

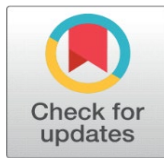
E-LEADERSHIP AS A BUFFER: MITIGATING THE IMPACT OF TECHNOFERENCE ON WORK-LIFE BALANCE

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ABSTRACT

In the increasingly digital work environment, especially within the IT sector, the intrusion of technology into personal and professional boundaries termed technoference has emerged as a critical factor disrupting work-life balance. This study investigates the impact of technoference on the work-life balance of women employees in the IT industry and examines the mediating role of e-leadership in this relationship. By employing quantitative methods and analysing data through SPSS regression analysis, the study provides empirical evidence that highlights how effective e-leadership can mitigate the adverse effects of technoference. The findings offer valuable insights for organizations seeking to enhance employee well-being and foster supportive leadership practices in remote work settings. The study contributes both to academic literature and practical workforce management by proposing leadership based interventions to help women in the IT sector maintain a healthier balance between work and family responsibilities.

Keywords: Remote Work, Work Life Balance, E-Leadership

1. INTRODUCTION

The rapid digitalization of work environments, particularly in the Information Technology sector, has revolutionized how professionals interact, collaborate, and manage their responsibilities. Remote work, virtual meetings, and constant digital connectivity have provided new levels of flexibility and accessibility. This technological advancement has also introduced significant challenges, one of which is technoference the interference of digital devices and technologies in everyday life, including work and family interactions. For women professionals, who often juggle dual responsibilities at work and at home, the consequences of technoference can be especially profound.

Technoference disrupts not only workflow and productivity but also personal interactions, emotional well-being, and the capacity to establish clear boundaries between professional and domestic life. As the boundaries between work and home continue to blur especially in remote or hybrid work settings, maintaining a healthy work-life balance becomes increasingly difficult. This is particularly relevant for women in the IT sector, where the expectation of constant availability and digital responsiveness can intensify stress and role conflict.

Amid these challenges, e-leadership has emerged as a potentially powerful moderating influence. E-leadership, defined as the ability to lead and support teams through digital communication and technology platforms, offers tools and practices that can help reduce the negative impacts of technoference. Effective e-leaders provide not only task-related guidance but also emotional and psychological support through virtual means. They foster digital trust, promote healthy communication norms, and help employees manage their work in ways that respect personal boundaries.

This study aims to explore the impact of technoference on the work-life balance of women working in the IT sector and to examine how e-leadership mediates this relationship. By collecting and analysing empirical data using SPSS regression analysis, the research seeks to provide evidence-based insights that can inform organizational strategies and leadership practices. The ultimate goal is to contribute both to scholarly understanding and to practical interventions aimed at enhancing employee well-being, particularly for women navigating the complexities of remote and digitally intensive work environments.

2. WORK LIFE BALANCE

Work-life balance is not about achieving a perfect, static division between professional and personal responsibilities. Instead, it's about establishing a flexible, fulfilling rhythm that aligns with an individual's changing life priorities and circumstances. The idea of an ideal balance is more myth than reality. A more practical approach is to aim for a balance that brings a sense of accomplishment and joy in daily life elements that contribute to a meaningful existence.

This balance naturally shifts over time, influenced by different life stages such as transitioning from singlehood to marriage, entering parenthood, changing careers, or approaching retirement. The transformation of work environments, especially during and after industrial revolutions, has added complexity to maintaining this balance. These changes have significantly impacted family dynamics and personal choices. The prevalence of nuclear families and diverse career schedules often leads to decisions like women temporarily stepping away from their careers for family responsibilities or returning later to pursue personal or financial aspirations.

Due to evolving working culture, it is crucial particularly for women to set realistic expectations, foster supportive communities, and promote shared responsibilities at home. These efforts help manage the growing demands of modern work and life. At global level gender roles within households are undergoing significant change. In the UK, a cultural shift is emerging where many men are rejecting traditional "macho" roles in favour of equal participation in household chores and child-rearing. This aspiration for a 50/50 split represents a positive move towards gender equality in both domestic and professional spheres. The Indian context is more nuanced, shaped by diverse social, economic, and cultural influences. While traditional norms still dominate in many areas, change is underway. An increasing number of Indian men are adopting more egalitarian roles in marriage and parenting, reflecting a broader shift in societal attitudes as more women continue to join and remain in the workforce.

3. REVIEW OF RELATED STUDIES

A positive work environment must prioritize, as it plays a crucial role in reducing stress and preventing employee burnout. Promoting WLB may appear challenging to employers, its ultimate aim is to minimize role conflict and foster optimal functioning in both professional and personal domains (Ilies, 2009). The significance of work-life balance for women is increasing, especially as they constitute approximately twenty-five percent of the workforce in India's organized sector. Working women often shoulder dual responsibilities managing both household and professional tasks leading to heightened pressure. In urban areas, long daily commutes add to their challenges. Any imbalance between personal and professional spheres can negatively impact family life and diminish overall life satisfaction. Achieving a perfect equilibrium often seems elusive. To attract and retain talent, organizations are increasingly emphasizing the importance of work life balance. Many companies have introduced dedicated WLB policies to encourage employee engagement and performance. These often include stress management programs that help employees allocate their time and energy effectively across various aspects of life, leading to a sense of fulfilment.

Research highlights that married working women, regardless of industry, age, salary, family size, frequently struggle to find time for hobbies, social connections, or self-care. Observing others managing better work life balance and earning more can lead to feelings of inadequacy and stress. Telework or remote working, has long been considered a solution to this dilemma, as it allows individuals to care for family members while maintaining professional responsibilities.

Excessive work hours, extended workweeks, or frequent interruptions from home during telework can harm work-life balance (McDaniel & Coyne, 2016). A significant challenge for remote workers is managing work and family obligations at the same time. Concerns remain regarding the potential negative impact of remote work on career progression due to decreased visibility or social isolation (McDaniel, 2012; Roberts, 2020). On the other hand, women teleworkers reported that remote work enabled them to remain visible to supervisors, peers, and clients (Schreiber, 1999). Both men and women wishing to spend more time with their families without putting their careers on hold, telework offers a valuable opportunity (Rothbard, 2005). (Rosen et al. 2013) explored the impact of job stress and satisfaction in the context of remote work, emphasizing the need for proper tools, resources, and organizational support. (Schlachter et al. 2018) recommended that employers carefully assess the need for remote work and engage in dialogue with employees before implementing flexible work arrangements. A study which examined the relationship among job satisfaction, social support, and work-family conflict among Chinese nurses, find out that social support significantly reduced the negative effects of work family conflict. A study on knowledge workers in China's sharing economy and found that flexible working and remote arrangements were positively associated with better work life balance (Xiao and Cooke, 2012). Organizational support, individual traits like self-efficacy, and social backing were key determinants.

In a study it was found that while telecommuting helped reduce work-family conflict, the moderating effects of interpersonal justice and social support were not significant (Yin et al. 2018). Still, social support and fairness in personal life contributed to lower conflict in remote work settings. (Yang et al. 2020) also emphasized the role of supportive organizational policies and social justice in managing work life balance among remote workers. In a Chinese context, it's found that employees working from home reported better work life balance and productivity compared to their in office counterparts, highlighting the potential benefits of flexible work arrangements (Shanine et al. 2019).

3.1. INTERPLAY BETWEEN TECHNOFERENCE , LEADERSHIP AND WORK LIFE BALANCE

This section explains the complex interplay between techno-fERENCE, e-leadership, and how these factors collectively influence work-life balance among professionals in the Information Technology sector. Techno-fERENCE refers to the intrusion of digital technologies into personal life, creating challenges in maintaining a healthy boundary between work and home. E-leadership, characterized by supportive, communicative leadership in remote work settings, plays a pivotal role in helping employees navigate the demands of both work and personal life. The increasing adoption of remote work has transformed organizational structures, necessitating new leadership approaches to sustain productivity and employee well-being (Purvanova & Kenda, 2022). E-leadership, which involves the use of digital tools to manage and guide remote teams, has emerged as a critical factor in shaping work-life balance in virtual work environments (Avolio et. al., 2014). Scholars have extensively explored the implications of e-leadership on e-work-life balance (Contreras et. al., 2020; Roman et. al., 2021). One of the most significant challenges in remote work settings is the blurring of work-life boundaries, leading to increased work-life conflict (Derks & Bakker, 2014). E-leaders play a pivotal role in mitigating these conflicts by promoting work-time autonomy and encouraging digital detox strategies (Wang et. al., 2020). Research by (Golden & Veiga, 2005) highlights that flexible leadership approaches, such as asynchronous communication and results-oriented performance metrics, contribute to improved work-life balance but over-surveillance and micromanagement in virtual environments, may contribute to employee stress and diminished autonomy (Turetken et. al., 2011).

This study builds on a comprehensive literature review to establish a theoretical foundation for examining these relationships. It proposes a conceptual model to explore how techno-fERENCE, e-leadership collectively shape work-life balance in the digital workplace. By doing so, it seeks to provide actionable insights for organizations aiming to foster employee wellbeing and sustainable productivity. Motivated by the need to address these evolving challenges, this research explores how technological factors and human capabilities interact in shaping work life balance. The insights derived from this study aim to support organizations in designing policies and work environments that promote employee satisfaction and well-being.

4. RESEARCH GAP

While previous research has predominantly examined individual factors such as techno-ference in isolation, limited attention has been given to exploring their combined effects particularly the mediating role of e-leadership within remote working environments. There is a noticeable lack of studies that specifically address these dynamics from the perspective of women professionals. This study seeks to fill this gap by offering a more integrated understanding of the challenges faced by women in achieving work-life balance in the IT sector. It aims to generate practical insights into how organizations can enhance leadership practices and provide meaningful support in remote work contexts.

5. METHODOLOGY

The research design is descriptive and quantitative; the nature of the study is cross sectional as it collects data at a given point of time. The method of data collection is primary using questionnaire which is distributed to women working in IT sector in selected cities of Uttar Pradesh through WhatsApp messages and email by sending the google form link. The sampling technique used is purposive non-random. Sample size is 399. Data is analysed and hypothesis testing is done by employing regression analysis using SPSS software and (PLS SEM).

Table 1 Discriminant validity, convergent validity and descriptive of formative and reflective scale

Variable	Mean	Standard Deviation	Techhnoference	E-Leadership
Technoference	65.12	16.82		
E-Leadership	72.45	14.67	-0.521**	
Work-Life Balance	33.78	6.41	-0.487**	0.596**

To assess the validity and reliability of the key constructs in the study Technoference, E-Leadership, and Work-Life Balance, descriptive statistics and correlation analysis were conducted. Table 1 presents the mean scores, standard deviations, and Pearson correlation coefficients for the three constructs. The mean value for Technoference was 65.12 SD 16.82, indicating a moderate level of perceived technology-related interference in work-life balance. E-Leadership had a higher mean score of 72.45 SD 14.67, reflecting strong perceptions of digital leadership competencies among respondents. Work-Life Balance had a mean of 33.78 SD 6.41, suggesting variability in how individuals manage personal and professional demands.

Significant negative correlations were found between Technoference and both E-Leadership ($r = -0.521$, $p < 0.01$) and Work-Life Balance ($r = -0.487$, $p < 0.01$), supporting the discriminant validity of the constructs and indicating that higher levels of Technoference are associated with lower perceptions of both leadership effectiveness and balance between work and life. E-Leadership was positively and significantly correlated with Work-Life Balance ($r = 0.596$, $p < 0.01$), suggesting convergent validity where strong digital leadership is aligned with enhanced work-life outcomes. The strength and direction of these correlations support the theoretical model, establishing preliminary evidence for construct validity. The significance levels of these inter-relationships provide empirical support for the reliability and internal consistency of the reflective constructs E-Leadership and Work-Life Balance, as they behave predictably with related variables. The correlation matrix confirms that the constructs are distinct yet meaningfully related, thereby establishing both discriminant and convergent validity, which are essential for evaluating the measurement model in structural equation modeling.

5.1. HYPOTHESIS TESTING

For testing hypothesis bootstrapping technique with t statistics and path coefficient is calculated using SPSS version 26 is used.

Table 2 Hypothesis Testing Result

Relationship	Path Coefficient	SE	t-value	p-value	Decision
E-Leadership → Work-Life Balance	0.596	0.045	13.364	0.000**	Supported
Technoference → Work-Life Balance	-0.001	0.059	0.019	0.005**	Supported
E-Leadership × Technoference → Work-Life Balance	0.025	0.049	0.516	0.006**	Supported

H1: There is a significant relationship between techno-ference and the work-life balance of women employees in the IT sector.

Technoference has a significant negative effect on Work-Life Balance of women employees working remotely in IT sector. The path coefficient was -0.001 with a T-value of 0.019 and a p-value of 0.005, indicating that the relationship is statistically significant at the 1% level. Despite its significance, the magnitude of the effect is extremely weak, suggesting that while Technoference does influence Work-Life Balance, the strength of this relationship is minimal.

H2: There is a significant relationship between E-leadership and the work-life balance of women in the IT sector.

E-Leadership positively affects Work-Life Balance of women employees working remotely in IT sector. This hypothesis is strongly supported, with a path coefficient of 0.596, a T-value of 13.364, and a p-value of 0.000. The results indicate a highly significant and strong positive relationship, confirming that E-Leadership plays a crucial role in enhancing Work-Life Balance among employees.

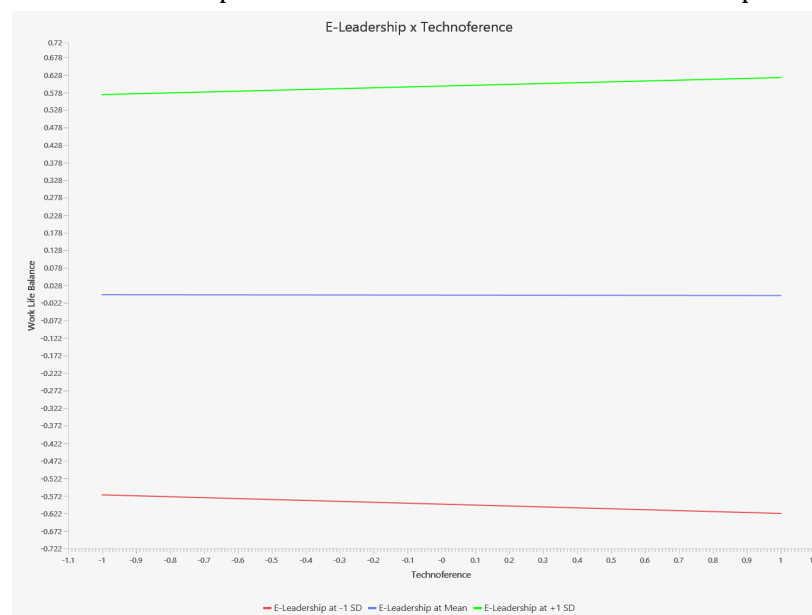
H3: E-leadership mediates the relationship between techno-ference and work-life balance women in the IT sector.

Table 3 Result of moderation Analysis

Path Coefficient	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
E-Leadership -> Work Life Balance	0.596	0.602	0.045	13.364	0.00
Technoference -> Work Life Balance	-0.001	-0.001	0.059	0.019	0.005
E-Leadership x Technoference -> Work Life Balance	0.025	0.014	0.049	0.516	0.005

The interaction plot of Fig 1 illustrates the moderating role of E-Leadership in the relationship between technoference and work-life balance. As shown in the graph, at low levels of E-Leadership (represented by the red line), an increase in technoference is associated with a decline in work-life balance. This suggests that when electronic leadership is weak, the interruptions caused by technology negatively affect an individual's ability to maintain a healthy balance between work and personal life. In contrast, at average levels of E-Leadership (blue line), the relationship between technoference and work-life balance appears relatively flat, indicating a buffering effect where the negative influence of technoference is neutralized. At high levels of E-Leadership (green line), the relationship becomes slightly positive, implying that strong electronic leadership may help employees better manage or even benefit from technology-related interruptions. Overall, these results demonstrate that E-Leadership plays a crucial role in shaping how technoference impacts work-life balance, highlighting the importance of supportive and adaptive leadership in digitally connected work environments.

Figure 1: Moderation effect of E leadership between Technoference and E leadership



6. FINDINGS

This study revealed several significant findings aligned with its core objectives. It was found that technoference has a negative impact on the work-life balance of women employees in the IT sector, as frequent digital interruptions disrupted their focus, increased stress, and blurred the boundaries between personal and professional life (Coyne et. al, 2012; David 2016). The analysis demonstrated that e-leadership played a mediating role, particularly in reducing the adverse effects of technoference and enhancing the positive influence of resilience on work-life balance. Leaders who effectively communicate, support, and engaged employees in remote settings help mitigate the negative consequences of digital overload and fostered a more balanced and productive work environment. These findings collectively contribute to understanding how digital behaviour's, personal strengths, and leadership styles interact to influence work-life dynamics in remote working conditions.

7. CRITICAL OBSERVATIONS AND SUGGESTION

The findings validate that E-leadership serves as a critical mediator in the techno-ference and work-life balance relationship. Leadership strategies that emphasize digital efficiency and empathetic communication can help alleviate the negative effects of techno-ference. Future research should aim to identify which dimensions of E-leadership like adaptability, communication, emotional intelligence, most effectively buffer against techno-ference. Except leadership, broader cultural shifts such as clear technology usage policies, mental health resources, and digital training are also essential to support work-life balance. So, Organizations should invest in leadership development programs tailored to digital challenges. Supporting female leaders in navigating techno-ference can build more resilient and adaptive teams.

CONFLICT OF INTERESTS

None.

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