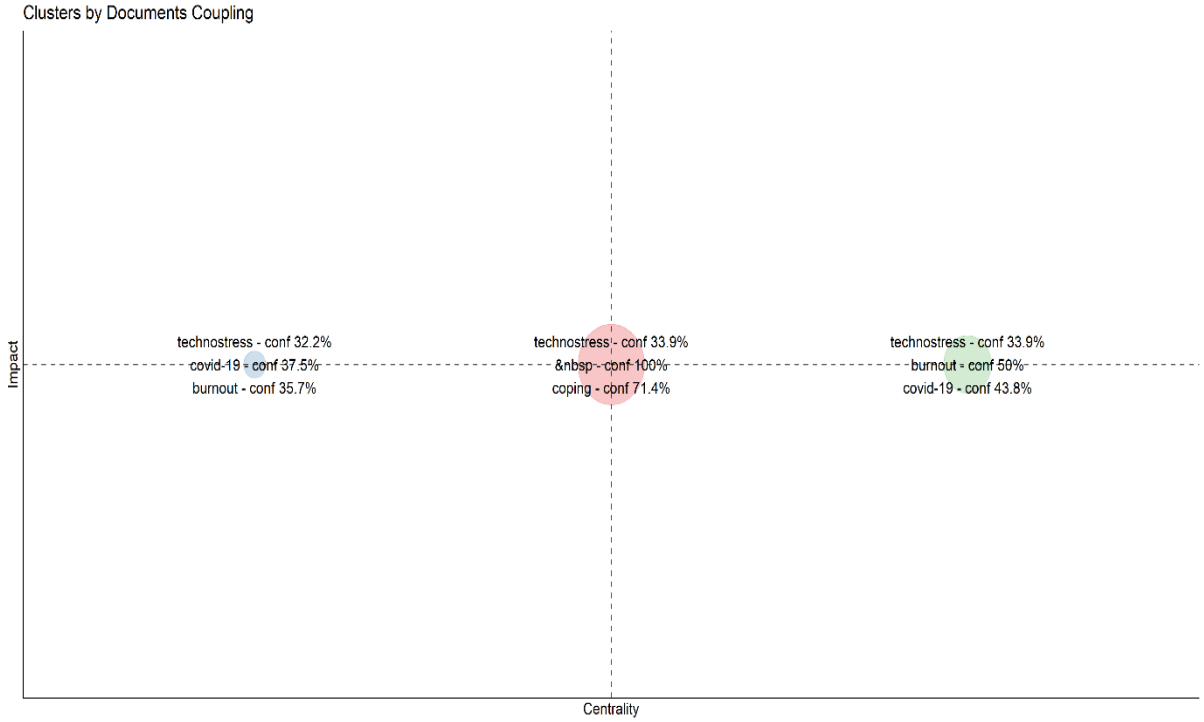


Figure 18 Clusters by document Coupling

The strategic thematic map highlights "technostress–stress–impact" as the dominant and structurally central theme, positioned in the basic/motor theme zone, reflecting its foundational role and continuing relevance across diverse research streams (Figure 19). This cluster demonstrates high centrality, indicating strong connectivity with other thematic areas and confirming technostress as the conceptual nucleus of the field. In contrast, "consequences–model–antecedents" appears within the niche theme quadrant, suggesting a well-developed, theoretically coherent cluster with specialised contributions that advance explanatory frameworks, yet with comparatively lower cross-topic integration. Meanwhile, "technology–information-technology–acceptance" occupies the emerging/declining quadrant, characterised by lower density and weaker centrality, likely representing either early-stage conceptual development where research is diversifying into new digital contexts (e.g., AI-enabled systems), or a thematic shift away from traditional technology acceptance paradigms as newer constructs (e.g., technostress, digital fatigue, algorithmic overload) gain prominence. Collectively, the map indicates a field transitioning from technology-adoption foundations toward psychologically and organisationally focused impacts, with theoretical refinement concentrated on causal modelling and outcome pathways.

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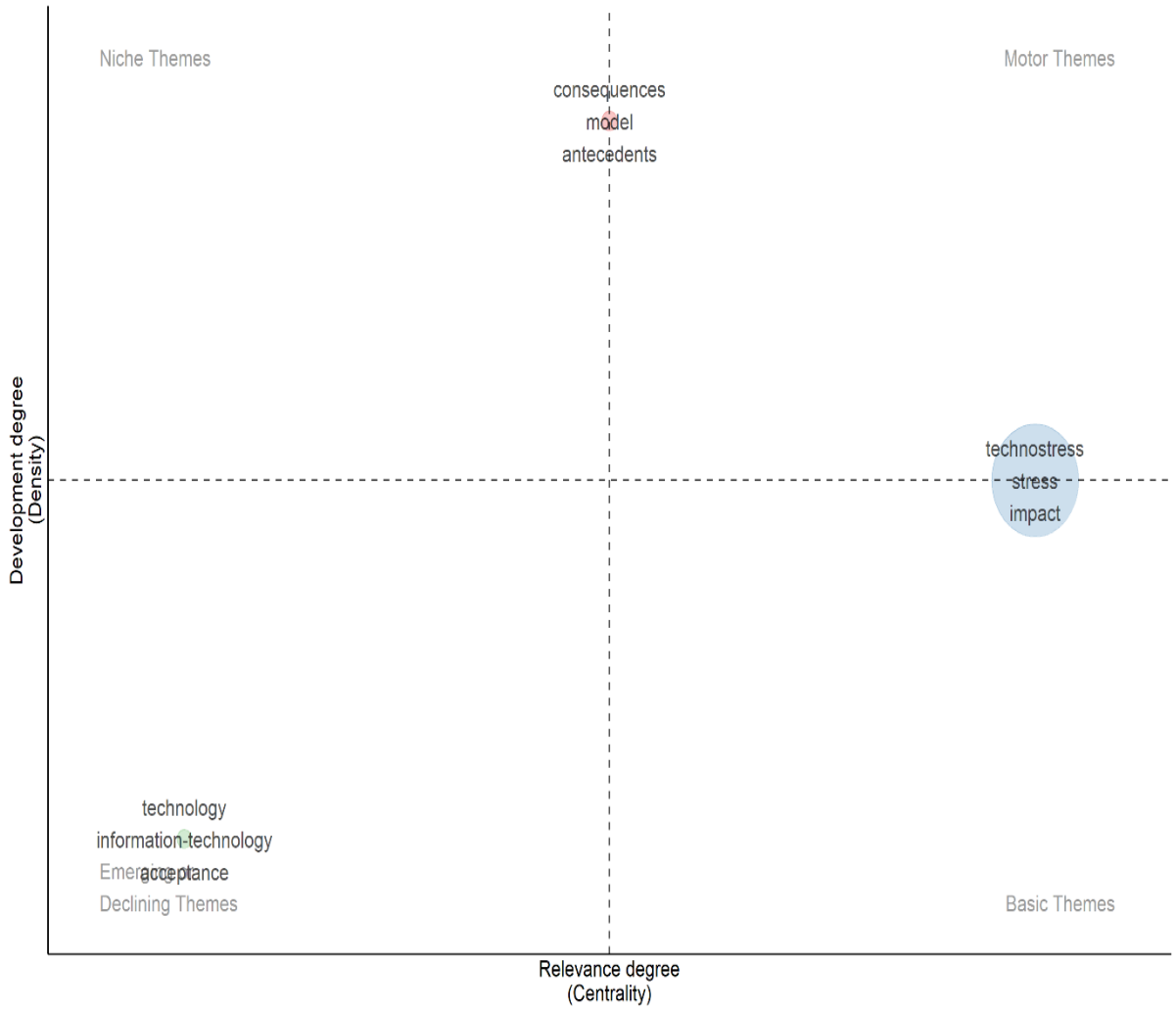


Figure 19 Thematic Map

The MCA conceptual structure map reveals four interconnected thematic constellations that collectively shape the intellectual organization of the field (Figure 20). Keywords located on the left side of Dim-1 represent a human-centric, health-oriented thematic pole, with "mental-health," "burnout," "job demands," and "covid-19" forming a coherent cluster emphasizing psychological strain and well-being outcomes. In contrast, keywords positioned on the right side of Dim-1 depict a technology- and adoption-oriented thematic pole, dominated by terms such as "adoption," "acceptance," "information-technology," "behavior," and "intention," reflecting a tradition grounded in technology acceptance, usage models, and user response mechanisms. Further, Dim-2 differentiates macro-level health stressors (upper space), including "digital stress," "health," and "management", from micro-level cognitive and behavioral mechanisms (lower space), characterized by "overload," "information overload," "technology overload," "outcomes," and "antecedents." Notably, "technostress" is centrally positioned near the dimensional intersection, signifying its boundary-spanning role that links health-related,

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behavioral, and technology-adoption perspectives, confirming its function as the field's conceptual anchor. The spatial separation of "digital stress," "technostress," and overload-related terms also indicates construct differentiation rather than conceptual redundancy, demonstrating how the literature increasingly distinguishes generalized digital strain, technology-specific stress responses, and overload-driven cognitive burden.

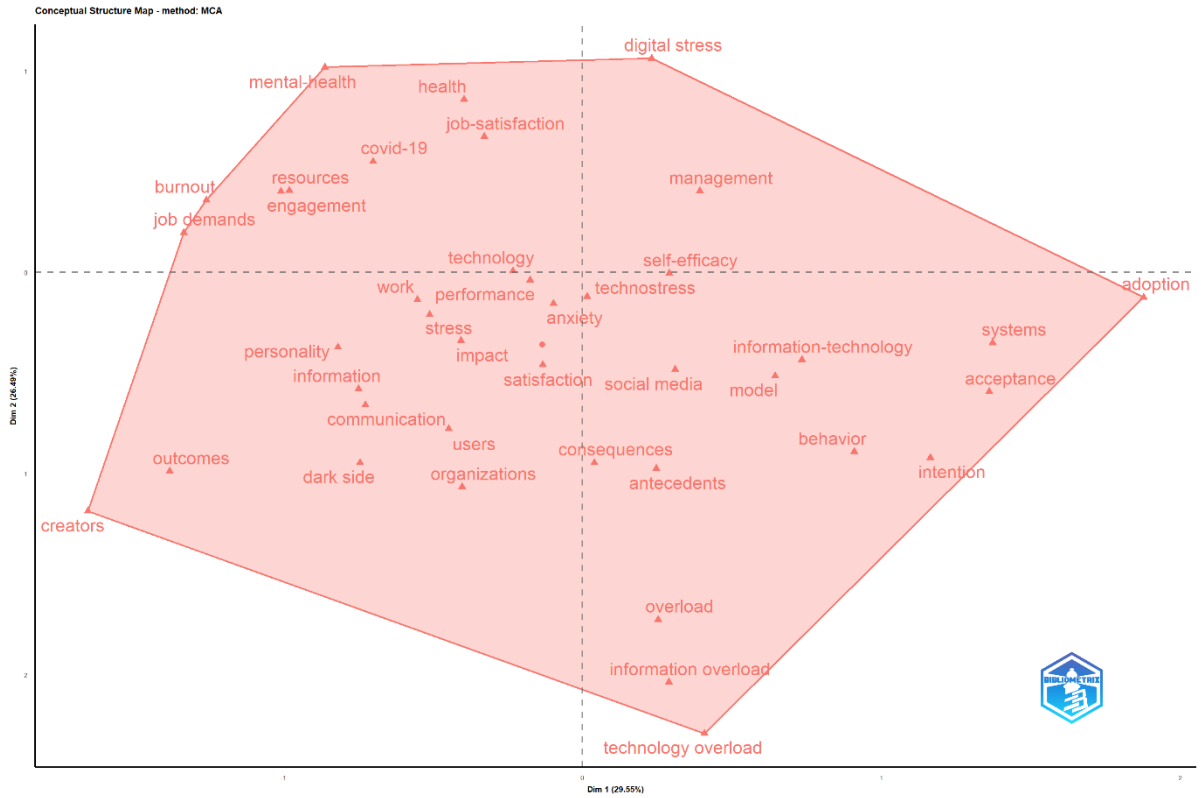


Figure 20 MCA conceptual structure map

The country collaboration network indicates a strongly globalized research landscape, dominated by extensive cross-continental partnerships, particularly among China, the United States, and European nations, which appear as the most central collaboration hubs. China and the USA demonstrate the highest degree of interconnectedness, forming multiple bilateral links with leading research economies across Europe, Asia, and Oceania, reflecting their central role in both knowledge production and international scientific cooperation. European countries, especially Germany, the United Kingdom, Italy, Finland, and Spain, also exhibit dense collaboration ties, suggesting an active contribution to transnational research clusters. Meanwhile, emerging Asian contributors such as Malaysia, South Korea, and India are increasingly embedded in global collaborations, signaling a widening geographic diversification of scholarship. The visual density among North America, Western Europe, Australia, and East Asia contrasts with relatively limited collaboration networks involving South America, Africa, and parts of the Middle East, suggesting regional disparities that may influence knowledge diffusion, resource accessibility, and contextual generalizability within the field.

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Discussion

The bibliometric analysis of digital stress and technostress scholarship reveals a dynamic and rapidly maturing research landscape that has transcended its initial boundaries. The results indicate that while the field remained relatively dormant for several decades, it has recently experienced a exponential trajectory of growth, transforming from a niche inquiry within information systems into a multidisciplinary phenomenon spanning psychology, public health, and education. This surge in scholarly output is characterized by a distinct shift in publication patterns, moving from sporadic foundational studies to a sustained high-velocity stream of empirical work. Furthermore, the intellectual structure of the field has evolved from a singular focus on organizational technology adoption to a broader examination of human-centric outcomes, evidenced by the diversification of key research themes that now prioritize mental health, well-being, and the blurring of work-life boundaries.

Geographically and institutionally, the analysis demonstrates a significant restructuring of global knowledge production. The domain has transitioned from a predominantly Western-led discourse, historically anchored in North American and European institutions, toward a more distributed global ecosystem with pronounced leadership emerging from Asian economies. This geographic diversification is matched by a shift in collaboration networks, which have become increasingly dense and transnational. Despite the rapid expansion in volume, the citation impact remains stratified, where early theoretical works continue to serve as the conceptual bedrock, while newer contributions from emerging regions are rapidly gaining visibility but are still in the process of accumulating long-term influence.

Evolution of Global Production and Geographical Shifts

The evolution of digital stress research is marked by a dramatic transformation from niche academic curiosity to an established multidisciplinary domain. Throughout the 1980s and 1990s, sporadic works laid the conceptual groundwork, but a pronounced surge only materialized in the 2010s, aligning with the global expansion of digital technology and intensified technology reliance in both personal and professional contexts. This acceleration corresponds with the proliferation of digital devices, remote work, and the psychological consequences of high connectivity (Nitsch & Kinnebrock, 2021; Dragano & Lunau, 2020). Post-2018, Asian countries, most notably China and India, rapidly expanded their research footprint. Their leadership is driven by large-scale digitalization, significant investments in research infrastructure, and intensified societal interest in the psychosocial impacts of technology (Gupta & Srinivas, 2024). These countries also foster robust collaboration networks, evidenced by high international co-authorship rates, promoting methodological and thematic innovation. In contrast to earlier Western intellectual dominance, the recent democratization of research output and influence underscores a broader global recognition of digital stress as a critical socio-technological challenge, while gaps remain in representation from low-income regions and vulnerable populations (Huang & Chen, 2025; Alan, 2025).

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Thematic Structures and Conceptual Interactions

Digital stress scholarship is anchored in the concept of technostress, first shaped by Brod in the 1980s, but the field has diversified its focus over time, evidencing increasingly multidimensional approaches (Tarafdar et al., 2020). Theoretical mapping shows integration of stress and coping frameworks, technology adoption models (TAM, UTAUT), and organizational behaviour perspectives The literature reveals that technostress is not a monolithic construct; it encompasses dimensions like availability pressure, fear of missing out (FoMO), and approval anxiety, as operationalized in scales such as the Digital Stress Scale (Hall et al., 2021). Burnout, overload, and pandemic-induced anxiety have become prominent as digital environments and work modalities shift (Rafiq et al., 2025). This conceptual diversification is reflected in research clusters focusing on coping responses resilience, social support, and competence, as well as negative outcomes like emotional exhaustion and reduced well-being (Khetawat & Steele, 2023; Angelini & Gini, 2025). Recent studies have integrated algorithmic management and platform work, highlighting workplace-specific digital stressors and psychosocial risks (Kinowska & Sienkiewicz, 2022; Mbare et al., 2024). The literature demonstrates non-redundancy in construct space, with clear differentiation yet overlapping domains between technostress, digital burn out, and overload, validated in cross-cultural, educational, and occupational contexts. However, major gaps persist in methodological scope particularly the reliance on self-report measures and limited cross-sectional designs compared to physiological and qualitative approaches now emerging (Becker et al., 2022; Gao et al., 2024).

Collaboration and Knowledge Diffusion

International collaboration is pivotal to the advancement of digital stress research. Dense co-authorship and institutional partnerships, especially among Chinese, American, and European entities, have fostered both rapid diffusion and thematic expansion of knowledge. High-impact scholars such as Monideepa Tarafdar, Christian Maier, and others have acted as “knowledge gatekeepers,” shaping theoretical refinement and empirical direction (Salazar-Concha et al., 2021). Multidisciplinary research teams are now the norm, driving innovation in methodology and analysis. These partnerships support comparative work across different environments, including workplace, educational, and clinical contexts. However, the analysis reveals that collaborative networks remain disproportionately concentrated in economically privileged regions, limiting generalizability and underrepresenting local stressors in marginalized groups. Methodologically, the field is adopting bibliometric, network science, and mapping approaches that move beyond traditional survey research (Lu et al., 2024), but persistent challenges include inconsistent measurement, variable scale adaptation across cultures, and insufficient use of multimodal or longitudinal designs (Krögeloh et al., 2023; Zhang et al., 2023). There is a growing recognition, nevertheless, of the need for inclusive, culturally attuned collaboration, one that bridges theoretical, methodological, and contextual divides.

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Practical Implications

The findings of this study hold significant implications for organizational policy and public health. For practitioners and human resource managers, the clear link between digital stress, burnout, and job demands suggests that "right to disconnect" policies are not merely legal safeguards but essential physiological interventions. Organizations must move beyond simply providing technology (resources) to actively managing the volume of digital demands, as the literature indicates that technical support alone is insufficient to buffer against overload. For educators and policymakers, the expansion of digital stress research into the domains of "social media" and "adolescents" necessitates digital literacy curricula that focus specifically on psychological resilience and boundary management, rather than just technical proficiency.

Limitations and Future Recommendations

This study has some limitations. The reliance on the Web of Science Core Collection, while ensuring high-quality control, may have excluded relevant grey literature or regionally significant journals indexed in other databases like Scopus or local-language repositories. Additionally, citation metrics inherently favor older publications, potentially underestimating the true impact of very recent, cutting-edge studies on AI-induced stress.

Future research should prioritize three distinct avenues. First, scholars should move beyond cross-sectional self-reports and adopt longitudinal designs to establish causality between digital exposure and physiological health, addressing the methodological gap highlighted by Becker et al. (2022). Second, there is an urgent need for comparative cross-cultural studies to investigate if Western-derived constructs of "privacy invasion" and "overload" hold true in collectivist societies where work-life integration is viewed differently. Finally, as the keyword trends suggest a rise in "artificial intelligence," future inquiries must specifically isolate the stress induced by algorithmic management and human-AI interaction, which represents the next frontier of digital strain.

REFERENCES

Alan, H. (2025). A comprehensive evaluation of digital mental health literature: an integrative review and bibliometric analysis. Behaviour & Information Technology, 44(10), 2282–2304. https://doi.org/10.1080/0144929X.2024.2303626

Ali, A., Jan, S., & Iqbal, P. M. (2021). A bibliometric analysis on technostress: An emerging discipline. Journal of Indian Library Association, 57(4), 37–48. https://journal.ilaindia.net/index.php/lib/article/view/598

Angelini, F., & Gini, G. (2025). Digital stress and friendship conflict in adolescence: the role of perceived norms and features of social media. Frontiers in Digital Health, 7, 1497222. https://doi.org/10.3389/fdgth.2025.1497222

Antón-Sancho, Á., Vergara, D., Medina, E., & Sánchez-Calvo, M. (2022). Digital Pandemic Stress in Higher Education in Venezuela. European Journal of Investigation in Health, Psychology and Education (EJIHPE), 12(12), 1878–1900. https://doi.org/10.3390/ejihpe12120132

Online ISSN 3007-3197
Print ISSN 3007-3189

Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. Journal of Informetrics, 11(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

Armaou, M., Pears, M., Konstantinidis, S. T., & Blake, H. (2024). Evolution of Primary Research Studies in Digital Interventions for Mental Well-Being Promotion from 2004 to 2023: A Bibliometric Analysis of Studies on the Web of Science. International Journal of Environmental Research and Public Health, 21(3), 375. https://doi.org/10.3390/ijerph21030375

Becker, L., Kaltenegger, H. C., Nowak, D., Weigl, M., & Rohleder, N. (2022). Physiological stress in response to multitasking and work interruptions: Study protocol. PloS One, 17(2), e0263785. https://doi.org/10.1371/journal.pone.0263785

Bondanini, G., Sanchez-Gomez, M., Mucci, N., & Giorgi, G. (2025). Digital Connectivity at Work: Balancing Benefits and Risks for Engagement, Technostress, and Performance. Administrative Sciences, 15(10), 398. https://doi.org/10.3390/admsci15100398

Clarivate Analytics. (2024). Web of Science Core Collection: Database coverage. https://clarivate.com/webofsciencegroup/solutions/web-of-science-core-collection/

Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). An approach for detecting, quantifying, and visualizing the evolution of a research field: A practical application to the fuzzy sets theory field. Journal of Informetrics, 5(1), 146–166. https://doi.org/10.1016/j.joi.2010.10.002

Cordula Nitsch, & Susanne Kinnebrock. (2021). Well-known phenomenon, new setting: Digital stress in times of the COVID-19 pandemic. Studies in Communication, Media, 10(4), 533–556. https://doi.org/10.5771/2192-4007-2021-4-533

De Groote, D., & Van Ouytsel, J. (2022). Digital stress within early adolescents' friendships – A focus group study from Belgium. Telematics and Informatics, 73, Article 101877. https://doi.org/10.1016/j.tele.2022.101877

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. Journal of Business Research, 133, 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070

Dragano, N., & Lunau, T. (2020). Technostress at work and mental health: concepts and research results. Current Opinion in Psychiatry, 33(4), 407–413. https://doi.org/10.1097/YCO.0000000000000613

Ellegaard, O., & Wallin, J. A. (2015). The bibliometric analysis of scholarly production: How great is the impact? Scientometrics, 105(3), 1809–1831. https://doi.org/10.1007/s11192-015-1645-z

Fischer, T., Reuter, M., & Riedl, R. (2021). The Digital Stressors Scale: Development and Validation of a New Survey Instrument to Measure Digital Stress Perceptions in the Workplace Context. Frontiers in Psychology, 12, 607598. https://doi.org/10.3389/fpsyg.2021.607598

Gao, C., Jian, M., & Yuan, A. (2024). Factor Structure and Psychometric Properties of the Digital Stress Scale in a Chinese College Sample. SAGE Open, 14(2).

Online ISSN 3007-3197
Print ISSN 3007-3189

https://doi.org/10.1177/21582440241247406

Gupta, N., & Srinivas, B. (2024). Unveiling research trends in digitalisation and sustainable entrepreneurship through bibliometric analysis. In Digitizing green entrepreneurship (pp. 231–256). IGI Global. https://doi.org/10.4018/979-8-3693-7442-9.ch009

Hall, J. A., Steele, R. G., Christofferson, J. L., & Mihailova, T. (2021). Development and initial evaluation of a multidimensional digital stress scale. Psychological Assessment, 33(3), 230–242. https://doi.org/10.1037/pas0000979

Huang, H., & Chen, L. (2025). The potential negative effects of ageism on digital engagement of older adults: a meta-analysis. The Gerontologist, 65(11), 1. https://doi.org/10.1093/geront/gnaf217

Kadhiravan, S., & Robert, S. J. (2025). A bibliometric analysis of digital amnesia in the context of digitalization. Discover Psychology, 5(1), Article 132. https://doi.org/10.1007/s44202-025-00445-1

Khetawat, D., & Steele, R. G. (2023). Examining the Association Between Digital Stress Components and Psychological Wellbeing: A Meta-Analysis. Clinical Child and Family Psychology Review, 26(4), 957–974. https://doi.org/10.1007/s10567-023-00440-9

Khrapov, S. A., & Baeva, L. V. (2022). Digitalization of Educational Space: Emotional Risks and Effects. Voprosy Filosofii, 16–24. https://doi.org/10.21146/0042-8744-2022-4-16-24

Kinowska, H., & Sienkiewicz, Ł. J. (2022). Influence of algorithmic management practices on workplace well-being – evidence from European organisations. Information Technology & People (West Linn, Or.), 36(8), 21–42. https://doi.org/10.1108/ITP-02-2022-0079

Krägeloh, C. U., Medvedev, O. N., Alyami, H., Alammar, H. A., Hamdan-Mansour, A., Alyami, E., Alsoudi, S., Henning, M. A., & Alyami, M. M. (2023). Translation and validation of the Arabic version of the Digital Stress Scale (DSS-A) with three Arabic-speaking samples. Middle East Current Psychiatry, 30(1), Article 118. https://doi.org/10.1186/s43045-023-00387-1

Lee, Y.-K., Chang, C.-T., Lin, Y., & Cheng, Z.-H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. Computers in Human Behavior, 31, 373–383. https://doi.org/10.1016/j.chb.2013.10.047

Lu, L., Liu, G., Xu, Y., Jiang, J., & Wei, Z. (2024). A systematic review of studies on stress during the COVID-19 pandemic by visualizing their structure through COOC, VOS viewer, and Cite Space software. Frontiers in Psychiatry, 15, 1297112. https://doi.org/10.3389/fpsyt.2024.1297112

Makowska-Tłomak, E., Bedyńska, S., Skorupska, K., Nielek, R., Kornacka, M., & Kopeć, W. (2023). Measuring digital transformation stress at the workplace–Development and validation of the digital transformation stress scale. PloS One, 18(10), e0287223. https://doi.org/10.1371/journal.pone.0287223

Mbare, B., Perkiö, M., & Koivusalo, M. (2024). Algorithmic management, wellbeing and platform work: understanding the psychosocial risks and experiences of food couriers in Finland. Labour & Industry (Brisbane, Qld.), 34(4), 386–411. https://doi.org/10.1080/10301763.2024.2423442

Online ISSN 3007-3197
Print ISSN 3007-3189

Newman, M. E. J. (2004). Coauthorship networks and patterns of scientific collaboration. Proceedings of the National Academy of Sciences, 101(Suppl 1), 5200–5205. https://doi.org/10.1073/pnas.0307545100

Rafiq, S., Afzal, A., & Gul, F. (2025). Between Promise and Peril: Ethical and Pedagogical Challenges of ChatGPT Use in Classrooms. Media Education (Mediaobrazovanie), 21(3), 419-435. https://doi.org/10.13187/me.2025.3.419

Rafiq, S., Iqbal, S., & Afzal, A. (2024). The Impact of Digital Tools and Online Learning Platforms on Higher Education Learning Outcomes. Al-Mahdi Research Journal (MRJ), 5(4), 359-369. https://ojs.mrj.com.pk/index.php/MRJ/article/view/342

Rafiq, S., Zaki, K. A, & Nawaz, A. (2025). Personalized Learning in the Digital Age: Harnessing Technology for Student Success. Contemporary Journal of Social Science Review, 3(1), 1515-1528. https://doi.org/10.12345/8kjndj49

Ragu-Nathan, T. S., Tarafdar, M., Ragu-Nathan, B. S., & Tu, Q. (2008). The Consequences of Technostress for End Users in Organizations: Conceptual Development and Empirical Validation. Information Systems Research, 19(4), 417–433. https://doi.org/10.1287/isre.1070.0165

Riedl, R., Fischer, T., & Reuter, M. (2023). Measuring digital stress in the workplace context: Short version of the Digital Stressors Scale (DSS). Informatik-Spektrum, 46(5–6), 235–239. https://doi.org/10.1007/s00287-023-01553-9

Salazar-Concha, C., Ficapal-Cusí, P., Boada-Grau, J., & Camacho, L. J. (2021). Analyzing the evolution of technostress: A science mapping approach. Heliyon, 7(4), Article e06726. https://doi.org/10.1016/j.heliyon.2021.e06726

Santoveña-Casal, S., & López, S. R. (2024). Mapping of digital pedagogies in higher education. Education and Information Technologies, 29(2), 2437–2458. https://doi.org/10.1007/s10639-023-11888-1

Schindler, M., & Domahidi, E. (2023). The computational turn in online mental health research: A systematic review. New Media & Society, 25(10), 2781–2799. https://doi.org/10.1177/14614448221122212

Tarafdar, M., Pirkkalainen, H., Salo, M., & Makkonen, M. (2020). Taking on the "Dark Side"--Coping With Technostress. IT Professional, 22(6), 82–89. https://doi.org/10.1109/MITP.2020.2977343

Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2007). The Impact of Technostress on Role Stress and Productivity. Journal of Management Information Systems, 24(1), 301–328. https://doi.org/10.2753/MIS0742-1222240109

van Eck, N. J., & Waltman, L. (2014). Visualizing bibliometric networks. In Y. Ding, R. Rousseau, & D. Wolfram (Eds.), Measuring scholarly impact: Methods and practice (pp. 285–320). Springer. https://doi.org/10.1007/978-3-319-10377-8_13

Weinstein, E. C., & Selman, R. L. (2016). Digital stress: Adolescents' personal accounts. New Media & Society, 18(3), 391–409. https://doi.org/10.1177/1461444814543989

Wrede, S. J. S., Claassen, K., Rodil dos Anjos, D., Kettschau, J. P., & Broding, H. C. (2023). Impact of digital stress on negative emotions and physical complaints in the home office: a follow up study. Health Psychology & Behavioral

Online ISSN 3007-3197
Print ISSN 3007-3189

Medicine, 11(1), 2263068. https://doi.org/10.1080/21642850.2023.2263068

Yadav, A., & Rahaman, A. (2025). Busting Myths and Revealing Fears: Technostress Among Higher Education Teachers. In The Evolving Landscape of Higher Education in India: Post-pandemic Policies and Transformations (pp. 237-252). Singapore: Springer Nature Singapore. 10.1007/978-9-8197-9270-2_16

Zhang, C., Dai, B., & Lin, L. (2023). Validation of a Chinese Version of the Digital Stress Scale and Development of a Short Form Based on Item Response Theory Among Chinese College Students. Psychology Research and Behavior Management, 16, 2897–2911. https://doi.org/10.2147/PRBM.S413162

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. Organizational Research Methods, 18(3), 429–472. https://doi.org/10.1177/1094428114562629