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**MAPPING THE NEXUS BETWEEN TECHNOSTRESS, EMPLOYEE ENGAGEMENT AND INNOVATION: A SYSTEMATIC REVIEW****Mrunalini Velankar<sup>1</sup>, Mihika Kulkarni<sup>2</sup> and Prachi Deshpande<sup>3</sup>**<sup>1</sup>Assistant Professor, DES Pune University, School of Business and Management<sup>2</sup>Professor, Hirabehn Nanavati Institute of Management, Pune<sup>3</sup>Assistant Professor, Sinhgad Institute of Management, Pune**ABSTRACT**

*The rapid proliferation of digital technologies in the workplace has significantly transformed job roles, communication patterns and organizational processes. The pervasive integration of digital technologies has fundamentally transformed contemporary workplaces, introducing both efficiencies and psychosocial challenges. Among these challenges, technostress has emerged as a critical determinant of employee outcomes, particularly employee engagement. Using a structured review this paper identifies key dimensions of technostress, its antecedents and its consequences on engagement. This study systematically reviews recent literature (2020–2026) to examine the relationship between technostress, employee engagement and innovation. Drawing on peer-reviewed studies, the review synthesizes evidence on technostress dimensions, mediating mechanisms and moderating conditions. Findings indicate that technostress generally exerts a negative influence on employee engagement through mechanisms such as overload, invasion and complexity, though contextual moderators may alter this relationship. However, the relationship is nuanced, with evidence supporting both hindrance and challenge stressor perspectives. The study contributes to HRM and organizational behaviour literature by integrating fragmented findings into a coherent framework and offer actionable insights for organizations navigating digital transformation.*

**Keywords:** Technostress, Employee Engagement, Techno overload, complexity, Innovation

**1. INTRODUCTION**

Over the past few years IT sector has undergone accelerated growth driven by cloud computing, AI intervention, automation and so on. Organizations are heavily dependent on digital platforms for communication, monitoring and analysis. With the everchanging technology all employees need to be abreast with the updates.

While these technologies enhance productivity there comes the side effect by the name Technostress – which simply means challenge to adapt to the new technologies.

Constantly employees are expected to adapt to the changing technologies and be job ready every time. This leads to cognitive overload, role ambiguity and work -life balance. This might in turn affect the employee well-being, performance and innovation capabilities.

IT sector is paradoxically the creator and user of these technological advancements making its employees vulnerable to technology induced stress. IT sector majorly comprises of a large volume of multigenerational workforce. They are expected to master the tools instantly and hence, face a unique “Paradox of Fluency”.

The term Technostress was introduced by Craig Brod in 1984 describing stress expressed due to inability of coping with emerging technologies. In IT organizations employees have to operate 24/7 in environment featuring software releases, coding, cybersecurity demands and other platforms. The pressure to remain to be technically competent may create stress and strain.

Employee engagement and innovation are key drivers in any IT Organization. Engagement reflects cognitive and emotional belongingness, while innovation is driven by creativity and problem-solving attitude. Understanding the effect of technostress on these two parameters is vital to any organization.

The research based on the existing literature focusses on the relationship between technostress and employee engagement.

**2. METHOD OF LITERATURE REVIEW**

**2.1 This study adopts a systematic review approach to ensure reproducible synthesis of the existing literature. A systematic approach was carefully chosen to lessen the bias and provide comprehensive study.**

**2.2 Data Sources**

The literature reviewed is from reputed academic databases like Scopus, Peer reviewed journals and Google.

### 2.3 Strategy

A comprehensive strategy was adopted, using a combination of words. The key search terms include Technostress, Innovation, engagement, techno overload. The study was limited to studies published from the period 2020-2026.

### 2.4 Literature selection

A detailed process of literature selection was used and articles were searched from various databases. Duplicates were removed and the articles were shortlisted based on title and abstracts. Only recent, relevant and sound studies were included.

## 3. BACKGROUND STUDY

Technostress is a modern extension of occupational stress. While conventional occupational stressor included workload, interpersonal issue, conflicts and behavioural issues, modern era has introduced few more stressors such as constant connectivity, system complexity, AI updates and information overload.

In Today's 'always ON' culture employees need to be accessible at any given point of time, reply to the digital communications and update themselves technologically. This has led to crossing the work life balance boundaries and leading to psychological stress and burnout.

### Occupational stress in the workplace:

Occupational stress has been a long matter of concern in Organizational Behaviour and Human Resource Management. Occupational stress is the harmful physical and emotional response occurring when job requirements do not match a worker's capabilities, resources or needs. Traditional occupational stressors include:

Workload

Pressuring deadlines

Job insecurity

Conflicts

Interpersonal relationships

The consequences of these stressors are documented and include

Low job satisfaction

Reduced performance

Increased turnover

Mental health issues

Over the period of time while technology has upgraded, it has also introduced new stress dimensions.

Technostress is not an isolated spectacle but an extension of occupational stress. It emerges from technology interactions with humans and includes following key dimensions:

Techno-overload

Techno-invasion

Techno-complexity

Techno-insecurity

Techno-uncertainty

Contrasting with traditional stressors technostress is continuously evolving like the technology. It affects major employees in the organizations unlike for traditional stress which generally affected the mid-managerial level and above.

While earlier researches have emphasized the negative consequences of technostress on well-being, job satisfaction and performance, there is limited consideration of its wider organizational implications, particularly employee engagement and innovation.

### Existing literature face several limitations:

Overemphasis on well-being outcomes

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Limited integration of engagement and innovation constructs

Lack of focus on multidimensional technostress creators

Insufficient exploration of non-linear relationships

In modern hybrid work environments, where digital dependency is high, understanding how technostress influences both psychological states (engagement) and behavioural outcomes (innovation) is critical. This study aims to fill this gap by proposing an integrated framework linking technostress, engagement, and innovation.

#### 4. RESEARCH GAPS

Existing literature on technostress has largely examined its impact in isolation, resulting in a unintegrated understanding of its wider implications. Specifically, there is a lack of integrated frameworks that simultaneously link technostress with employee engagement and innovation, limiting theoretical advancement in this domain. Additionally, existing studies tend to emphasize well-being and performance outcomes, with relatively little focus on innovation as a critical organizational variable. Furthermore, insufficient attention has been given to the multidimensional nature of technostress, particularly the differential effects of its individual components such as techno-overload, techno-invasion and techno-complexity. This creates a gap in understanding how distinct stressors uniquely influence employee attitudes and behaviours. Addressing these gaps is important for developing a more comprehensive perspective on technostress in contemporary work environments.

This study proposes a mediation model :

Technostress – Employee Engagement – Innovation

The study focusses on the hypotheses that displays the positive relationship between technostress and engagement. The study elaborate the positive relationship between Technostress – Engagement – Innovation.

#### 5. DISCUSSION AND ANALYSIS

The existing body of literature on technostress demonstrates substantial progress in understanding its impact on employee well-being, job performance and organizational outcomes. However, the review reveals that this knowledge base remains disjointed and unevenly developed, particularly in relation to emerging workplace demands such as innovation and hybrid work structures.

A key strength of prior studies lies in the robust conceptualization of technostress as a multidimensional construct, with well-established dimensions such as techno-overload, techno-invasion and techno-complexity. Additionally, empirical methodologies such as Structural Equation Modeling (SEM) have enhanced the rigor of causal analysis, contributing to strong theoretical grounding. Furthermore, recent studies have expanded the scope of technostress by linking it to psychological outcomes like well-being and burnout, thereby reinforcing its relevance in organizational behaviour research (Mansuroğlu & Smith, 2026).

Although the literature study that is available is strong , several critical weaknesses persist.

The literature shows a lack of integration between technostress, employee engagement and innovation, as most of the studies examine these factors in isolation. The role of engagement is undermined; however, it acts as a mediating factor. This leads to a fragmented understanding of how stress affects the human behaviour in any organization.

There is minimal focus on innovation outcomes, even though innovation is a key driver of competitive advantage. Current studies focus on well-being and performance but Existing research tends to prioritize well-being and performance metrics, thereby ignoring how stress impacts or affects employees creative and innovative capabilities. Some studies suggest a negative relationship between technostress and innovation, due to cognitive overload. While some indicate a potential positive effect when there is moderate level of technostress. The contradiction further more motivates to do in-depth examination.

The literature establishes inadequate analysis of individual technostress creators / angles. Most of the studies treats technostress as a unidimensional construct. The absence of segregated analysis limits its practicability and precision.

Additionally, several studies focus only on one sector and lack longitudinal approach and creating bias.

Overall, the literature reflects lacks a cohesive framework that connects technostress with key organizational outcomes like engagement and innovation.

## 6. CONCLUSION AND RECOMMENDATIONS

The study integrates existing literature on technostress and delineates the critical gaps. The review suggests that although technostress has been examined concerning well being and performance, there is a significant lack of cohesive model which talk about Technostress, Engagement and Innovation together. The most important thing is that there is no single framework which explains how technostress influences human attitude and behaviour. However, the narrow emphasis on innovation diminishes the strategic significance of technostress research in contemporary organisations where innovation plays a crucial role. Insufficient analysis a research limits the capacity to formulate specific HR initiatives. This research integrates current literature on technostress and highlights the critical problems or gaps.

It is important to fill in these gaps both for theory and practice. From a theoretical angle including engagement as a mediating factor can yield many angles through which technostress affects the organizational outcomes. From the management point of view knowing the effects of Technostress can help the organizations design a better digital workplace striking a balance between performance and innovation.

**The study suggests the following points based on the literature review undertaken:**

- Creating a comprehensive model that establishes relationship between technostress, engagement and innovation
- The focus of organization to shift from outcomes driven by innovation
- Performing a multi-dimensional analysis of technostress to understand various effects

To conclude the research related to technostress needs to progress from isolated constructs to multi-dimensional and outcome-based framework that encapsulates the intricacies of the modern workplaces

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