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Is the adoption of artificial intelligence contributing to academic technostress?

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Abstract
The rapid adoption of artificial intelligence (AI) in Higher Education Institutions (HEIs) has created valuable opportunities in teaching, research, and administration, but it has also introduced technostress, the strain individuals experience when adapting to new technology. Although academic research interest in technostress is increasing, few studies have specifically examined how AI adoption contributes to technostress among academics. This study aims to critically analyse how the adoption of AI contributes to technostress among higher education academics. Using a narrative literature review approach underpinned by Technostress Theory and information systems research paradigms, the study identifies key technostressors and assesses their influence on academics' well-being, job satisfaction, and performance. The findings show that limited training, inadequate organisational support, and a constantly changing technological environment intensify technostress, while digital transformation planning, professional development, and organisational support help to mitigate it. The study concludes that HEIs should pursue a balance between technology adoption and human-oriented implementation strategies. Its contribution lies in advancing practical and theoretical understanding of technostress associated with AI implementation, offering insights that can inform institutional policies promoting academic sustainability.

Keywords: Academics, Artificial intelligence, Digital transformation, Higher education institutions, Innovation, Technostress

1. Introduction
The swift incorporation of AI within higher education institutions (HEIs) has contributed to essential transformations in administrative, teaching, and research functions, promising new opportunities and enhanced efficiencies (Gupta and Mishra, 2022). Nevertheless, this technological evolution also introduces various challenges, especially the technostress phenomenon, which is widely considered a notable issue in the academic space (Funda and Francke, 2024). Technostress is defined as the stress experienced because of the use of advanced technology. It is capable of manifesting as fatigue, frustration, and anxiety, especially in areas where technological adoption occurs at a rapid pace without adequate support or training (El Kiassi and Jahidi, 2023). The adoption of AI, in the context of HEIs, often coerces academics to continuously adapt to new tools and systems, which may immensely contribute to feelings of inadequacy or the fear of becoming obsolete in a rapidly evolving technological landscape (Sadiku et al., 2022). Those stressors are promoted by the escalating demands directed at academics to incorporate AI into their research, teaching, and administrative practices, mostly without proper guidance on the effective use of these technologies (Huo and Siau, 2023; Mahmoud et al., 2025; Sarfo, 2024).

Furthermore, anxiety can be increased by the pressure to maintain high productivity levels while being technologically competent, thereby leading to decreased job satisfaction and burnout (Califf et al., 2020; Valiao, 2025). The continuous proliferation of AI systems across academic settings necessitates the need to understand how these stressors develop, and it is crucial to identify effective strategies to mitigate them. Existing literature

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proposes that initiatives such as suitable organisational support, proper training, and fostering a phenomenon of technological acceptance can help assuage technostress among academics (Kumar, 2024). The existing literature has limited studies on technostress among academics in the adoption of AI. The study aims to explore how the adoption of AI contributes to technostress among higher education academics. This review seeks to provide insights into how academic institutions can better support their staff in adopting this technological transformation.

2. Background to the study

In recent years, the incorporation of AI into higher education has become highly prominent, thereby reforming several facets of academic work (Abdous, 2023; Al-Zahrani, 2024; Bates et al., 2020; Chu et al., 2022; Miao and Holmes, 2021; Popenici and Kerr, 2017). Almaiah et al. (2022) propose a positive inclination towards the integration of AI into educational environments, attributing it to AI being recognised as an innovative teaching tool. AI technologies are being used for the enhancement of learning and teaching through streamlined administrative tasks, personalised educational experiences, assisting in data analysis, and facilitating innovative research methodologies (Xu, 2024). For instance, AI-driven learning management systems can adapt to students' needs in real-time, providing personalised content and feedback, while AI tools in research can automate data processing and even suggest research trends. These advancements are expected to improve productivity and create more efficient workflows within universities and colleges (Vieriu and Petrea, 2025). However, despite the undeniable benefits of AI, its implementation also introduces a significant challenge, thereby denoting the concept of technostress. Hence, technostress may be understood to denote the stress experienced by individuals when they face technological demands that exceed their ability to cope, a phenomenon particularly relevant in academic environments where the adoption of AI requires both faculty members and administrators to acquire new skills, adapt to unfamiliar systems, and keep up with rapid technological changes (Tarafdar et al., 2007).

In the context of higher education, technostress is exacerbated by several factors. First, there is the challenge of continuous learning and adaptation (Chukwuere and Chukwuere, 2024). AI technologies are continuously developing, which denotes the need for faculty members to remain up to date with recent developments to effectively incorporate these tools into their research and teaching practices (Almufarreh and Arshad, 2023; Dzogovic et al., 2024). This continuous necessity for adoption may lead to sentiments of frustration, especially among academics who may feel overwhelmed by the rapid pace at which changes occur or the technical complexities of new systems (Asal et al., 2025; Sarfo, 2024). Furthermore, several academics have reported insufficient support and training in their interactions with AI tools, which also contributes to stress. Also, this lack of training not only leads to a sense of incompetence but also increases anxiety, as academics fear that their lack of aptitude may negatively affect their research output, administrative responsibilities, or teaching quality (Sadiku et al., 2022). The view that AI systems are "out of their control" may raise feelings of vulnerability and reduce their confidence in the adoption of these technologies.

In addition, technostress is normally associated with concerns about obsolescence and job security in academia (Wang and Yao, 2025). With the capacity of AI systems to perform tasks traditionally done by human academics, such as data analysis, grading, and content generation, there is an escalating fear among faculty members that their duties can be reduced or even replaced wholly by automatic systems (Vu and Lim, 2022). AI anxiety, often described as fear of technological obsolescence, may cause emotional strain and restrict the acceptance of AI in academic settings and responsibilities (Sadiku et al., 2022). The growth of the pressure to stay technologically competent may cause academics to experience stress, burnout, and reduced job satisfaction, subsequently impacting their overall productivity and well-being. Moreover, there is a developing body of research supporting that the incorporation of AI into academic workflows, while valuable in some respects, may unintentionally contribute to the amplification of workload, as faculty members are tasked not only with the adoption of new technologies, but also with the maintenance of high levels of academic output and performance in a progressively competitive setting (Tarafdar et al., 2007). Therefore, despite AI promising to improve productivity, the rapid and sometimes overwhelming introduction into academic institutions may have unintended negative implications for the mental health of academics and job satisfaction.

As AI continues to become an important tool in the higher education environment, understanding the connection between technostress and AI adoption is essential. Recent writings have highlighted many possible strategies to assuage the negative implications of technostress in academic environments. For example, the provision of structured and ongoing professional development programs to equip academics with the relevant skills to use AI tools efficiently is considered one of the most crucial interventions (Cramarenco et al., 2023; Sarfo, 2024). Furthermore, the creation of a supportive organisational culture that promotes collaboration among academic staff and IT departments can assist in reducing the feelings of helplessness and isolation often associated with the adoption of technology. Therefore, the integration of AI into academic workflows in a manner that promotes rather than replaces the capabilities of human beings can encourage greater acceptance of these technologies and assist in alleviating fears of job displacement (Nurchurifiani et al., 2025). Therefore, it may be deduced that, through a focus on mitigation mechanisms, HEIs may support their staff in the navigation of the complexities of the adoption of AI whilst minimising the adverse effects of technostress.

3. Problem statement

AI is transforming the landscape of higher education by improving teaching methods, enabling personalised learning experiences, and facilitating research processes (Jiali et al., 2024). Regardless of its various benefits, the adoption of AI introduces some challenges, such as technostress, which is defined as the stress experienced from interacting with or adapting to new technologies (Tarafdar et al., 2007). This stress is experienced in different sectors, including HEIs. As HEIs rapidly incorporate AI tools into administrative and academic functions, academics are at risk of experiencing technostress. This may be rooted in the perpetual need to update digital competencies, the pressure to meet developing technological demands, and the fear of job displacement due to automation (Khogali and Mekid, 2023; Morandini et al., 2023; Ojiyi et al., 2023). This stress can impact well-being, reduce academic productivity, and foster a reluctance to adopt emergent technologies.

While technostress has been adequately studied in the organisational literature, there is limited research on technostress under academic conditions, when considering the multiple layers of administration, research, and teaching (Ayyagari et al., 2011). This gap in context-specific knowledge is concerning in that technostress that is not managed could lead to burnout, decreased work satisfaction, reduced scholarly productivity, and resistance to adopting AI innovations (Ngalagou et al., 2019). In turn, it could negate some of the benefits of AI in Higher Education, such as greater student engagement, improved feedback, and improved scholarly productivity (Holmes et al., 2019). Additionally, the lack of literature that addresses the existence of technostressors in academic environments highlights a need for future research to identify technostressors to inform AI implementation, to ensure that this technology can be integrated in a way that is effective and sustainable.

There's some urgency to addressing technostress for a few reasons. To begin with, when the negative impact of technostress has implications for both psychological and physical well-being, it can impact morale, heighten turnover intention, and heighten absenteeism. Second, if institutions want to sustain their AI initiatives, they should consider taking an active role in managing technostress by identifying the most impactful technostressors with an intervention in mind. Finally, for academic staff to successfully enact AI in Higher Education will rely strongly on their capacity and willingness to manage new technologies; if they are feeling overwhelmed due to stress, they may hesitate to integrate and explore AI in their practice (Tarafdar et al., 2007; Vendramin et al., 2021). Therefore, this review paper sets out to vigorously explore the literature regarding technostress in the context of the adoption and usage of AI among higher education academics. The study aims to explore how the adoption of AI contributes to technostress among higher education academics. Specifically, the study will seek to:

- **i.** identify key technostressors linked to AI use,
- **ii.** explore their impact on well-being, job satisfaction, and performance; and
- **iii.** evaluate practical institutional strategies such as training, policy development, and support systems to mitigate technostress and foster a healthy, productive academic environment.

4. Research objectives and questions

4.1. Research objectives

- **a.** To explore how the adoption of AI contributes to technostress among higher education institution academics.
- **b.** To determine the specific dimensions of technostress experienced by higher education academics when adopting AI technologies.
- **c.** To assess the level of organisational support on the experience of technostress among academics in higher education institutions using AI.
- **d.** To identify strategies implemented by higher education institutions to effectively mitigate technostress related to the adoption of AI among their academics.

4.2. Research questions

- **a.** How does the adoption of AI contribute to technostress among higher education institution academics?
- **b.** What are the specific dimensions of technostress experienced by higher education academics when adopting AI technologies?
- **c.** How does the level of organisational support impact the experience of technostress among academics in higher education institutions using AI?
- **d.** What strategies can higher education institutions implement to effectively mitigate technostress related to the adoption of AI among their academics?

5. Preliminary literature review

5.1. Technostress in HEI

Technostress has been considered an important "dark side" of information technology (IT) (Bondanini et al., 2020; Rohwer et al., 2022), due to its negative implications on the wellbeing and behaviour of users of technology (Chukwuere and Chukwuere, 2024). According to the study by Wong et al. (2023), technostress indirectly affects

the physical, mental, and psychological health, including the job performance of academic staff, because they struggle to adapt to fast-changing technology. Furthermore, the study by Govender and Mpungose (2022) notes that because of the COVID-19 pandemic, all HEIs were forced to fully adopt online communication and learning; however, some lecturers were resistant to the change, overwhelmed, and frustrated because they struggled to adapt to the technological changes. It is therefore important to understand this "dark side" of technology as AI is rapidly growing in the HEI industry, particularly in the African context.

5.2. The adoption of AI in HEI

Academic institutions are globally adopting AI technologies (Tyagi et al., 2024). A broad review by Alfaleh (2026) and Rao and Suhasini (2025) on AI in HEI students found that there is increasing research about AI tools such as AI assistants, predictive analytics, assessment, grading, and tutoring systems. In practice, academics and students in African higher education use AI tools such as ChatGPT to perform tasks including generating class content, searching for information, learning, paraphrasing, and grammar checking (Falebita and Kok, 2024). Despite the limited resources, the adoption of AI is continuing. The study Falebita and Kok (2024)reviewed studies from 2015 to 2024 and found only 12 studies (between 2022 and 2025) that discussed the use of AI in African higher education. This shows that the use of AI in African HEIs is still at an early stage.

5.3. Factors that cause technostress in AI use

Organisational factors in the institutional context are important because perceived organisational support is found to have a significant relationship with technostress (Solís et al., 2023). This means that educators may experience less stress when using technology because the HEI would have provided sufficient support to its members. Therefore, when HEIs suddenly adopt AI without proper organisational support, users may become anxious and frustrated (Govender and Mpungose, 2022). Personal factors show that individual traits and attitudes of people influence how technostress is experienced because educators with a high technical self-efficacy and a positive outlook can generally handle AI-related stress (Chang et al., 2024). The study by Solís et al. (2023) found that women experience more technostress.

According to several existing studies, there are five (5) main influencing factors of technostress, such as techno-overload, techno-invasion, techno-complexity, techno-insecurity, and techno-uncertainty, which will be defined below (Bondanini et al., 2020; Chukwuere and Chukwuere, 2024). Below, we define the factors:

- **Techno-overload:** This involves being under pressure to work faster and longer because of the demand of rapidly changing technology, which may result in stress when you struggle to keep up.
- **Techno-invasion:** This refers to technology coming between work and personal life, where you are constantly communicating and reachable only through technology, such as email, social media, and many others.
- **Techno-complexity:** This refers to when a particular technology is difficult to understand and use, which may lead to frustrations and poor productivity outcomes.
- **Techno-insecurity:** This refers to the fear of failure or job loss because of the difficulty of understanding a technology that can help improve productivity, which therefore will result in the frustrations of individuals.
- **Techno-uncertainty:** This refers to when technology is rapidly and unpredictably changing, and users are unable to keep up or adapt to the changes, which leaves them confused and unprepared to effectively adapt.

5.4. Recommendations to reduce technostress

Higher education institutions need to put measures in place to ensure the effective use of technology without experiencing technostress, which causes stress, fear, anxiety, poor productivity, and performance (Chukwuere and Chukwuere, 2024). One major strategy to reduce technostress, according to Chukwuere and Chukwuere (2024), is that institutions should provide strong and effective support. This is to assist HEI members in effectively adapting to changing technology requirements. This is supported by the study of Solís et al. (2023), which found that organisational support ensures that less stress is experienced when using technology.

According to Hashim et al. (2024, p.215), their study found that moderation tests indicate that digital literacy and active involvement in technology use can significantly buffer the relationship between technostress creators, such as technological uncertainty and insecurity, and the resulting feelings of burnout, helping to reduce their negative impact. The study by Govender and Mpungose (2022) compels lecturers to lecture from a place of personal identity and self-awareness to effectively manage technostress arising from social, institutional, and technological pressures, whilst also urging universities to implement supportive mechanisms and control strategies to assist lecturers in coping with technostress efficiently.

According to Mistretta (2024) and Mallillin et al. (2025), HEIs have important opportunities to transform learning and teaching by developing AI-related guidelines, updating assessment policies, and building AI skills among students and staff. The study highlights the need for proactive mechanisms to effectively integrate the Learning Management System (LMS) into education while managing its adoption responsibly. Therefore, the institutions will have to provide resources aimed at adapting the curriculum according to technological

development, increasing the readiness of the staff for working with AI, and providing the appropriate supportive context for the success of the learners and educators.

6. Research motivation

Integration of AI into HEIs has brought changes to learning, teaching, and management activities, promising greater innovation and efficiency. Still, digital transformation generates new waves of occupational and psychological issues associated with technostress, a special kind of stress arising when one experiences difficulties dealing with technological demands (Tarafdar et al., 2007). In light of the growing AI involvement in educational practices, there appears to be a necessity to look into ways in which AI integration affects the psychological state and performance of educators. This research is inspired by the growing concern that without adequate skill development and support structures, AI integration can worsen fatigue, anxiety, and burnout among staff, particularly within under-resourced institutions (El Kiassi and Jahidi, 2023; Sadiku et al., 2022).

In accordance with the requirements of academic research methodology, addressing real-life issues and identifying their roots becomes a fundamental purpose of scientific work (Oates et al., 2022). Thus, this study is intended to determine the causes and consequences of technostress among academics in HEIs and explore possible organisational and individual approaches to reducing its influence. The rationale behind the research is presented in the works of Saunders et al. (2015), who claim that in addition to contributing to theory development, research must also be of practical value. The focus on African HEIs undergoing digital transformation under conditions of scarcity of resources and low levels of digital literacy (Falebita and Kok, 2024) becomes the answer to the emerging need to consider the issue of technostress in the context of a developing education system. The study also addresses the recommendations of Chukwuere and Chukwuere (2020) regarding the systematic problem-based approach in technology adoption research.

At last, this research is aimed at facilitating institutional changes and improving academic well-being by informing evidence-based policies and interventions. Indeed, as Chukwuere (2021) stresses, problem identification, contextual analysis, and solution development are the fundamental steps for any academic investigation. It is hoped that the findings of this study will be helpful both for the development of the literature on technostress and the application of AI in education, and for the development of strategies that HEIs should use to promote the digital resilience of their employees. This conforms to the current methodology that encourages the inclusion of literature review, stakeholders' opinions, and data in the process of academic research (Chukwuere, 2023; Saunders et al., 2015).

7. Theoretical perspectives

The research relies on the technostress theory suggested by Tarafdar et al. (2007), which presupposes the existence of an integrative framework explaining the sources of stress experienced by individuals who use information and communication technologies ICTs. According to this theory, there are five key sources of technostress: techno-invasion and techno-overload, as well as techno-insecurity, techno-complexity, and techno-uncertainty. The aforementioned sources of stress altogether reflect the way in which technologies influence the cognitive and emotional reactions of the individuals. In regard to HEIs, technostress is especially evident as professors need to use such complicated tools as artificial intelligence while working on research and performing teaching and administrative duties (Chukwuere and Chukwuere, 2024; Sadiku et al., 2022).

The theoretical lens is suitable for the current study as it allows for the systematic investigation of how specific technological demands contribute to the diminished job satisfaction and perceived stress among educators. Moreover, as recommended by Oates et al. (2022), this theory is in line with the systems-oriented approach, thereby highlighting the relationship between technology, users, and organisational context. Through the application of technostress theory, this research will not only explain the fundamental mechanisms by which AI-induced stress manifests but also inform strategic interventions aimed at promoting digital well-being and suitable technology adoption in academic environments.

8. Research methodology

This study adopts a narrative literature review design, which is appropriate for synthesising existing knowledge on a topic, identifying research gaps, and drawing insights to inform future research and practice (Saunders et al., 2015). The selected design allows for an in-depth and broad examination of how AI adoption contributes to technostress among academics in HEIs. Given the conceptual nature of the research, the literature review approach allows a theoretical exploration of technostress and its implications, as well as an assessment of institutional and individual coping mechanisms (Oates et al., 2022). This methodology is in line with the guidance offered by Chukwuere and Chukwuere (2020), who emphasise the essence of using literature reviews to develop problem-based, evidence-informed academic discourse, especially within dynamic fields such as computing and information systems.

8.1. Literature search strategy

The literature review was performed in a systematic and structured manner through major online academic databases such as EBSCOhost, ScienceDirect, Scopus, and ProQuest, and grey literature from Google Scholar. Search terms such as "technostress", "AI and higher education", "academic burnout", "digital transformation", "technology anxiety", and "organisational support in academia" were combined using Boolean operators (AND/OR) to maximise the search results. Inclusion criteria were limited to peer-reviewed journal articles, books, and conference proceedings published between the years of 2007 and 2025, so as to contribute to both foundational (past) and contemporary (recent) perspectives. The relevance of the literature followed the recommendations of Chukwuere (2023), who recommended the relevance of the literature in the African and global context of higher education. Additional sources were identified through snowballing, by reviewing reference lists of key papers to ensure comprehensive coverage of relevant studies (Saunders et al., 2015).

8.2. Inclusion and Exclusion Criteria

The choice of this research was directed by clearly defined inclusion and exclusion criteria to ensure the quality and relevance of the literature.

8.2.1. Inclusion criteria

The research studies were only included if they were directed entirely at technostress and related to the adoption of AI. Also, the studies were included if they investigated academic populations in HEIs and were published in English-language academic sources or peer-reviewed journals.

8.2.2. Exclusion criteria

First, studies were excluded if they did not relate to either technostress or AI adoption. Second, if they investigated non-academic populations, for instance, students or education-agnostic professionals. Finally, if they were published in a non-English language. The first screening process was to review titles and abstracts to eliminate irrelevant articles/publications, followed by a detailed review of the full-text articles to ascertain eligibility. This plan of action is consistent with best practices of literature identification and selection in systematic and narrative reviews of information systems research (Chukwuere, 2023; Saunders et al., 2015).

8.3. Data extraction

A structured process for extracting data was applied to systematically extract relevant information from the studies selected. Significant data were described for research design, year published, sample size, types of AI technologies investigated, geographical location, and reported specific technostress dimensions from the literature, such as techno-insecurity, techno-complexity, and techno-overload.

Outcomes of interest, which encompassed burnout, job satisfaction, and academic engagement, were also noted. A formatted extraction form was used to secure consistency and diminish bias, because using a standardised extraction format is advocated as regular practice in qualitative literature review processes (Oates et al., 2022). The purpose of this exercise was to collect comprehensive and comparable data to enable the analysis of meaningful synthesis and thematic analysis.

8.4. Data synthesis

The findings of the studies were synthesised through the use of narrative synthesis, which is especially useful for accommodating the heterogeneous nature of data characteristic of IS research (Chukwuere, 2023). This enabled the interpretation and identification of emerging themes, patterns, and conceptual associations of technostress within the context of higher education academics using AI. In the synthesis, the focus was on the relationships between relevant technostressors and their additive effects on behaviours, attitudes, and well-being; furthermore, the research review explored institutional factors related to technostress and documented under-researched areas for further study. By taking this route, the research provides an overview of the state of research while enhancing theoretical and practical knowledge of digital transformation in academic contexts (Oates et al., 2022; Saunders et al., 2015).

8.5. Quality assessment

To provide rigor and trustworthiness to the research and findings, the selected literature indicated a quality appraisal process that integrated appraisal for reliability, relevance, methodological quality, and contribution to theory. The research articles were assessed using the Critical Appraisal Skills Programme (CASP) criteria and assessed for clarity of research aims, validity of data collection, appropriateness of methodology, and transparency of findings (Chukwuere, 2021).

Only studies showing clear methodological frameworks with sufficient evidence were included. Furthermore, priority was given to studies coming from key authorities in information systems, higher education, and the effects

of technology on psychology (Oates et al., 2022). This stage was significant to ensure the conclusions drawn from the review were reliable, repeatable, and academically valid.

8.6. Reporting and dissemination

The literature review findings were thematically grouped and reported based on academic conventions for literature-based research. Narrow themes such as the nature of technostress, its dimensions (for example, techno-overload, techno-insecurity), and coping strategies will be grouped and discussed thematically. The report will provide an important contribution to the developing body of literature on AI-induced technostress in higher education and pragmatic recommendations for HEIs. Distribution may occur through academically focused or scholarly-paced research outlets such as academic conferences, university repositories, and peer-reviewed journal submissions.

Moreover, the findings of this research may be summarised into policy briefs to inform institutional strategies for managing digital transformations in education (Chukwuere and Chukwuere, 2020; Saunders et al., 2015). The reporting process aligns with scholarly values of replicability, transparency, and knowledge translation for both practical and academic stakeholders.

9. Data analysis

The data analysis for this study was conducted through a narrative synthesis approach, which is effective for incorporating findings from diverse, heterogeneous evidence and a myriad of studies, particularly in the IS research and social sciences (Chukwuere, 2023; Oates et al., 2022). The procedure involved repetitive readings of the included study material to form a comprehensive understanding of the material, which means that the process was initiated with data familiarisation. This is in line with the recommendations by Saunders et al. (2015), who underscore the importance of immersion in data to establish contextual sensitivity during qualitative synthesis. The most relevant information was extracted from each reliable study, including methodological approaches, sample demographics, research aims, and core findings, thereby ensuring that data were sufficiently rich and comparable across the selected sources (Chukwuere and Chukwuere, 2020).

Consequently, a thematic analysis was performed to highlight the recurring themes and patterns related to technostress and the adoption of AI within academics in higher education. The coding involved grouping data under various groupings of the concepts represented as techno-complexity, techno-insecurity, and techno-overload, and then grouping that data into broader themes and sub-themes (Chukwuere and Chukwuere, 2024; Tarafdar et al., 2007). Thematic analysis allowed for the careful synthesis of complex qualitative findings and provided flexibility with our methodological and theoretical designs (Chukwuere, 2023; Oates et al., 2022). Relationships among these themes were examined to construct an integrated understanding of the manifestation of technostress and its effects on academic mental well-being in AI-driven educational contexts.

The overall synthesis also brought together these findings into a cohesive story that highlighted trends, contradictions, and gaps in the literature, as opposed to just focusing on addressing the central research questions (Saunders et al., 2015). Finally, we explored the robustness of the synthesis by investigating the consistency and quality of the evidence underpinning each theme. We appraised the methodological rigor and credibility of the studies that informed and constituted the review using reputable qualitative review standards. The appraisal focused on judging the transparency of data reporting, research design, and how closely the data aligned with the conclusions (Chukwuere, 2021). The results obtained during the process of narrative synthesis and thematic analysis of the literature allow obtaining a general, comprehensive, and multidimensional view of the issues related to technostress in the context of implementing AI in higher education institutions.

10. Discussion of the findings

In this case, the results clearly show that technostress is a recognizable barrier to the adoption of AI. Academics suffer from different stressors primarily due to technostress, techno-insecurity, techno-complexity, and techno-overload, which adversely impact their productivity, mental well-being, and ability to teach (Chukwuere and Chukwuere, 2024; Tarafdar et al., 2007). Importantly, those stressors are often intensified by insufficient institutional support, constant technological changes, and lack of opportunities for training. Numerous studies have agreed that without organised support systems and comprehensive digital literacy programmes before introducing AI, AI uptake can increase workload stress and fuel academic resistance to using AI (Govender and Mpungose, 2022; Sadiku et al., 2022). The themes and sub-themes presented in the review indicate that technostress is a multidimensional issue, beyond just an outcome of changing technologies, that highlights the broader systematic and organisational failures. This reinforces the pertinence of Technostress Theory in shaping the emotional and cognitive reactions of individuals in response to complex digital changes (Oates et al., 2022; Tarafdar et al., 2007).

The analysis also shows the significance of incorporating human-centred implementation strategies into technological innovation. A number of the studies that we reviewed cite professional development, organisational communication, and participatory technology planning as ways to alleviate the negative effects of technostress

from AI (Chukwuere, 2023; Huo and Siau, 2023; Mahmoud et al., 2025; Sarfo, 2024). This also reinforces the wider argument in information systems research that successful adoption of technology requires sociotechnical alignment, where systems, people, and institutional policies mutually evolve (Oates et al., 2022; Saunders et al., 2015). In addition, the gaps noted in the African higher education context reflect the need for more context-specific research and capacity-building strategies to support the equitable and sustainable integration of AI (Falebita and Kok, 2024).

Overall, the synthesis of the literature reveals that despite the great potential for innovation offered by AI in terms of disrupting our activities in higher education, the success will largely depend on our ability to cope with the psychological, organisational, and structural issues associated with the use of AI technologies, primarily technostress. The findings will be valuable in developing institutional policies on the matter, conducting future empirical research, and advancing the theory of the digital transformation of higher education.

11.Recommendations and future study

HEIs should focus on improving the organisational support to help academics deal with the process of adopting new technologies, particularly AI technologies. Specifically, this could be done through providing them with the necessary resources, proper training, and technical support. In addition to the professional development and training offered by academic institutions, promoting digital literacy helps to enhance not only the skills academics associate with using AI tools, but also to tackle feelings of techno-complexity and techno-insecurity. Institutions may also promote an additional supportive culture within the institution by firstly promoting peer support networks and allowing for safe spaces to discuss experiences and solutions, as well as discussions about experiences that involve technology-induced challenges. Regularly measuring technostress levels within staff can determine specific issues and therefore enable strategically specific targeted interventions that will meet the needs of their academic community.

Future research should also focus on longitudinal studies on the effects of AI adoption on the technostress experiences of academics with a view to better understanding how experiences might change over time. Similarly, comparative studies and assessments of technostress experiences across varying HEIs and contexts will illustrate the impact of context and how this shapes technostress, and the strategies used to mitigate technostress. Investigating the experience of specific AI tools and their relationship to technostress levels, particularly in the teaching and grading applications, is also a valued avenue for investigation. However, I believe it is also worthwhile to consider the leadership aspects of stressing the role of leadership in the organisation (for example, institutional support) and the indirect impact that has on technostress experiences. Interdisciplinary approaches are also an asset to consider the insights from psychology, education, and technology, which could ultimately lead to more effective strategies on how to deal with technostress in academia.

12.Implications of the study

The findings of this research have significant implications for practice, policy, and future research within HEIs that are undergoing digital transformation. Not only does it identify the dimensions of technostress related to academics in the adoption of AI, like techno-complexity, techno-insecurity, and techno-overload, but it also examines the practicability of information technology departments, leaders in institutions, and institutional development departments.

The approach to the narrative literature review method, discussed by Oates et al. (2022) and Chukwuere (2023), helped to understand the nature of technostress at the intersection of organisational culture, interaction with technology, and personal capabilities of scholars. In this regard, the findings suggest recommendations for the development of organisational strategies, including continuous support for digital literacy, designing the AI training program, and inclusive technology planning processes involving academic staff. Finally, the results identify the gap in the literature in the context of African higher education, and the need to design a context-based framework for managing technostress and preparing lecturers for using AI technologies. All of these implications resonate with the goals of information systems (IS) research, aiming at advancing knowledge that is both theoretical and practical (Saunders et al., 2015).

13.Conclusion

This study has critically examined the phenomenon of technostress in the context of AI adoption by higher education academics using a narrative literature review approach based on Technostress Theory. Using literature from both African and global literature contexts, this study synthesised findings that illuminate how AI implementation, whilst presenting transformational prospects, can exacerbate both occupational and psychological sources of stress for academic staff. The study delineated five key technostressors, namely techno-invasion, techno-overload, techno-insecurity, techno-complexity, and techno-uncertainty, and how they affect well-being, job satisfaction, and resistance to change from technology. In accordance with Oates et al. (2022) and Chukwuere (2023), the approach taken has allowed the integration of diverse data sources to provide a complete and systematic exploration of the topic.

Importantly, the study also revealed critical gaps in support structures, training, and institutional readiness that aggravate the effects of technostress, especially within under-resourced higher education systems. In the context of ongoing transformation of the academic environment through the use of digital technologies, this study reveals the need to address the issue of technostress management. Therefore, in addition to investing in technological solutions, institutions will need to develop human-centred strategies aimed at fostering inclusiveness, digital resilience, and sustainable innovation in research and learning. Thus, this research adds to the current discussion in IS studies, highlighting the importance of contextual fit, user experience, and organisational alignment in the successful implementation of technology.

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