WORKLIFE BALANCE CHALLENGES IN AI - SUPPORTED HYBRID WORK MODELS: A TECHNOSTRESS PERSPECTIVE

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Abstract

The rapid integration of artificial intelligence (AI) into hybrid work models has fundamentally reshaped contemporary work practices. While AI Supported hybrid work promises flexibility, efficiency, and productivity, it has also introduced significant challenges related to employee well being, particularly work life balance. Drawing exclusively on the Technostress Model, this conceptual paper examines how AI - enabled work systems contribute to work life balance challenges by generating technology induced stressors. The paper synthesizes existing literature to conceptualize AI supported hybrid work as a source of techno overload, techno invasion, techno complexity, techno insecurity, and techno uncertainty. These technostress creators are argued to intensify work life boundary blurring, emotional exhaustion, and role conflict among employees. Focusing on the Indian organizational context, the study highlights cultural and structural factors that amplify technostress in hybrid work settings. The paper proposes a technostress driven conceptual framework and offers theoretical and managerial implications for designing sustainable AI enabled hybrid work environments. The study contributes to the growing discourse on digital work and employee well being by positioning technostress as a central mechanism linking AI adoption and work life balance outcomes.

Keywords: *Technostress, AI supported hybrid work, Work life balance, Digital work, Employee well being, India*

Introduction

The digital transformation of work has accelerated dramatically in the post pandemic era. Organizations across the world, including India, are rapidly adopting hybrid work models that combine remote and on site work, supported by AI enabled technologies such as intelligent scheduling systems, digital collaboration platforms, algorithmic monitoring tools, and predictive performance analytics (Högemann, 2025; Wang et al., 2024). These developments are redefining how, where, and when work is performed.

Hybrid work arrangements are frequently promoted as mechanisms for enhancing flexibility, autonomy, and productivity. However, emerging evidence suggests that AI supported hybrid work can simultaneously generate new pressures on employees' work life balance and psychological well being (Banerjee, 2024; Nguyen & Tran, 2024). In the Indian context—characterized by long working hours, intense job competition, and strong cultural expectations surrounding work commitment and family roles—these pressures may be particularly acute (Jain & Gupta, 2024).

Work life balance refers to an individual's ability to effectively manage professional responsibilities alongside personal and family commitments (Greenhaus & Allen, 2011). The constant connectivity and data driven visibility enabled by AI tools can blur the boundaries between work and non work domains, leading to extended availability

expectations, telepressure, and reduced opportunities for psychological detachment from work (Tarafdar et al., 2019; Banerjee, 2024). Although a growing body of research examines AI, technostress, and remote work, much of the literature still treats technology primarily as a neutral facilitator of efficiency. There remains limited conceptual work that critically explains the stress inducing effects of AI supported hybrid work on work life balance through a unified theoretical lens, particularly in emerging economies.

This paper addresses this gap by employing the Technostress Model as the sole theoretical foundation to explain how AI supported hybrid work contributes to work life balance challenges in Indian organizations. It conceptualizes AI enabled hybrid work practices as antecedents of technostress creators, which in turn lead to adverse work life balance and well being outcomes.

Objectives of the Study:

1. To synthesize existing literature on AI, hybrid work, and technostress with a focus on work life balance.
2. To conceptualize AI supported hybrid work models as a source of specific technostress creators.
3. To develop a technostress driven conceptual framework linking AI supported hybrid work, technostress, and work life balance in the Indian context.

Review of Literature:

Techno Overload

AI enabled systems often increase work intensity by accelerating workflows and raising performance expectations. Automated scheduling tools stack tasks efficiently, and AI based productivity dashboards update in real time, prompting employees to handle more tasks simultaneously (Högemann, 2025; Wang et al., 2024). In hybrid work settings where employees may not have clear temporal boundaries, techno overload results in longer working hours, difficulty disconnecting from work, and feelings of being constantly behind. Over time, this overload depletes personal resources, contributing to emotional exhaustion and reduced capacity to engage in family or leisure activities (Banerjee, 2024).

Techno Invasion

Techno invasion is one of the most critical stressors affecting work life balance. AI powered communication and collaboration platforms, such as intelligent messaging tools and recommendation driven notification systems, keep employees perpetually connected. In many Indian organizations, responsiveness and availability are culturally valorized, leading to implicit expectations that employees answer messages and attend virtual meetings outside standard hours (Jain & Gupta, 2024). This persistent intrusion of work into personal time undermines psychological detachment, increases work family conflict, and erodes overall well being.

Techno Complexity

AI systems are frequently complex and opaque. Employees must continuously update their digital skills to interact effectively with AI tools, interpret algorithmic outputs, and troubleshoot system issues (Hauk et al., 2019; Högemann, 2025). For workers with limited technological expertise, this complexity generates anxiety, self doubt, and cognitive overload. In hybrid work, where informal face to face assistance is limited, techno complexity can be even more stressful. The cognitive resources devoted to coping with complex systems may reduce energy available for non work roles, thereby harming work life balance.

Techno Insecurity

AI based automation and analytics raise concerns about job displacement and performance evaluation. Employees may fear being replaced by AI or judged unfavourably by algorithmic performance metrics (Wang et al., 2024). In hybrid work environments, where supervisors rely heavily on digital footprints rather than physical presence, techno insecurity can intensify feelings of vulnerability, prompting employees to overcompensate by working longer hours and staying continuously connected. This behaviour further disrupts work life balance and may contribute to chronic stress.

Techno Uncertainty

Frequent updates, system changes, and evolving AI applications create an environment of continuous uncertainty. Employees must constantly adapt to new tools, interfaces, and procedures, making it difficult to establish stable work routines (Tarafdar et al., 2019). In the Indian context, where infrastructural constraints such as inconsistent connectivity already complicate digital work, techno uncertainty can produce significant frustration and strain (Jain & Gupta, 2024). The instability generated by ongoing technological changes undermines employees' ability to plan personal activities and contributes to a persistent sense of unpredictability in both work and non work domains.

Technostress and Work Life Balance

From a technostress perspective, work life balance challenges arise when technology induced stressors spill over from the work domain into the personal domain. Techno overload and techno invasion extend working hours and expectations of responsiveness, leaving less time for rest, family interaction, and leisure. Techno complexity, techno insecurity, and techno uncertainty tax employees' cognitive and emotional resources, leading to emotional exhaustion, irritability, and reduced psychological availability for non work roles (La Torre et al., 2020; Banerjee, 2024).

Spillover theory suggests that experiences in one life domain can transfer to another through affective, cognitive, and behavioural channels (Edwards & Rothbard, 2000). In AI supported hybrid work, technostress creators contribute to negative spillover: stress accumulated during digitally mediated work is carried into the home domain, manifesting as fatigue, conflict, and withdrawal. Over time, this reduces employees' perceived work life balance and overall life satisfaction.

The Indian context may further intensify this dynamic. Strong family obligations, such as caregiving for children and elders, coexist with organizational cultures that reward long working hours and constant availability (Kaur & Sharma, 2025). Limited institutional support for flexible work life policies, particularly in smaller firms, means that employees often manage technostress without adequate organizational resources. As a result, AI supported hybrid work can paradoxically reduce well being despite ostensibly offering greater flexibility.

The Technostress Model: Theoretical Foundation

Technostress is defined as the stress that individuals experience due to their use of information and communication technologies (ICTs) (Brod, 1984). Building on the transactional model of stress and coping, Ragu Nathan et al. (2008) developed the Technostress Model, which identifies specific "technostress creators" as technology related job demands that give rise to strain. These technostress creators are:

- **Techno overload** technology forces individuals to work faster and longer, increasing the volume and pace of work.
- **Techno invasion** technology intrudes into personal life, blurring boundaries between work and non work domains.
- **Techno complexity** technology is complex and requires continuous learning, leading individuals to feel inadequate or overwhelmed.
- **Techno insecurity** individuals fear losing their jobs to technology or being evaluated unfavourably due to technology related performance metrics.
- **Techno uncertainty** constant changes in technology create instability and a continuous need to adapt.

Technostress creators have been empirically linked to negative outcomes such as burnout, job strain, reduced job satisfaction, and impaired productivity (Ragu Nathan et al., 2008; Tarafdar et al., 2019; Högemann, 2025). Recent research has extended the model to AI intensive contexts, examining how AI driven technostress influences employees' attitudes towards AI adoption, emotional exhaustion, and psychological health (Wang et al., 2024; Wang et al., 2023; Nguyen & Tran, 2024).

The Technostress Model is particularly suitable for analysing AI supported hybrid work because AI systems heighten many of the conditions described by technostress creators: they accelerate workflows, intensify connectivity, demand new skills, generate job insecurity, and change rapidly. This paper therefore adopts the Technostress Model as the sole theoretical lens to conceptualize the relationship between AI supported hybrid work and work life balance.

Conceptual Framework

Based on the Technostress Model, this paper proposes a conceptual framework in which AI supported hybrid work models act as antecedents of technostress creators, which in turn lead to work life balance challenges and downstream effects on employee well being. The

framework also incorporates the Indian cultural structural context and organizational interventions as key moderating influences.

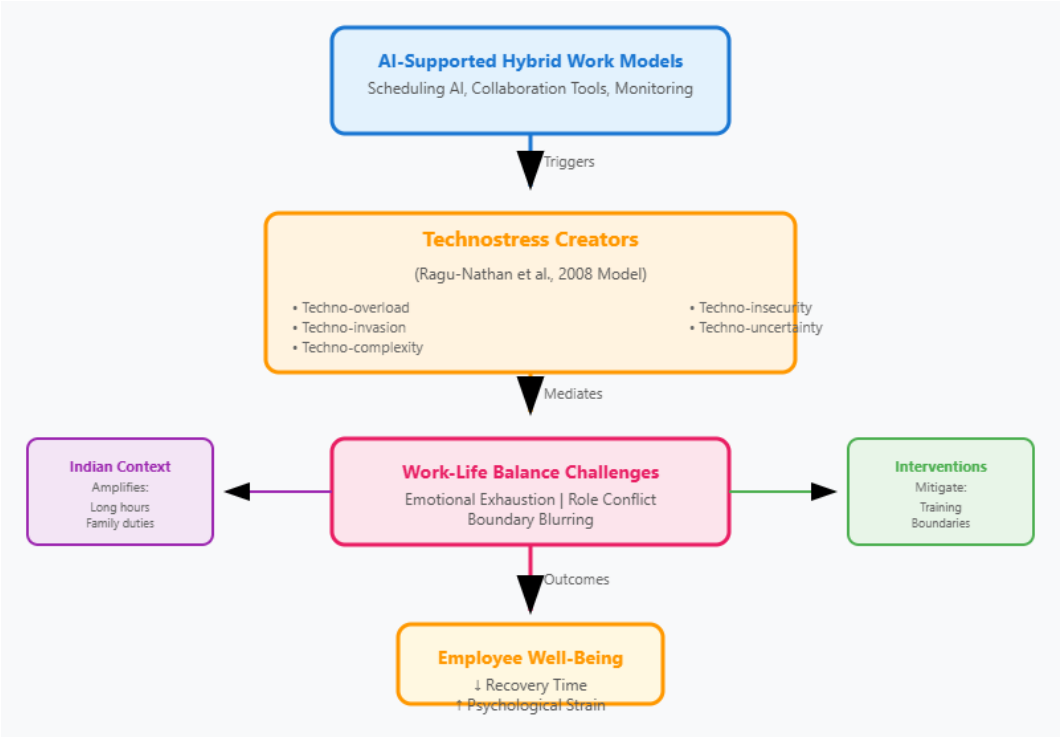

Figure 1. Technostress mediated conceptual framework for AI supported hybrid work and work life balance.

Figure 1, AI supported hybrid work models characterized by intelligent scheduling, digital collaboration platforms, and monitoring analytics trigger technostress creators (techno overload, techno invasion, techno complexity, techno insecurity, techno uncertainty). These technostress creators collectively function as a mediator that translates AI enabled work practices into work life balance challenges, expressed through emotional exhaustion, boundary blurring, and role conflict. Work life balance challenges subsequently influence employee well being outcomes, such as reduced recovery time and increased psychological strain.

The Indian context is conceptualized as a cultural structural moderator that amplifies the relationship between technostress creators and work life balance challenges. Elements such as long working hours, strong family and social obligations, and norms of high responsiveness intensify the impact of technostress on employees' ability to manage work and non work roles. Conversely, organizational interventions such as digital boundary policies, training to reduce techno complexity, and transparent AI governance are conceptualized as mitigating mechanisms that can weaken the link between technostress and adverse outcomes.

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Theoretical Contributions

This conceptual paper offers four key theoretical contributions. First, it extends the Technostress Model to AI-supported hybrid work by explicitly theorizing how AI-specific characteristics such as algorithmic monitoring, predictive analytics, and generative AI tools intensify all five technostress creators, responding to calls for updating technostress theory for advanced technologies [Hogemann, 2025; Wang et al., 2024]. Second, it foregrounds work-life balance as a central outcome of technostress rather than focusing solely on workplace attitudes, thereby bridging technostress research with work-family literature by clarifying mechanisms through which AI-hybrid work affects life outside work [Greenhaus & Allen, 2011; La Torre et al., 2020]. Third, by focusing on the Indian organizational context, the framework contributes to contextualized theorizing, highlighting how collectivist cultural expectations and infrastructural constraints amplify technostress effects in high-digitalization emerging economies [Jain & Gupta, 2024; Kaur & Sharma, 2025]. Finally, it integrates a design-oriented perspective by positioning organizational interventions as moderators, suggesting technostress results from how AI-hybrid work models are designed and managed rather than being inevitable.

Managerial Implications

From a managerial perspective, the framework underscores that AI adoption represents a socio-psychological intervention requiring deliberate design. Organizations should implement clear digital boundary policies including "right to disconnect" guidelines and after-hours communication restrictions to reduce techno-invasion. Continuous training, helpdesks, and user-centered AI design can address techno-complexity while enhancing digital self-efficacy. Transparent AI governance—explaining system operations, data usage, and algorithmic decision-making is crucial for mitigating techno-insecurity and techno-uncertainty, with employee involvement in technology decisions enhancing acceptance [Wang et al., 2024]. Regular technostress assessments through surveys enable early interventions like workload redistribution. In India, organizations must address the technostress family obligation interplay through flexible scheduling and culturally sensitive policies supporting sustainable AI-enabled hybrid work.

Conclusion and Future Research Directions

AI-supported hybrid work models offer flexibility and efficiency but introduce substantial work-life balance challenges through technostress creators that mediate between AI-enabled practices and employee well-being outcomes, particularly amplified in the Indian context. The proposed framework, illustrated in Figure 1, positions technostress as the central explanatory mechanism while identifying Indian cultural factors as amplifiers and organizational interventions as mitigators. Future empirical research should validate AI-specific technostress scales, examine differential effects of individual technostress creators on work-life balance dimensions, investigate personal and organizational resources as additional moderators, and conduct cross-cultural comparisons. Addressing technostress through human-centered AI design enables organizations to harness technological benefits while safeguarding employee work-life balance and well-being.

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