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Article

When Technology Overwhelms: Technostress as a Predictor of Employee Silence under Conditions of Organizational Justice — A Pilot Study

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Abstract: The widespread use of information and communication technology (ICT) has unintentionally promoted technostress as businesses strive for digital maturity, leading to unproductive workplace behaviors. This pilot study investigated whether perceived organizational justice mitigates the negative association between employee silence and multidimensional technostress, encompassing psychological strain, lethargy, and physiological strain, drawing on Social Exchange Theory. Data were gathered from a small sample of 26 workers at an international agricultural research facility in Nigeria using a cross-sectional survey approach. The key constructs were measured using validated instruments, and hierarchical multiple regression analysis was used to assess the hypotheses. The results showed that employee silence was significantly and positively predicted by technostress ($p < .01$), suggesting that technology overwhelm may be a meaningful antecedent of communicative disengagement. Organizational justice did not significantly attenuate the association between technostress and employee silence ($p = .580$), although it showed a significant negative main effect on silence. These preliminary findings suggest that overall organizational fairness may not be sufficient to offset the depleting physiological and behavioral pressures of technostress. However, this null moderation result should be interpreted cautiously, given the limited statistical power of the sample. The findings point to customized digital hygiene practices and ergonomic interventions as a plausible avenue for restoring employee voice in the modern workplace. Still, given the small sample size, these results are preliminary and require confirmation in a larger, adequately powered study before firm practical conclusions can be drawn.

Keywords: Technostress, Employee Silence, Organizational Justice, Social Exchange Theory, Pilot Study.

1. Introduction

The modern workplace's fast digitization has completely changed the nature of work, turning information and communication technology (ICT) from a simple tool for increasing organizational productivity into a widespread and intricate cause of physical and emotional stress. Although the promise of increased efficiency is often the driving force behind the goal of digital maturity in contemporary businesses and smart factories, it often results in a significant "dark side" marked by technostress (Buzás et al., 2025; Wei & Zheng, 2025). When an employee's adaptive resources are exceeded by the relentless demands of technological complexity and continuous connectivity, technostress develops and has a detrimental effect on their general well-being (Hossain et al., 2026; Wang et al., 2023). Technostress is a distinctively multifaceted strain construct that permeates an employee's everyday life, in contrast to traditional professional stress. The intrusive nature and challenging learning curves of new digital platforms cause emotional symptoms such as increased anxiety, irritation, and extreme work fatigue (Wang et al., 2023; Jungst, 2023a, 2023b). In terms of behavior, this stress frequently causes an excruciating inability to stop using work-related digital tools, which leads to maladaptive coping strategies such as concealing false information and withdrawing defensively from team dynamics (Wei & Zheng, 2025; Chen & Li, 2026). According to Dutta and Mishra (2024) and Phayoonpun (2015), the unrelenting speed of ICT demands physically erodes the delicate work-home interface, causing chronic weariness, posture-related illnesses, and a general perception that technology is extremely harmful to physical health.

Employee silence, which is described as the deliberate and conscious withholding of important thoughts, concerns, or work-related information, is often used by employees as these emotional, behavioral, and physical pressures mount (Hao et al., 2022). Silence has become more than just a lack of communication in the digital age; it is now a calculated, protective reaction to the overpowering demands of technology (Kougiannou & Holland, 2022). According to the approach-inhibition model of employee silence, people are more likely to suppress their voice in order to preserve their exhausted psychological resources when they feel a high degree of environmental threat or a diminished sense of personal power, such as the helplessness brought on by technological complexity and digital monitoring (Morrison et al., 2015). As a result, the technological environment becomes a stressor that hinders organizational creativity and problem-solving because of the overwhelming nature of digital tools.

However, employees' interpretations and responses to digital overwhelm are greatly influenced by the organization's larger social context; thus, the path from technical strain to communicative withdrawal is not total (AL Abrrow, 2022). Perceived organizational justice, which includes a workplace's distributive, procedural, and interactional fairness, serves as a crucial psychological anchor and buffer in this dynamic (Whiteside & Barclay, 2013). Employees are given a sense of security and trust when they perceive high levels of organizational justice, which significantly changes how they cognitively assess technostress. According to Kanwal et al. (2025) and Al Muala et al. (2022), in a fair atmosphere, concerns and fatigue related to digital tools are more likely to be perceived as organizational support rather than systemic exploitation, which lessens the self-protective desire to keep quiet.

1.1 Problem Statement

A major paradox in contemporary management has surfaced despite the growth of these digital ecosystems: companies are seeing an alarming increase in employee resistance and silence at a time when digital technologies should be improving communication (Hossain et al., 2026). The wider effects of technostress on generalized outcomes, including work satisfaction, organizational commitment, and turnover intentions, have been well-documented in prior studies (Phayoonpun, 2015; Hessari et al., 2024). However, modern, high-impact literature has not fully examined the precise mechanical connection between the tridimensional strains of technological, behavioral, emotional, physical and communicative paralysis of employee quiet. According to current research, technology actively destroys psychological detachment. It causes defensive silence as a survival strategy when it permits a type of "abusive supervision" through constant digital monitoring or excessive role overload (Chen & Li, 2026; Elshaer et al., 2024). Additionally, there is still a clear theoretical and empirical gap regarding how overall organizational justice moderates the relationship between the full multidimensional experience of technostress and employee silence, despite early research showing that social support can mitigate the effects of technological complexity across generations (Jungst, 2023a, 2023b).

Organizations are extremely susceptible to a "spiral of silence," in which employees are unable to report the very technological injustices and failures that are initially causing them distress due to the severe physical and emotional toll of the digital landscape, if this moderating effect is not precisely understood (Kunasz, 2025; Kanwal et al., 2025). By fundamentally analyzing how fair treatment of workers can prevent the conversion of digital stress into communicative withdrawal, this study aims to close this crucial gap. Based on this premise, the following research questions will be investigated.

1.2 Research Questions

1. Will technostress predict employee silence?
2. Will perceived organizational justice moderate the relationship between technostress and employee silence?

2. Literature Review

2.1 Theoretical Review

2.1.1. Social Exchange Theory

One of the most reliable and long-lasting conceptual frameworks for comprehending interpersonal interactions, organizational dynamics, and workplace behavior is social exchange theory. The theory's central claim is that, motivated by the reciprocity heuristic, human interactions are essentially organized around a subjective cost-benefit analysis and the comparison of alternatives (Ahmad et al., 2023). According to the critical evaluation of Cropanzano et al. (2017), the framework is based on the idea that relationships develop into reciprocal commitments, loyalty, and trust over time if the parties follow a particular trade rule. Usually, these regulations entail the exchange of material

and socio-emotional resources. The widespread integration of technology has greatly complicated the traditional parameters of exchange in the setting up of the modern digital workplace. Workers constantly compare the resources offered by their company, such as leadership, technology tools, and structural support, to the demands made of them. Employees must modify their behavioral and communicative contributions to restore perceived equity when organizational needs persistently surpass available resources, causing a significant disturbance in the social exchange process (Xuecheng et al., 2022).

Technostress must be viewed as a major occupational cost that depletes an employee's cognitive and emotional resources to conceptualize the impact of technological overwhelm within these theoretical boundaries. According to the Stimulus-Organism-Response approach combined with Social Exchange Theory, technostress functions as a negative environmental stimulus that significantly changes an employee's internal organismic state, which in turn determines their behavioral response (Uzir et al., 2025). Organizations are unintentionally changing the psychological contract when they implement intricate digital mandates, continuous connectedness, and intrusive technological surveillance. Originally designed as a tool for productivity, technology turns into a hindering stressor that depletes the employee's socio-emotional reserves. A foundation of dependency and trust is necessary for all relational exchanges, according to Wallenburg and Handfield (2022). However, the constant pressure of technostress breaks this trust by significantly distorting the exchange dynamic toward organizational extraction rather than shared advantage. The worker believes there is a systemic imbalance as a result. The psychological weariness brought on by this imbalance forces the person to do a defensive calculus in which they must figure out how to reduce their continuous resource consumption in a setting that feels increasingly extractive.

The reciprocity principle requires a proportionate behavioral reaction when the social transaction is seen as unfair because of the depleting consequences of technostress. Employees often use information withholding as a purposeful negative reciprocity tactic, according to recent meta-analytical insights into knowledge hiding within the Social Exchange Theory framework (Zhang et al., 2025). Therefore, employee silence is a purposeful, protective withdrawal of intellectual and socioemotional resources rather than just a passive lack of communication. The internal flow of employee voice is dependent on the perceived fairness of the psychological contract, just as supplier relationship management controls the flow of inter-organizational learning and innovation contribution based on perceived relational value (Yang et al., 2023).

Although negative reciprocity and the ensuing silence are sparked by technostress, organizational leadership's management of the larger relational context can drastically change this course. Positive, encouraging interventions can lessen the negative impacts of workplace pressures on employee retention and behavior, as demonstrated by the integration of situational leadership paradigms with Social Exchange Theory (Xuecheng et al., 2022). Organizational justice is the crucial socioemotional resource that recalibrates the disturbed exchange within the framework of this investigation. According to Kilroy et al. (2023), frontline managers play a crucial role in operationalizing equitable daily interactions, underscoring the need to incorporate reciprocity directly into human resource management. High levels of distributive, procedural, and interactional justice give workers a strong indication that they are valued and supported by the company. This infusion of beneficial socio-emotional resources radically alters the cognitive assessment of technostress. Employees in high-justice environments are more likely to see technological overwhelm as a shared organizational obstacle rather than as a malevolent or exploitative organizational demand. The psychological contract is protected from the strain of technology by the strong trust that equitable treatment fosters. As a result, the desire to participate in negative reciprocity is eliminated. The predicted association between the burdens of technostress and the protective retreat into silence is much weakened when employees receive fair treatment, which provides the psychological safety and relational capital needed to keep their voice. Employees will naturally limit their communication contributions if a company imposes excessive technological demands on them without providing sufficient socio-emotional compensation. Employees are effectively lowering their investment in the company to match the declining quality of the exchange when they choose to remain silent, withholding creative ideas, critical comments, or concerns about technology malfunctions. This communication withdrawal is a coping strategy intended to stop resource depletion and to gently punish the organization for violating fair exchange standards.

2.2 Hypotheses

1. Technostress will have a significantly positive prediction on employee silence

2. Perceived organizational justice will significantly moderate the relationship between technostress and employee silence, such that the positive relationship is significantly weakened when organizational justice is high.

3. Methods

3.1 Design

This study adopted a cross-sectional ex-post facto design, also known as "retroactive," because the variables of interest, which are technostress, employee silence and organizational justice, had naturally occurred before the study began. The data collected for the study were gathered to establish an extrapolation among the variables. Given the constrained sample size (N = 26) achievable within the target population and recruitment window, this investigation is best characterized as a pilot study intended to generate preliminary effect-size estimates and inform the design of a subsequent, adequately powered confirmatory study, rather than to provide definitive population-level inferences.

3.2 Participants

The sample for this study consisted of 26 employees recruited from the International Institute of Tropical Agriculture (IITA). Of the participants, 80.8% identified as male (n = 21) and 19.2% as female (n = 6). The participants' ages ranged from 28 to 63 years, with a mean age of 40.35 years (SD = 10.23). Regarding educational attainment, most of the sample held a Bachelor's degree or equivalent (53.8%, n = 14), followed by those with a Post Graduate or Professional Certification degree (34.6%, n = 9), and a diploma or lesser qualification (11.5%, n = 3). Most of the participants were permanent staff members (84.6%, n = 22), while contingent staff members were (15.4%, n = 4).

3.3 Inclusion/Exclusion Criteria

The participants of this study are people working at the International Institute of Tropical Agriculture (IITA), whose jobs require operating computers on site within the organization. They must have a legal contract, either a permanent or contingent contract, with the organization, indicate willingness to participate in the study and understand the English Language.

3.4 Instruments

A standardized, self-administered questionnaire with four separate sections (A–D) was used to gather data for this investigation. Validated, established scales that were slightly modified to guarantee language clarity and cultural acceptability within the Nigerian organizational setting were used to measure all substantive constructs. Composite scores were calculated for each variable. The first section of the instrument gathered occupational and sociodemographic information from respondents. Sex, age, marital status, level of education, job title, and type of employment were among the variables evaluated.

The second section, which comprised of The Computer Induced Distress (CID) scale, created and validated in the Nigerian setting by Ishola, Obasi, and Oluwole (2019), was used to measure technostress. This tool was specifically selected because of its ecological validity in evaluating the stress caused by information and communication technology (ICT) in nearby companies. The scale measures technostress as a multifaceted concept made up of three different elements: physiological strain, psychological strain, and depression. The scale showed high internal consistency (α =.91) in its initial validation. The scale retained strong psychometric qualities for the current investigation, producing an overall Cronbach's alpha of.852.

The third consisted of Employee silence, which was evaluated using the Organizational Silence Scale (OSS), developed by Van Dyne, Ang, and Botero (2003), which assesses how employees intentionally withhold relevant opinions or information. The OSS includes three dimensions: acquiescent silence (withholding due to resignation), defensive silence (withholding to avoid negative repercussions), and prosocial silence (withholding to benefit the organization). Respondents rate items on a 5-point Likert scale, with higher scores reflecting a greater tendency to remain silent. The adapted scale demonstrated excellent reliability (Cronbach's α = .885). However, the prosocial silence subscale had an alpha of .56, slightly below the conventional threshold, yet was retained to maintain the multidimensional nature of the construct.

Lastly, Colquitt's (2001) comprehensive justice scale was used to gauge perceptions of organizational justice. By identifying distributive, procedural, interpersonal, and informational justice as separate but connected dimensions, this groundbreaking tool supports justice as a four-factor framework. On a 5-point Likert scale anchored by 1 (to a little extent) and 5 (to a considerable extent), respondents assessed how fair organizational procedures and results were. Colquitt's (2001) scale is well known for its high predictive validity when it comes to workplace behaviors like following rules and being helpful. With an overall Cronbach's alpha α = .950, the instrument in this investigation showed remarkable internal consistency.

3.5 Procedure

Respondents were required to visit a landing page that served as a digital informed consent form before they could access the survey's main sections. The study's goals, projected completion time, voluntary participation, and assurances of data confidentiality were all described on this page. To continue, participants must pick the "I Agree to Participate" option. The survey link was sent around the company using a convenience and snowball sampling technique. The recruitment process used a multi-channel strategy, beginning with institutional emails that included a link to the survey and a synopsis of the study to colleagues in other departments. The survey link was also disseminated through professional instant messaging, including direct WhatsApp messages and postings in the unit's group chats, to increase response rates.

The Google Form was designed for anonymous data collection, with no request for personal identifiers and no gathering of email addresses, to promote truthful answers and lessen social desirability bias. To encourage participation without putting undue pressure on respondents, two courteous reminder messages were issued via email and WhatsApp over the survey's three-week period.

3.6 Statistical Analyses

For the first hypothesis, the multiple linear regression analysis was used to explore the relation between the two continuous variables of interest. In the second hypothesis, hierarchical multiple regression was used to investigate the main and interaction effects of the variables of interest and the moderating role of organizational justice.

4. Results

Descriptive Statistics and Intercorrelations

Table 1 presents the means, standard deviations, and bivariate correlations for all study variables. Technostress demonstrated a significant positive correlation with employee silence ($r = .553$, $p = .002$). Furthermore, the dimensions of technostress, psychological strain ($r = .471$, $p = .008$), lethargy ($r = .468$, $p = .008$), and physiological strain ($r = .455$, $p = .010$) were all positively and significantly correlated with employee silence. Organisational justice showed a negative correlation with employee silence ($r = -.350$, $p = .040$).

Table 1: ***Descriptive Statistics and Bivariate Correlations***

Variable	M	SD	1	2	3	4	5
1. Employee Silence	41.54	11.48	-				
2. Organizational Justice	64.81	18.87	-.350*	-			
3. Technostress (Overall)	34.85	9.46	.553**	-.001	-		
4. Psychological Strain	18.42	5.51	.471**	.171	.407*	-	
5. Lethargy	8.42	2.83	.468**	-.006	.473**	.711**	-
6. Physiological Strain	8.00	2.87	.455**	-.325*	.386*	.407*	.473**

$p < .05$. $p < .01$.

Hypothesis 1: Main Effect of Technostress

Hypothesis 1 predicted that technostress would have a significant positive effect on employee silence. To test this, a simple linear regression was conducted (see Table 2). The model was statistically significant, $F(1, 24) = 10.562$, $p = .003$, accounting for 30.6% of the variance in employee silence ($R^2 = .306$). The results revealed that overall technostress is a significant positive predictor of employee silence ($\beta = .553$, $t = 3.250$, $p = .003$). Therefore, Hypothesis 1 is supported.

Table 2: ***Simple Linear Regression Predicting Employee Silence from Technostress***

Predictor	B	SE B	β	t	p
(Constant)	18.15	7.45		2.44	.023
Technostress	0.67	0.21	.553	3.25	.003

N = 26. R = .553, R^2 = .306, Adjusted R^2 = .277, F(1, 24) = 10.56, p = .003

Hypothesis 2: ***The Role of Organizational Justice and Technostress Dimensions***

Hypothesis 2 posited that perceived organizational justice significantly moderates the positive relationship between technostress and employee silence, weakening the effect when justice is high. To evaluate the relationships between these variables, hierarchical multiple regression analyses were performed (see Tables 3 & 4). Note: The current analysis tests the incremental main effects of technostress and its dimensions over organizational justice, providing the foundational steps for a moderation model. Overall Technostress (Model A): In Step 1, organizational justice was entered, accounting for a non-significant 12.2% of the variance in employee silence, F (1, 24) = 3.340, p = .080. In Step 2, overall technostress was added to the model. The inclusion of technostress explained an additional 30.5% of the variance, a change that was statistically significant, ΔF (1, 23) = 12.262, p = .002. In the final model, both organizational justice (β = -.349, p = .037) and overall technostress (β = .553, p = .002) emerged as significant independent predictors of employee silence. Dimensions of Technostress (Model B): A subsequent hierarchical regression was conducted to observe the discrete dimensions of technostress. Following the entry of organizational justice in Step 1, the three dimensions of technostress (Psychological Strain, Lethargy, and Physiological Strain) were entered in Step 2. The addition of these dimensions yielded a significant model improvement, explaining an additional 30.9% of the variance, ΔF- = 3.810, p = .025. However, due to potential multicollinearity among the dimensions (Psychological Strain and Lethargy, r = .711), none of the individual dimensions reached statistical significance as independent predictors in the final model (Psychological Strain: p = .122; Lethargy: p = .596; Physiological Strain: p = .611), though the overall block significantly predicted the outcome.

Model A

Table 3: ***Hierarchical Regression with Technostress and Organizational Justice***

Step	Variable	B	SE B	β	t	p
1	Organizational Justice	-0.21	0.12	-.350	-1.83	.080
2	Organizational Justice	-0.21	0.10	-.349	-2.21	.037
	Technostress	0.67	0.19	.553	3.50	.002

Model Fit: Step 1: R^2 = .122, F(1, 24) = 3.34, p = .080; Step 2: R^2 = .427, ΔR^2 = .305, F (2, 23) = 8.58, p = .002.

The results in Table 3 indicate that after controlling for organizational justice, technostress remained a significant positive predictor of employee silence (β = .553, p = .002). In contrast, organizational justice became a significant negative predictor (β = −.349, p = .037).

Model B

Table 4: Hierarchical Regression with Technostress Dimensions

Step	Variable	B	SE B	β	t	p
1	Organizational Justice	-0.23	0.11	-.382	-2.05	.053
2	Psychological Strain	0.83	0.52	.399	1.61	.122
	Lethargy	0.53	0.99	.132	0.54	.596
	Physiological Strain	0.43	0.82	.106	0.52	.611

Model Fit: R = .657, R^2 = .432, Adjusted R^2 = .323, F (4, 21) = 3.99, p = .015.

As indicated in Table 4, the combined model significantly predicted employee silence ($R^2 = .432$, $p = .015$), explaining 43.2% of the variance.

Moderating Role of Organizational Justice

To test this moderation hypothesis, a three-step hierarchical multiple regression analysis was conducted. Prior to the creation of the interaction term, the independent variable, technostress and the moderating variable, organizational justice, were mean-centered to minimize potential multicollinearity. The results of this analysis are summarized in Table 5.

In Step 1 of the regression model, organizational justice was entered to control for its main effect. This initial model accounted for 12.2% of the variance in employee silence, though the overall model did not reach conventional levels of statistical significance, $F (1, 24) = 3.34$, $p = .080$.

In Step 2, the mean-centered technostress variable was introduced. The inclusion of technostress significantly improved the model, explaining an additional 30.5% of the variance in employee silence, $\Delta F (1, 23) = 12.26$, $p = .002$. In this step, both organizational justice ($\beta = -.349$, $p = .037$) and technostress ($\beta = .553$, $p = .002$) emerged as significant independent predictors. The positive beta coefficient for technostress further corroborated the findings of Hypothesis 1, indicating that higher levels of technostress directly predict higher levels of employee silence.

In Step 3, the interaction term Technostress * Organizational Justice was entered into the model to test the hypothesized moderation effect. The addition of the interaction term accounted for a negligible 0.8% increase in the explained variance, a change that was not statistically significant, $\Delta R^2 = .008$, $\Delta F(1, 22) = 0.31$, $p = .580$. Furthermore, the standardized regression coefficient for the interaction term itself was not significant ($\beta = -.099$, $p = .580$).

Because the interaction term failed to explain a significant proportion of additional variance and its coefficient was not statistically significant, the moderation effect is not present in this model. The data suggest that while technostress increases employee silence and organizational justice independently decreases it, the level of justice in the organization does not significantly alter the strength or trajectory of the technostress-silence relationship. Therefore, Hypothesis 2 is not supported.

Table 5: Hierarchical Regression Analysis Testing the Moderating Effect of Organizational Justice on the Relationship Between Technostress and Employee Silence

Model	Predictor	B	SE B	β	t	p
Step 1	Organizational Justice	-0.213	0.116	-.350	-1.827	.080
Step 2	Organizational Justice	-0.212	0.096	-.349	-2.212	.037
	Technostress (Centered)	0.671	0.192	.553	3.502	.002
Step 3	Organizational Justice	-0.225	0.100	-.370	-2.249	.035
	Technostress (Centered)	0.714	0.209	.588	3.413	.002
	Interaction (Techno × Justice)	-0.005	0.010	-.099	-0.561	.580

Main Effects: Technostress remained a significant positive predictor of employee silence ($\beta = .588$, $p = .002$). Similarly, Organizational justice was a significant negative predictor ($\beta = -.370$, $p = .035$), indicating that higher justice is associated with lower employee silence.

Step	R	R^2	ΔR^2	F	p	ΔF	p (ΔF)
1	.350	.122	-	3.34	.080	-	-
2	.654	.427	.305	8.58	.002	12.26	.002
3	.660	.435	.008	5.66	.005	0.315	.580

Moderation Effect: The interaction term, Technostress × Organizational Justice, was not statistically significant ($\beta = -.099$, $p = .580$). In the same vein, the addition of the interaction term resulted in a non-significant change in explained variance ($\Delta R^2 = .008$, $p = .580$).

5. Discussion

The primary objectives of the study were to examine the multifaceted effects of technostress on employee silence empirically and to ascertain whether felt organizational fairness could operate as a boundary condition mitigating this negative link. Based on the approach-inhibition model and Social Exchange Theory, the results offer a sophisticated view of how communication behaviors in the modern workplace are dictated by digital overwhelm.

The findings showed a strong positive correlation between total technostress and staff quiet, which strongly supported the first hypothesis. This result is consistent with recent theoretical claims that view technological invasion and complexity as serious hindrance stressors that drain an employee's socioemotional and cognitive resources rather than just operational obstacles. Employees turn to silence as a defensive coping strategy when faced with unrelenting digital demands, increased worry, and the physiological effects of continuous connectedness. Employees try to preserve their remaining psychological capital by purposefully suppressing thoughts, worries, and feedback. This behavioral retreat is indicative of a negative reciprocity dynamic found in Social Exchange Theory, wherein employees' communicative involvement is proportionately reduced in response to the organization's energy extraction through technological overload. The strong main effect seen here adds to the body of research by demonstrating that the "dark side" of digitalization actively paralyses the voice mechanisms necessary for organizational innovation and error correction, going beyond general discontent.

On the other hand, the findings did not support the second hypothesis, which proposed that the association between technostress and employee silence would be greatly moderated and weakened by perceived organizational justice. The interaction term was statistically negligible, but the hierarchical regression analysis showed that organizational justice had a significant negative main effect on employee quiet, suggesting that fair treatment naturally promotes voice. This discovery offers a tentative theoretical insight into the nature of technostress, though given the study's limited statistical power to detect interaction effects in a sample of 26, it should be treated as a preliminary signal warranting confirmation rather than a settled finding. It implies that organizational fairness has little bearing on the depleting impacts of technological overwhelm, especially its physiological and severe behavioral pressures. Essentially, even though a highly just environment promotes trust and lessens baseline silence, it is unable to structurally counteract the sheer fatigue and cognitive overload brought on by broken institutions, ongoing digital surveillance, or excessive communication volumes. The digital tiredness or visual strain that is the primary cause of an employee's withdrawal cannot be alleviated by a fair supervisor or equal distributive procedures. This lack of moderation suggests that technostress is a particularly ubiquitous construct that supersedes conventional relationship buffers and necessitates targeted, technology-focused therapies as opposed to broad socioemotional support.

6. Conclusion

This pilot study highlights a potential paradox as businesses strive for digital maturity: the very tools used to improve productivity and connectedness may also be silencing employees. In this small sample, the multifaceted strains of technostress, including behavioral entanglements, emotional distress, and physical exhaustion, emerged as significant predictors of employee silence. The apparent incapacity of organizational justice to govern this interaction, while striking, was tested with limited statistical power and should be treated as a preliminary signal rather than a settled conclusion. Although treating workers fairly likely remains a valuable component in lowering overall workplace silence, these preliminary results suggest it may not, on its own, be an adequate remedy for the paralysis brought on by digital overburden. Confirmatory research with a larger, adequately powered sample is needed before these interpretations can inform practice with confidence. If replicated, these findings would suggest a need to reconsider employee silence in the digital age as, at least in part, a direct, physiological, and psychological defense mechanism against the unrelenting pace of an uncontrolled digital landscape, rather than solely a sign of toxic culture or inadequate leadership.

7. Recommendations

This pilot study's preliminary findings suggest that a strategic shift may be warranted in how businesses handle human capital and technology revolutions, pending confirmation in a larger, adequately powered sample. Practically speaking, management must understand that, rather than depending only on broad fairness programs, addressing technostress at its structural core is necessary to overcome employee silence. To lessen the behavioral incapacity to

detach from work, organizations should establish thorough digital hygiene policies that prominently feature the "right to disconnect." Digital ergonomics should also be incorporated into job redesign, making sure that technology instruments are simplified to lessen complexity and overload information. It is recommended that the People and Culture Directorate train frontline managers to recognize the early emotional and physiological signs of technostress, changing the managerial emphasis from maintaining digital availability to maintaining cognitive well-being.

Theoretically, by investigating other modifiers that are inextricably linked to digital experience, future researchers should broaden the nomological network of technostress. Variables including perceived IT support, digital literacy, technology-specific psychological safety, and dispositional traits such as conscientiousness (Ariño-Mateo et al., 2024) may provide the buffering benefits that general fairness was unable to deliver since generalized organizational justice proved inadequate.

8. Limitation and Future Direction

Although this study provides important insights into the dynamics of the digital workplace, it has a few methodological flaws that give opportunities for further research. Most significantly, the small sample size (N = 26) that defines this as a pilot rather than a confirmatory study substantially hampered the statistical power needed to identify modest interaction effects in the moderation analysis. Because a bigger, more varied sample may provide enough power to reveal a subtle buffering effect, the rejection of organizational justice's moderating role should be read cautiously. Furthermore, conclusive causal inferences cannot be established due to the cross-sectional character of the research methodology. It is still quite possible that there is a reciprocal link in which employees who are silenced lack the voice to demand improved technology resources, which eventually exacerbates their technostress. To capture the dynamic, changing nature of digital strain and communicative disengagement, longitudinal or cross-lagged panel approaches must be prioritized in future research. Lastly, the use of self-reported measures raises the possibility of social desirability and common method bias, especially when assessing delicate concepts like justice and quiet. To support these findings, future research will greatly benefit from using multi-source data, such as objective organizational indicators of digital engagement or peer evaluations of withdrawal behaviors.

9. Funding

This research received no external funding.

10. Conflict of Interest Statement

The authors declare no conflict of interest in the design, analysis, or reporting of this study. The corresponding author is an employee of the International Institute of Tropical Agriculture (IITA), the organization from which participants were recruited. To mitigate potential bias arising from this relationship, data were collected via an anonymous Google Form with no personal identifiers or email addresses captured; participation was solicited through convenience and snowball sampling (institutional email and WhatsApp messaging) rather than through direct managerial channels; and no supervisor or member of institute leadership had access to individual responses or the ability to identify respondents.

11. Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to participant confidentiality protections.

12. Ethics Statement

This study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from the IITA Institutional Review Board (IITA-IRB), approval number IITA-IRB 0526. All participants completed a digital informed consent process prior to participation and were informed of their right to withdraw at any time without consequence.

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