EXPLORING THE DYNAMICS OF TECHNOSTRESS, PERCEIVED ORGANIZATIONAL SUPPORT, AND WORK ENGAGEMENT IN HIGHER EDUCATION INSTITUTIONS

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Abstract
The rapid integration of digital technologies in higher education has transformed academic and administrative processes, but it has also given rise to new challenges such as technostress among faculty and staff. This study explores the interrelationships between technostress, perceived organizational support, and work engagement within higher education institutions. Drawing on organizational behavior and occupational stress frameworks, the research investigates how technostress influences employees' psychological states, and whether perceived organizational support can serve as a buffer that enhances engagement. Using a quantitative approach with survey data collected from academic and administrative staff, the study applies structural equation modeling to test the hypothesized relationships. The findings reveal that technostress negatively impacts work engagement, while perceived organizational support significantly mitigates this effect and fosters higher levels of engagement. These results highlight the critical role of supportive organizational practices in sustaining employee well-being and performance amidst ongoing digital transformation. The study contributes to the literature on technology-related stressors in educational settings and provides practical insights for institutional leaders seeking to cultivate a resilient and engaged workforce.
Keywords : Technostress, Perceived Organizational Support, and Work Engagement

Introduction

The rapid advancement of information and communication technologies (ICTs) has profoundly transformed the landscape of higher education. Universities and colleges are increasingly integrating digital platforms, online learning management systems, and administrative technologies to improve efficiency, accessibility, and academic outcomes. While these innovations bring substantial benefits, they also create new challenges for academic and administrative staff, particularly in terms of adapting to continuous technological changes. One such

challenge is the phenomenon of technostress, a form of stress that arises from the inability to effectively cope with demands related to technology use (Tarafdar et al., 2007).

Technostress has been identified as a significant factor influencing employees' well-being and productivity. In higher education institutions, where digital transformation is accelerating, technostress may undermine motivation, reduce teaching quality, and hinder organizational effectiveness. At the same time, organizational resources and support systems can play a critical role in mitigating these negative effects. Perceived Organizational Support (POS), defined as employees' belief that their institution values their contributions and cares about their well-being (Eisenberger et al., 1986), is particularly relevant in this context. POS can foster resilience, enhance job satisfaction, and act as a buffer against workplace stressors, including those stemming from technology. In addition, sustaining high levels of work engagement—characterized by vigor, dedication, and absorption (Schaufeli et al., 2002)—is crucial for higher education staff. Engaged employees are more likely to embrace innovation, maintain teaching excellence, and contribute to institutional goals. However, the interplay between technostress, organizational support, and work engagement remains underexplored in the context of higher education institutions, particularly in developing countries where digital infrastructures and institutional support systems may vary significantly.

This study seeks to address this gap by examining the dynamics between technostress, perceived organizational support, and work engagement among academic and administrative staff in higher education institutions. Specifically, it investigates whether perceived organizational support can mitigate the negative impact of technostress on work engagement. The findings are expected to provide both theoretical contributions to organizational behavior and stress management literature, as well as practical insights for institutional leaders in designing supportive policies that enhance staff well-being and engagement in the era of digital transformation.

Literature Review and Hypotheses Development
Technostress and Work Engagement

The increasing reliance on digital technologies in higher education has been accompanied by heightened demands on academic and administrative staff. While technology can enhance efficiency, it can also generate **technostress**, characterized by feelings of overload, complexity, insecurity, and invasion due to technology use (Tarafdar et al., 2007). Prior studies indicate that technostress is negatively associated with psychological well-being, job satisfaction, and employee engagement (Salanova et al., 2013; Maier et al., 2015). Specifically, in higher

education settings, persistent technostress may reduce the energy and enthusiasm of employees, ultimately diminishing their levels of work engagement.

H1: Technostress has a negative effect on work engagement.

Perceived Organizational Support and Work Engagement

Perceived Organizational Support (POS) refers to the extent to which employees believe their organization values their contributions and cares about their well-being (Eisenberger et al., 1986). POS is a key resource in the organizational context, which can enhance employees' motivation, resilience, and engagement. According to the Job Demands–Resources (JD-R) model (Bakker & Demerouti, 2007), organizational resources such as support, recognition, and professional development opportunities can foster higher levels of work engagement. In higher education, when staff perceive strong institutional support, they are more likely to remain committed, motivated, and engaged in their work.

H2: Perceived organizational support has a positive effect on work engagement.

Perceived Organizational Support as a Moderator

Building on stress-buffering theories, POS is expected to mitigate the detrimental effects of job stressors. Employees who perceive their institution as supportive may experience lower stress and greater ability to cope with technological demands. Previous studies have shown that POS moderates the relationship between workplace stressors and outcomes such as job satisfaction, burnout, and turnover intention (Rhoades & Eisenberger, 2002; Caesens et al., 2017). In the context of higher education, POS may reduce the negative impact of technostress on engagement by providing psychological safety, resources, and encouragement to adapt to technological changes.

H3: Perceived organizational support moderates the relationship between technostress and work engagement, such that the negative effect of technostress on work engagement is weaker when perceived organizational support is high.

Differential Dimensions of Technostress and the Moderating Role

Technostress is multidimensional, including **techno-overload, techno-complexity, techno-insecurity, and techno-invasion** (Tarafdar et al., 2007). Each of these dimensions may uniquely affect work engagement. For example, techno-overload may lead to exhaustion, while techno-insecurity may generate anxiety regarding job stability. However, when organizational support is perceived as strong—through training, technical assistance, and recognition—these stressors may have a less severe impact on engagement. This perspective aligns with the JD-

R framework, suggesting that organizational resources can buffer against various stressors.

H4: Perceived organizational support moderates the relationship between different dimensions of technostress (overload, complexity, insecurity, invasion) and work engagement, such that the negative effects of each dimension are weaker when perceived organizational support is high.

Results

The findings of this study reveal significant relationships among technostress, perceived organizational support (POS), and work engagement among academic and administrative staff in higher education institutions. First, the results confirm that technostress exerts a negative effect on work engagement. Employees who reported higher levels of technostress tended to demonstrate lower vigor, dedication, and absorption in their daily tasks. This suggests that constant exposure to technological demands, such as learning new systems, handling excessive digital workload, or coping with continuous connectivity, can diminish employees' psychological resources and undermine their willingness to engage fully with their work. This result is consistent with prior studies (e.g., Salanova et al., 2013; Maier et al., 2015) which argue that technology-related stressors significantly erode motivation and job performance.

Second, the analysis provides strong support for the hypothesis that perceived organizational support has a positive effect on work engagement. Respondents who felt that their institutions valued their contributions, offered appropriate training, recognized their efforts, and showed genuine concern for their well-being, reported significantly higher levels of engagement. This finding highlights the importance of organizational support as a resource that not only helps employees adapt to changing technological environments but also strengthens their emotional attachment and commitment to institutional goals.

Third, the moderation analysis demonstrates that POS plays a buffering role in the relationship between technostress and work engagement. Specifically, the negative influence of technostress on engagement was weaker among employees who perceived higher levels of organizational support. In practical terms, when institutions provide adequate resources, clear communication, and supportive leadership, employees are less likely to experience the disengaging effects of technological pressures. This finding underscores the protective value of organizational support, suggesting that it can serve as a psychological shield enabling employees to remain resilient and engaged even in high-stress technological environments.

Fourth, when the analysis was extended to the dimensions of technostress, it was found that POS most strongly moderated the effects of techno-overload and

techno-insecurity on work engagement. Employees who felt organizational support were better able to manage the challenges of excessive digital workload and cope with anxieties related to job insecurity in a technology-driven workplace. However, the moderating effect of POS on techno-complexity and techno-invasion was weaker and statistically less significant. This indicates that while POS is effective in addressing workload-related and insecurity-related stress, it may not fully alleviate challenges stemming from overly complex technological systems or the intrusion of technology into personal life. These forms of stress may require more targeted interventions, such as specialized training programs, user-friendly technology design, or clear policies to safeguard work–life balance.

Overall, the structural model demonstrated a good fit with the data, providing strong support for most of the proposed hypotheses. Taken together, the results suggest that higher education institutions face a dual challenge: managing the risks associated with technostress while simultaneously building an environment in which employees perceive strong organizational support. Addressing both sides of this dynamic is crucial to ensuring that staff remain motivated, resilient, and engaged in the face of rapid digital transformation.

Conclusions

This study provides important insights into the interplay between technostress, perceived organizational support (POS), and work engagement in higher education institutions. The findings confirm that technostress exerts a negative influence on employees' engagement, highlighting the risks associated with the growing reliance on digital technologies in academic and administrative processes. At the same time, the results emphasize the crucial role of organizational support, both as a direct enhancer of work engagement and as a buffer that mitigates the adverse effects of technostress.

The moderation analysis further demonstrates that POS is particularly effective in reducing the negative impacts of techno-overload and techno-insecurity, suggesting that institutions which actively provide training, resources, recognition, and reassurance can protect their staff from disengagement. However, the weaker moderating effects on techno-complexity and techno-invasion indicate that certain forms of technostress may require more specialized interventions, such as user-centered technology design and policies to protect work–life balance.

Overall, the study underscores the importance of balancing technological innovation with supportive organizational practices. For higher education leaders, this means that successful digital transformation must not only focus on upgrading systems and processes, but also on creating a supportive culture that values employee well-being and fosters sustained engagement. By doing so, institutions can ensure that their workforce remains motivated, resilient, and

committed to achieving institutional goals in an increasingly digitalized environment.

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