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# Job Demands, Resources, and Digital Job Stress: The Roles of Knowledge Diversity and Interruption Overload in Digitalized Work Settings

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**Abstract**

The present study investigated how interruption overload (IO) and workplace knowledge diversity (WKD) are associated with digital job stress (DJS) in Türkiye's public banking sector. Drawing on the Job Demands–Resources (JD–R) model and Technostress Theory, DJS is conceptualized as a multidimensional construct shaped by organizational demands and resources rather than as a purely individual reaction to technology. Survey data from 406 branch managers were analyzed using partial least squares structural equation modeling. IO was positively associated with digital work complexity, insecurity, conflicts, and perceived usefulness, and negatively associated with technical support, indicating that interruption dynamics simultaneously amplify cognitive strain while coinciding with lower perceptions of organizational support. WKD displayed a dual pattern: it was positively related to overload while also appearing to strengthen perceptions of social cohesion, safety, and technical support. This suggested that diverse knowledge structures can function both as a demand and as a resource. Together, these findings demonstrate that DJS subdimensions appear to respond differently to organizational knowledge configurations and interruption dynamics, challenging views that treat digital stress as a uniform state. By focusing on a non-Western, highly regulated, and customer-intensive sector, the study addresses the geographic bias in technostress research and provides a comprehensive organizational-level framework linking IO and WKD with DJS.

**Plain Language Summary**

Digital technologies are widely used in today's workplaces, in banking. While these tools can improve efficiency and communication, they may also create new sources of stress for employees. This study examines how two workplace conditions—frequent interruptions and differences in employees' knowledge and expertise—are associated with digital stress among managers in Türkiye's public banking sector. We surveyed 406 bank managers from public banks and explored their experiences with digital stress. We focused on two factors common in digitalized workplaces. First, interruptions from emails, phone calls, messages, and notifications can disrupt concentration and make it more difficult to complete tasks efficiently. Second, employees often work in teams with different levels of knowledge and expertise. While these differences can provide valuable perspectives and improve problem-solving, they may also create communication and coordination challenges. Our findings show that workplace interruptions are associated with higher levels of digital stress, including work complexity, conflicts, insecurity, and interruption overload. Interruptions were also associated with lower perceptions of technical support and digital safety. Knowledge diversity showed positive and negative associations. It was related to

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stronger perceptions of technical support, social environment, and digital safety, but was also associated with higher workload and interruption overload. The study was conducted in Türkiye's public banking sector. The findings suggest that digital stress is influenced not only by technology itself but also by workplace practices and employee interactions. Improving communication, reducing interruptions, and improving support may help create healthier digital work environments.

**Keywords**
Digital job stress, interruption overload, workplace knowledge diversity, Job Demands-Resources (JD-R) model, technostress theory

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## 1. Introduction

Digitalization has accelerated business processes and enhanced efficiency, yet it has simultaneously increased employees' workload, complicated task management, and diversified cognitive demands (Xie & Yang, 2025; Zhang et al., 2025). The intensive use of digital technologies has introduced new stressors such as the expectation of constant availability and cognitive overload (Xie & Yang, 2025). In this context, digital job stress (DJS) is defined as work-specific stress triggered by digital technologies and is distinguished from general technostress through its focus on organizational demands and resources (Marsh et al., 2022; Tarafdar et al., 2007). While technostress broadly captures individuals' psychological responses to technology use across contexts, DJS specifically reflects how these pressures are shaped and experienced within organizational structures, routines, and resource configurations (Fischer et al., 2021; Tarafdar et al., 2007). Accordingly, DJS is conceptualized as a work-contextualized manifestation of technology-related stress that emphasizes how organizational demand–resource conditions shape employees' digital stress experiences. DJS encompasses cognitive, emotional, and physical strains and is closely associated with employee well-being and organizational outcomes (Pflügner et al., 2021). Understanding DJS is critical for strengthening manager–workforce relations and enhancing workplace well-being (Brough et al., 2020; Li et al., 2025).

Existing research has extensively examined the individual consequences of technostress, highlighting issues such as nurses' quality of life (Babapour et al., 2022), employees' mental health (Moreno Fortes et al., 2020), and cognitive exhaustion (Nastjuk et al., 2024). However, organizational characteristics that relate to DJS remain comparatively underexplored, particularly in non-Western contexts (Wang et al., 2023). In addition, two key conceptual uncertainties are evident in the literature. First, workplace knowledge diversity (WKD) has been described simultaneously as a resource facilitating collaboration and learning, and as a demand associated with heightened cognitive load—yet this dual characterization has rarely been examined within digitalized work settings (Tryba et al., 2023). Second, prior studies report differing associations between interruption overload (IO) and stress-related constructs. While some studies link IO to higher cognitive strain, reduced productivity, and stress-related outcomes, others suggest that interruptions may also be associated with attentional renewal, information exchange, or collaborative work routines (Leroy et al., 2021; Mark et al., 2005; Yin et al., 2018). These divergent findings imply that IO may be experienced in context-dependent ways across digital environments. Clarifying these patterns is necessary for advancing conceptual understanding of DJS.

The present study draws on the Job Demands–Resources (JD-R) model and Technostress Theory to construct a framework for examining how organizational demands and resources are associated with DJS. The JD-R model outlines how job characteristics relate to strain, while Technostress Theory highlights pressures arising from digital technologies, including overload, complexity, and invasion (Tarafdar et al., 2007). Rather than applying these perspectives in parallel, the present study integrated them to explain how technology-induced stressors are filtered through organizational demand–resource structures, thereby shaping distinct dimensions of DJS (Bakker & Demerouti, 2007; Tarafdar et al., 2007). More specifically, Technostress Theory explains the nature of technology-related stressors, whereas the JD-R model provides the organizational mechanism through which these stressors are associated with different perceptions of DJS. This integrated perspective allows digital stress to be examined as the outcome of interactions between technology-induced demands and organizational resource structures rather than as a purely individual response to technology use. Bringing these two perspectives together enables a multi-layered conceptualization in which DJS is viewed as connected both to technology-related stressors and to organizational knowledge dynamics. Within this integrative framework, the study examines the dual characterization of WKD and the context-related nature of IO in relation to DJS.

Türkiye's public banking sector provides a unique setting for the present study, characterized by rapid digitalization, strong regulatory pressures, and customer-oriented services, where traditional hierarchical structures intersect with modern

digital processes (Erhan et al., 2022; Porfírio et al., 2024). Consistent with institutional theory (Scott, 2014), the strong regulatory and hierarchical structure of Türkiye's public banking sector may create a distinctive demand–resource configuration in which formal rules shape how digital demands and resources are experienced by employees. These features create a structured yet demanding digital environment in which both resource availability and demand intensity are institutionally shaped, making it a particularly relevant context for examining how DJS emerges at the organizational level. This sector offers a critical context for examining geographic and institutional dynamics that remain underrepresented in Western-centric scholarship. Drawing on data from branch managers, the study investigates the associations among WKD, IO, and DJS.

To address these conceptual uncertainties, the present study focused on the following research questions (RQs): (i) How are workplace knowledge diversity (WKD) and digital job stress (DJS) associated within digitalized organizational environments? (RQ1); (ii) How is interruption overload (IO) related to the subdimensions of DJS? (RQ2); and (iii) How do organizational characteristics in Türkiye's public banking sector shape these associations? (RQ3).

The present study makes three contributions to the literature. First, by integrating the JD-R model and Technostress Theory, it offers a framework that outlines the organizational and technological conditions under which WKD and IO relate to DJS. More specifically, the study contributes by demonstrating how digital stress can be understood as a multidimensional organizational phenomenon shaped by the interaction between technology-induced demands and organizational resource structures, rather than as a uniform individual response to technology use. Second, the empirical investigation within Türkiye's public banking sector addresses geographic and sectoral blind spots in the technostress literature by examining DJS in a non-Western, highly digitalized, and institutionally complex context. Third, the study provides practical insights for HRM practices—including notification management systems, technical support infrastructures, and knowledge-sharing platforms—that can strengthen manager–workforce relations and support employee well-being. Given the cross-sectional design, the findings should be interpreted as patterns of association rather than causal relationships. Accordingly, the results reflect how organizational factors are associated with different dimensions of DJS within a specific contextual setting, without implying directional or temporal precedence.

## 1.2. Theoretical framework

### 1.2.1. Workplace knowledge diversity and digital job stress

In order to understand the stressors that are present in digitalized work environments, it is essential to consider organizational-level characteristics alongside individual factors. Workplace knowledge diversity (WKD) is one such characteristic that has received growing attention. Diverse knowledge flows may provide employees with exposure to multiple perspectives and opportunities for organizational learning, indicating that WKD can be associated with resource-like qualities (Corrocher & Lenzi, 2022; Walrave et al., 2024). At the same time, synthesizing and coordinating diverse knowledge inputs may require additional cognitive effort, linking WKD with demand-like properties that align with DJS experiences (Dongrey & Rokade, 2020; Rick et al., 2024; Tams et al., 2020).

Although WKD is assessed through employees' perceptions of knowledge differences among colleagues, these perceptions reflect how knowledge heterogeneity is experienced within the workplace and therefore provide insight into the demand–resource conditions embedded in organizational knowledge structures (Wang et al., 2023). Within the JD-R framework, digitalization reshapes both demands and resources (Bakker & Demerouti, 2007), while the multidimensional character of technostress highlights how technological environments can intensify these dynamics (Kumar, 2024). Accordingly, WKD may display a dual characterization—reflecting both resource and demand qualities—yet empirical work in digital contexts presents mixed patterns, especially regarding emotional and physical strain (Wrede et al., 2023). Importantly, this dual characterization is not fixed but may vary depending on contextual conditions such as the availability of organizational support, the structure of knowledge-sharing routines, and the level of digital infrastructure, which can shape whether WKD is experienced as a resource or as a demand (Bakker & Demerouti, 2007; Tarafdar et al., 2015).

The possibility that WKD may function as both a resource and a demand is consistent with the multidimensional nature of DJS and with the JD–R perspective that the consequences of a work characteristic may vary across different organizational contexts. Therefore, the present study does not assume that WKD will relate uniformly to all dimensions of DJS. However, because the present study did not directly assess the contextual conditions that may influence whether WKD is experienced as a resource or as a demand, it does not seek to identify the specific boundary conditions underlying these relationships.

WKD's dual characterization can be understood through complementary theoretical perspectives within the JD-R model. On one side, access to diverse knowledge pools may relate to collaborative learning and innovation, suggesting resource-like characteristics (Corrocher & Lenzi, 2022; Edmondson & Harvey, 2018). On the other side, processing heterogeneous knowledge may impose greater cognitive requirements and be associated with higher perceived demands (Ayyagari et al., 2011; Gray et al., 2023; Tarafdar et al., 2015). Prior studies also note that WKD may introduce organizational complexity and

uncertainty (Dongrey & Rokade, 2020), and may correspond with experiences of role ambiguity or cognitive dissonance (Heady, 2006; Ragu-Nathan et al., 2008). This suggests that the effects of WKD are contingent rather than uniform, emerging through the interaction between knowledge diversity and the organizational conditions under which it is processed. Consequently, the present study does not assume that WKD is inherently a resource or a demand. Rather, it examines how perceived knowledge diversity corresponds to different dimensions of DJS under specific organizational conditions.

Two primary mechanisms have been proposed to explain these patterns. First, synthesizing diverse knowledge flows may require mental integration efforts that coincide with elevated cognitive load (Pandey et al., 2010; Tryba et al., 2023; Wang et al., 2023). Second, disagreements or inconsistencies within this knowledge diversity may be linked to role ambiguity and conflict, which have been associated with perceptions of job strain (Cavanaugh et al., 2000; Tarafdar et al., 2007). Nevertheless, other studies document positive associations between WKD and organizational learning or problem-solving (Corrocher & Lenzi, 2022), underscoring that WKD does not uniformly relate to unfavorable outcomes. Therefore, the dual characterization of WKD remains a theoretical tension in digital work settings, where both cognitive load and collaborative potential coexist (Ayyagari et al., 2011; Tarafdar et al., 2015). From this perspective, WKD may correspond with different dimensions of DJS in distinct ways, rather than exhibiting a uniform relationship with overall stress.

Because DJS is conceptualized as a multidimensional construct, prior research suggests that WKD may simultaneously exhibit resource-like and demand-like characteristics, implying that its associations may differ across specific digital stress dimensions. Accordingly, the purpose of the present study was not to test identical directional effects across each DJS subdimension, but to examine whether WKD was systematically associated with the broader domain of DJS and to identify how these associations vary across its constituent dimensions.

Consistent with this multidimensional perspective, DJS is analyzed at the subdimension level in order to capture potentially heterogeneous patterns that would be obscured by an aggregated stress score. Therefore, rather than proposing separate hypotheses for each DJS subdimension, the study advances an overarching expectation regarding the relationship between WKD and digital job stress while using subdimension-level analyses to provide a more fine-grained examination of these relationships. Therefore, it was hypothesized that workplace knowledge diversity would be significantly associated with digital job stress ($H_1$).

#### *1.2.2. Interruption overload and digital job stress*

Interruption overload (IO) refers to the experience of disrupted task focus arising from frequent digital notifications and communication demands (Stangl & Riedl, 2023). Within the JD-R model, IO is understood as a job demand that places continuous pressure on employees' cognitive capacity (Rodríguez-Modroño, 2023; Schaufeli & Taris, 2014). Technostress Theory further aligns IO with the dimensions of techno-overload and techno-invasion, positioning IO as a technology-related stressor that intersects with the cognitive and emotional demands of digital work (Tarafdar et al., 2007, 2019). Despite this relevance, the literature does not present a clear pattern regarding the association between IO and DJS, particularly within non-Western and highly digitalized work environments, leaving an unresolved conceptual ambiguity (Kotek & Vranjes, 2022). This ambiguity suggests that IO may not relate uniformly to DJS, but corresponds differently to specific dimensions of DJS depending on the nature of the disruption and the organizational context in which it occurs (Ayyagari et al., 2011; Tarafdar et al., 2010). Consequently, the present study treated IO as a technology-related demand whose associations with DJS may vary across different stress and resource dimensions rather than assuming a uniform relationship with overall digital stress.

Research on technostress suggests that IO may coincide with higher cognitive load and lower job satisfaction or reduced productivity (Marsh et al., 2022; Stangl & Riedl, 2023). From a JD-R lens, IO is a demand that requires employees to repeatedly redirect attention, and this redirection may be more challenging in environments where organizational resources such as notification filtering systems or technical support are limited (Keller et al., 2020; Maier et al., 2015). At the same time, some studies indicate that short interruptions can sometimes relate to creative thinking or attentional renewal (Leroy et al., 2021; Mark et al., 2005; Schweisfurth & Greul, 2024).

In digitally intensive environments, interruptions may also coincide with rapid information exchange and immediate access to task-relevant knowledge, suggesting that not all interruptions are necessarily experienced as detrimental by employees**.** These differing findings illustrate that IO is not uniformly associated with strain but may be experienced differently depending on contextual and organizational conditions (Marsh et al., 2022; Rick et al., 2024; Tarafdar et al., 2010). Consequently, whether IO is experienced primarily as a strain-inducing demand or as a potentially adaptive interruption may depend on the availability of organizational resources and the structure of digital work processes (Bakker & Demerouti, 2007; Leroy et al., 2021).

DJS is conceptualized as a multidimensional construct comprising cognitive, emotional, and work-related perceptions linked to digital technologies. Because each subdimension reflects a specific type of digital strain or resource (Fischer et al., 2021), uniform relationships between IO and DJS would be theoretically unlikely. IO connects directly to attentional

fragmentation and workflow disruption, which are more proximal to dimensions such as complexity, conflicts, and insecurity, while other dimensions—such as social environment or technical support—capture digital workplace resources. Accordingly, analyzing DJS at the subdimension level provides a more accurate theoretical explanation for the heterogeneous patterns surrounding IO in previous research. This approach is particularly important because interruption-related experiences may correspond positively to some dimensions of DJS while corresponding negatively or not significantly to others. This multidimensional perspective also helps explain why IO may exhibit both positive and negative associations across different DJS dimensions, depending on whether interruptions are perceived as disruptive or functionally integrated into work routines (Leroy et al., 2021; Mark et al., 2005).

Two mechanisms help clarify this association. First, digital interruptions require frequent attentional shifts, coinciding with increased cognitive load (Ayyagari et al., 2011; Cavanaugh et al., 2000). Second, interruptions may alter workflow sequences and relate to heightened perceptions of work fragmentation or stress (Keller et al., 2020; Maier et al., 2015). Collectively, these mechanisms support the expectation that IO would be positively associated with DJS, particularly under conditions where resources are constrained. At the same time, these mechanisms do not preclude the possibility that specific forms of interruption may be associated with resource-related perceptions, reinforcing the need to examine IO–DJS relationships at a disaggregated level (Leroy et al., 2021). Therefore, it was hypothesized that interruption overload would be significantly associated with digital job stress ($H_2$).

## 2. Methods

### 2.1. Participants, procedure, and ethics

The target population of the present study consisted of branch managers employed in a state-owned bank operating in Türkiye (N = 1,077). Branch managers were selected as the focal participants because they operate at the intersection of strategic digital-transformation decisions and day-to-day customer-facing digital operations in a highly regulated banking environment. This position makes them particularly suitable for evaluating how organizational-level demand–resource configurations are experienced in digital work settings. However, this focus may limit the generalizability of the findings to frontline employees, whose exposure to digital stressors may differ in intensity and form.

The sample was drawn from branches located in different geographic regions to ensure diversity in customer portfolios and workplace dynamics, thereby guaranteeing that the sample reflected the structural heterogeneity of the sector. During the sampling process, participants were contacted via corporate e-mail through the bank's Human Resources (HR) department, and the survey was administered on a voluntary basis. A total of 406 branch managers participated in the study, corresponding to a 37% response rate. Although this rate is modest, such participation levels are common in high-pressure sectors where managerial roles involve heavy workloads, and the achieved sample size provides adequate variance and sector-representative heterogeneity for multivariate analysis.

To control for non-response bias, early respondents (first 25%, N = 101) and late respondents (last 25%, N = 101) were compared on demographic variables (age, gender, tenure) and key study variables (IO, DJS) using *t*-tests and chi-square tests. The absence of significant differences suggested that non-response bias was limited (Armstrong & Overton, 1977). Additionally, the demographic composition of the sample aligns with previously reported distributions for Türkiye's public banking sector, supporting its representativeness.

Türkiye's public banking sector—characterized by rapid digitalization and strong regulatory pressures—constitutes a critical natural environment for examining digital job stress in organizational settings. The study was approved by the Social and Human Sciences Research Ethics Committee of Akdeniz University; approval number: 2023/713.

### 2.2. Data collection and common method variance (CMV)

When collecting data through self-report surveys, it is particularly important to account for common method variance (CMV), especially in cases where the same respondents provide information for both predictor and outcome variables (Podsakoff et al., 2003). To address this concern, several procedural remedies were implemented. The survey was designed to ensure anonymity, and the confidentiality of responses was emphasized to protect participants' privacy and reduce evaluation apprehension. In addition, data were collected through both mail and mobile communication technologies, which enhanced response diversity.

As a statistical remedy, a full collinearity test was performed to evaluate collinearity statistics. The variance inflation factor (VIF) values calculated using SmartPLS ranged between 1.266 and 3.5819, with the vast majority remaining below the threshold of 3.3. These values suggest that neither collinearity nor CMV reached problematic levels, consistent with recommendations for variance-based SEM (Hair et al., 2021). In addition, robustness checks indicated that the main path

coefficients remained stable across alternative model specifications, suggesting that common method variance was unlikely to substantially bias the results.

### 2.3. Measures

Digital job stress was assessed using the 45-item Digital Stressors Scale (DSS) developed by Fischer et al. (2021). During the adaptation into Turkish, the translation–back translation method was applied (McGorry, 2000), and semantic equivalence was verified by two language experts. The DSS consists of nine sub-dimensions, each comprising five items: digital work complexity, conflicts, insecurity, invasion of privacy, overload, safety, social environment, technical support, and usefulness. Items (e.g., *"I often find it difficult to have enough time to stay up to date with new ICT functions at work"*) were evaluated on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha coefficients ranged from 0.713 to 0.938, composite reliability (CR) from 0.75 to 0.95, and average variance extracted (AVE) from 0.51 to 0.72. Following Fischer et al.'s (2021) reflective operationalization, each subdimension was analyzed separately rather than aggregated into a single latent factor, allowing a more fine-grained examination of how IO and WKD relate to distinct facets of DJS.

Perceived workplace knowledge diversity was assessed using three items from the Perceived Workplace Knowledge Diversity Scale developed by Wang et al. (2023). During the adaptation into Turkish, the translation–back translation method was applied (McGorry, 2000), and semantic equivalence was verified by two language experts. Items (e.g., *"I am aware of the knowledge differences among my colleagues"*) were assessed on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha coefficient was 0.713, CR was 0.82, and AVE was 0.56. This short reflective measure is widely used in organizational behavior studies and captures perceived heterogeneity in workplace knowledge structures. Although the scale consists of three items, it has demonstrated acceptable psychometric properties in prior research (Wang et al., 2023) and is suitable for managerial samples where survey length and response fatigue are important considerations.

Interruption overload was assessed using the three-item Interruption Overload Scale developed by Yin et al. (2018). Translation–back translation procedures and semantic validation were applied. Cronbach's alpha was 0.819, CR was 0.88, and AVE was 0.62. This measure captures perceived workflow disruption and attentional fragmentation associated with digital interruptions.

### 2.4. Data analysis

Data analysis was conducted in two main stages. First, descriptive statistics and Pearson correlations were calculated using SPSS (version 28). Second, the measurement and structural models were evaluated using SmartPLS 4.0 software. PLS-SEM is particularly suitable for models that incorporate multiple reflective subdimensions and explore theoretically grounded but heterogeneous associations (Hair et al., 2021). Given that the present study examined distinct DJS subdimensions rather than a single aggregated construct, PLS-SEM offers flexibility in modeling these relationships without imposing restrictive assumptions of covariance-based SEM.

To assess the measurement model, internal consistency and convergent validity were examined using Cronbach's alpha, composite reliability, and AVE. Discriminant validity was assessed using the Fornell–Larcker criterion. Multicollinearity and CMV checks showed no major concerns.

The structural model was tested using bootstrapping with 5,000 resamples. Path coefficients were interpreted as statistical associations rather than causal effects, consistent with cross-sectional SEM recommendations (Figure 1).

## 3. Results

Table 1 presents the Pearson correlations among the main research variables along with CR and AVE values, and discriminant validity.

As shown in Table 1, digital work insecurity was positively correlated with digital work complexity ($r = 0.676$), digital work conflicts ($r = 0.570$), and interruption overload ($r = 0.707$). Digital work usefulness was also positively associated with complexity, conflicts, and insecurity, whereas digital work technical support showed negative associations with these dimensions. The strongest positive correlation was observed between digital work insecurity and interruption overload ($r = 0.707$), while the strongest negative correlation was found between digital work conflicts and digital work social environment ($r = –0.520$). Because correlations represent bivariate associations, the structural model provides a more comprehensive picture by estimating relationships among variables while accounting for simultaneous influences (Hair et al., 2021).

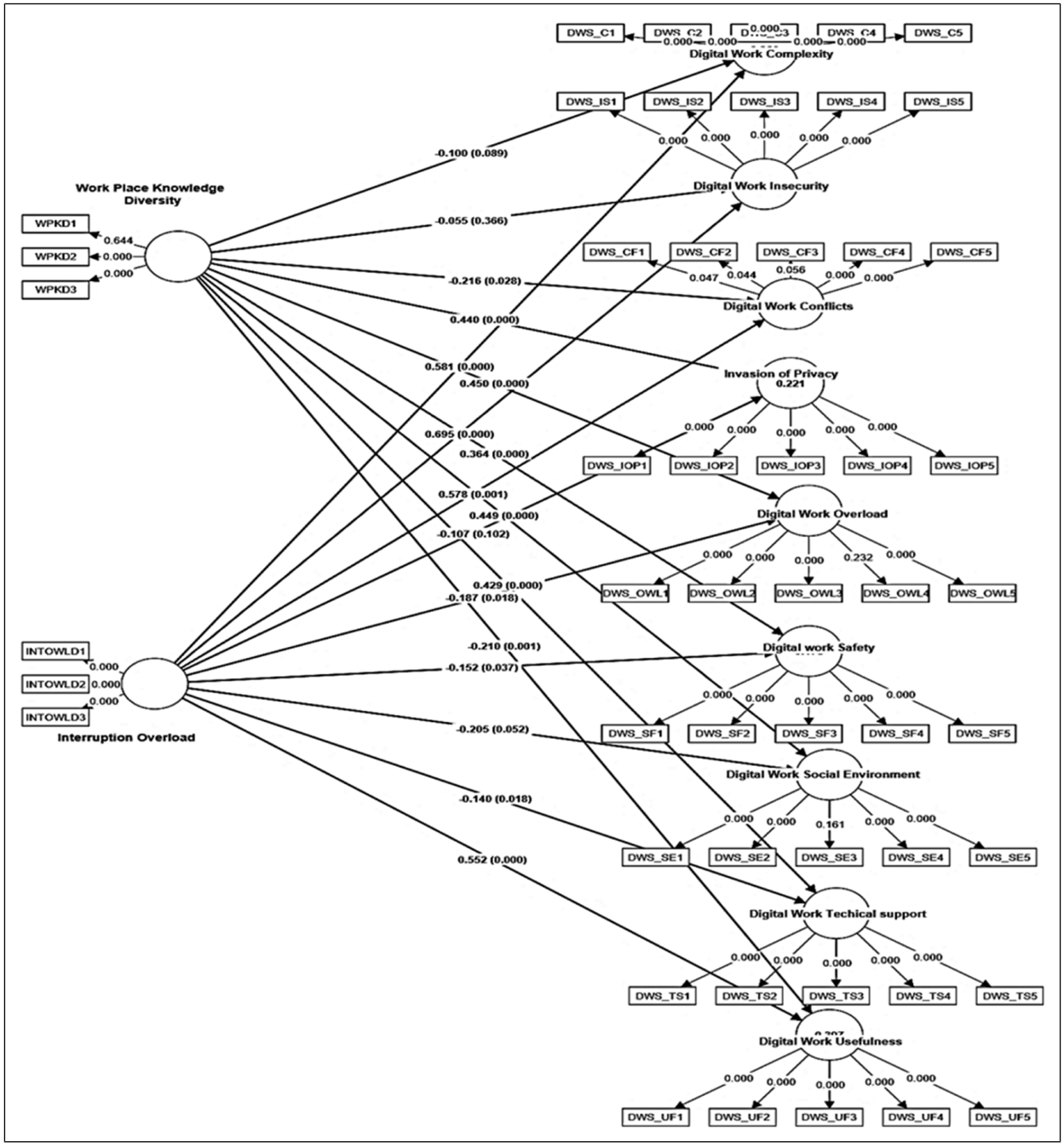



**Figure 1.** Structural equation model illustrating the relationships between interruption overload, workplace knowledge diversity, and digital job stress

The square roots of AVE were generally greater than the inter-construct correlations, supporting discriminant validity according to the Fornell–Larcker criterion (Fornell & Larcker, 1981). One exception was observed for digital work conflicts, where the correlation with interruption overload ($r = .626$) slightly exceeded the square root of AVE (.603). However, all HTMT values remained below the recommended threshold of .90, providing additional evidence of discriminant validity (Henseler et al., 2015; Roemer et al., 2021). Most AVE values exceeded the recommended threshold of .50. Although the AVE value for digital work conflicts was below the conventional criterion (AVE = .364), its composite reliability remained acceptable (CR = .837), suggesting adequate convergent validity despite the lower AVE value (Fornell & Larcker, 1981; Hair et al., 2021). Cronbach's alpha and composite reliability coefficients further indicated satisfactory reliability and internal

**Table 1.** Pearson correlations between the study variables, internal consistency (Cronbach's alphas), average variance extracted, and composite reliability

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | CA | AVE | CR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) Digital work complexity | **0.886** | 0.512 | 0.676 | -0.173 | -0.347 | -0.294 | 0.502 | -0.137 | 0.603 | -0.205 | | 0.932 | 0.786 | 0.948 |
| (2) Digital work conflicts | **0.512** | **0.603** | 0.57 | -0.487 | -0.52 | -0.478 | 0.553 | -0.427 | 0.626 | -0.316 | | 0.765 | 0.364 | 0.837 |
| (3) Digital work insecurity | **0.676** | **0.57** | **0.894** | -0.31 | -0.353 | -0.276 | 0.526 | -0.217 | 0.707 | -0.238 | | 0.937 | 0.799 | 0.952 |
| (4) Digital work overload | **-0.173** | **-0.487** | **-0.31** | **0.738** | 0.676 | 0.635 | -0.311 | 0.64 | -0.286 | 0.566 | | 0.754 | 0.545 | 0.814 |
| (5) Digital work social environment | **-0.347** | **-0.52** | **-0.353** | **0.676** | **0.744** | 0.603 | -0.353 | 0.587 | -0.304 | 0.600 | | 0.752 | 0.553 | 0.811 |
| (6) Digital work technical support | **-0.294** | **-0.478** | **-0.276** | **0.635** | **0.603** | **0.889** | -0.156 | 0.566 | -0.236 | 0.476 | | 0.934 | 0.79 | 0.950 |
| (7) Digital work usefulness | **0.502** | **0.553** | **0.526** | **-0.311** | **-0.353** | **-0.156** | **0.781** | -0.209 | 0.599 | -0.202 | | 0.839 | 0.61 | 0.886 |
| (8) Digital work safety | **-0.137** | **-0.427** | **-0.217** | **0.64** | **0.587** | **0.566** | **-0.209** | **0.817** | -0.233 | 0.601 | | 0.871 | 0.668 | 0.905 |
| (9) Interruption overload | **0.603** | **0.626** | **0.707** | **-0.286** | **-0.304** | **-0.236** | **0.599** | **-0.233** | **0.943** | -0.204 | | 0.938 | 0.89 | 0.960 |
| (10) Invasion of privacy | **-0.205** | **-0.316** | **-0.238** | **0.566** | **0.600** | **0.476** | **-0.202** | **0.601** | **-0.204** | **0.885** | | 0.931 | 0.784 | 0.948 |
| (11) Workplace knowledge diversity | **-0.229** | **-0.345** | **-0.209** | **0.491** | **0.494** | **0.46** | **-0.333** | **0.398** | **-0.222** | **0.464** | **0.721** | 0.713 | 0.519 | 0.697 |

*Note.* Bold values on the diagonal represent the square root of AVE. CA = Cronbach's alpha; AVE = Average Variance Extracted; CR = Composite Reliability (Rho_C).

consistency across the constructs. In addition to the Fornell–Larcker criterion, discriminant validity was further assessed using the Heterotrait–Monotrait Ratio (HTMT) criterion (see Table 2).

All HTMT values were below 0.90, indicating discriminant validity was satisfied across construct pairs, with no values crossing the conservative 0.85–0.90 caution zone in this matrix. Convergent validity was supported by AVEs mostly at or above 0.50 and by strong indicator loadings, while HTMT results (alongside corroborating criteria) reinforced discriminant validity overall. These findings aligned with standard HTMT guidelines for SEM, suggesting no substantive discriminant validity concerns in the present dataset (Henseler et al., 2015; Roemer et al., 2021).

Table 3 presents the results of the structural model analysis. The structural model explained between 18% and 50% of the variance across the dimensions of DJS ($R^2$ = 0.18–0.50), and SRMR = 0.07, indicating acceptable model fit (Hair et al., 2021). The adjusted $R^2$ values ranged from 0.179 to 0.502, indicating varying levels of explanatory power across the DJS dimensions. The $Q^2$predict values ranged from 0.156 to 0.490, indicating satisfactory predictive relevance across all endogenous constructs because all values exceeded zero. The effect-size estimates indicated that interruption overload exerted large effects on digital work complexity, conflicts, insecurity, and usefulness, whereas workplace knowledge diversity demonstrated predominantly small-to-medium effects across the DJS dimensions.

Interruption overload was positively associated with digital work complexity ($\beta = 0.581, p < 0.001$), digital work conflicts ($\beta = 0.578, p = 0.001$), digital work insecurity ($\beta = 0.695, p < 0.001$), and digital work usefulness ($\beta = 0.552, p < 0.001$). It was negatively associated with digital work overload ($\beta = –0.187, p = 0.018$), technical support ($\beta = –0.140, p = 0.018$), and safety ($\beta = –0.152, p = 0.037$). The association between interruption overload and digital work social environment was negative but did not reach statistical significance ($\beta = –0.205, p = 0.052$). Likewise, the relationship between interruption overload and invasion of privacy was negative but non-significant ($\beta = –0.107, p = 0.102$).

Workplace knowledge diversity showed a negative association with digital work conflicts ($\beta = –0.216, p = 0.028$) and a non-significant association with digital work insecurity ($\beta = –0.055$, p = 0.366). WKD was positively associated with digital work overload ($\beta = 0.450$, p < 0.001), digital work social environment ($\beta = 0.449, p < 0.001$), digital work technical support ($\beta = 0.429, p < 0.001$), digital work safety ($\beta = 0.364, p < 0.001$), and invasion of privacy ($\beta = 0.440, p < 0.001$). WKD also demonstrated a negative association with digital work usefulness ($\beta = –0.210, p < 0.001$). Although the relationship between WKD and digital work complexity was negative, it did not reach statistical significance ($\beta = –0.100, p = 0.089$).

Overall, the pattern of associations indicated that the relationships between workplace knowledge diversity, interruption overload, and DJS differed across the various subdimensions of DJS. These findings suggest that the associations observed in the present study are not uniform across dimensions, with some subdimensions exhibiting positive relationships, others negative relationships, and some showing no statistically significant associations.

## 4. Discussion

The reshaping of workplace dynamics by digital technologies has created a multidimensional environment that influences employees' stress perceptions. The present study examined how digital job stress (DJS) is associated with organizational-level factors—workplace knowledge diversity (WKD) and interruption overload (IO)—in Türkiye's public banking sector. By drawing on both the Job Demands–Resources (JD-R) model and Technostress Theory, the findings were interpreted within a framework that links cognitive load, organizational learning, and technology-related stressors.

The results provided support for both $H_1$ and $H_2$ by indicating that WKD and IO were differentially associated with the nine subdimensions of DJS, highlighting the non-uniform nature of stress perceptions in digital work contexts. This pattern reinforces the conceptualization of DJS as a multidimensional construct (Fischer et al., 2021) and aligns with the JD-R view that distinct job demands and resources relate differently to specific strain perceptions.

DJS reflects stress associated with digital technologies in organizational settings and is conceptually distinct from broader technostress, which captures technology-related strain across multiple life domains (Fischer et al., 2021; Tarafdar et al., 2007). Therefore, the findings should be interpreted as reflecting how organizationally embedded digital conditions correspond with stress perceptions, rather than implying causal effects. Consistent with Fischer et al. (2021), the present study operationalized DJS through nine subdimensions. Although all dimensions were included in the model, insecurity showed particularly low descriptive variation, likely reflecting the strong regulatory environment of Türkiye's public banking system.

WKD represents the diversity of knowledge sources available to employees. Within the JD-R framework, WKD may involve resource-related associations (e.g., collaboration, learning) and demand-related associations (e.g., cognitive consolidation efforts). The present findings illustrate this dual characterization. WKD showed positive associations with social environment, technical support, and safety, suggesting that diverse knowledge structures may be experienced as richer collaborative climates and stronger informational support. These patterns reflect the "resource" side of WKD. The findings are also consistent with the premise that perceived knowledge diversity does not inherently represent either a resource or a

**Table 2.** HTMT Matrix for Discriminant Validity Assessment

| | Digital Work Complexity | Digital Work Conflicts | Digital Work Insecurity | Digital Work Overload | Digital Work Social Environ-ment | Digital Work Technical Support | Digital Work Usefulness | Digital Work Safety | Interrup-tion Overload | Invasion of Privacy | Work Place Knowledge Diversity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Digital Work Complexity** | - | | | | | | | | | | |
| **Digital Work Conflicts** | 0,419 | - | | | | | | | | | |
| **Digital Work Insecurity** | 0,724 | 0,495 | - | | | | | | | | |
| **Digital Work Overload** | 0,263 | 0,733 | 0,401 | - | | | | | | | |
| **Digital Work Social Environ-ment** | 0,434 | 0,754 | 0,441 | 0,874 | - | | | | | | |
| **Digital Work Technical Support** | 0,312 | 0,601 | 0,285 | 0,721 | 0,698 | - | | | | | |
| **Digital Work Usefulness** | 0,566 | 0,517 | 0,592 | 0,422 | 0,474 | 0,168 | - | | | | |
| **Digital Work Safety** | 0,176 | 0,497 | 0,234 | 0,734 | 0,688 | 0,607 | 0,258 | - | | | |
| **Interrup-tion Overload** | 0,642 | 0,549 | 0,752 | 0,373 | 0,391 | 0,240 | 0,675 | 0,276 | - | | |
| **Invasion of Privacy** | 0,230 | 0,429 | 0,261 | 0,652 | 0,704 | 0,502 | 0,224 | 0,650 | 0,221 | - | |
| **Workplace Knowledge Diversity** | 0,347 | 0,534 | 0,322 | 0,672 | 0,793 | 0,547 | 0,629 | 0,572 | 0,402 | 0,684 | - |

*Note.* All HTMT values were below the recommended threshold of 0,90, indicating satisfactory discriminant validity among the study constructs (Henseler et al., 2015; Roemer et al., 2021).

**Table 3.** Structural model results, effect sizes, explained variance, and predictive relevance

| Outcome variable | Predictor | β | *p*-value | $f^2$ | $R^2$ | Adjusted $R^2$ | $Q^2$predict | |
|---|---|---|---|---|---|---|---|---|
| Digital Work Complexity | Interruption Overload | 0.581 | <0.001 | 0.511 | 0.373 | 0.372 | 0.357 | |
| | Workplace Knowledge Diversity | -0.100 | 0.089 | 0.015 | | | | |
| Digital Work Conflicts | Interruption Overload | 0.578 | 0.001 | 0.565 | 0.437 | 0.436 | 0.417 | |
| | Workplace Knowledge Diversity | -0.216 | | 0.028 | 0.079 | | | |
| Digital Work Insecurity | Interruption Overload | 0.695 | | <0.001 | 0.924 | 0.503 | 0.502 | 0.490 |
| | Workplace Knowledge Diversity | -0.055 | | 0.366 | 0.006 | | | |
| Digital Work Overload | Interruption Overload | -0.187 | | 0.018 | 0.046 | 0.274 | 0.273 | 0.249 |
| | Workplace Knowledge Diversity | 0.450 | | <0.001 | 0.265 | | | |
| Digital Work Social Environment | Interruption Overload | -0.205 | | 0.052 | 0.056 | 0.284 | 0.282 | 0.256 |
| | Workplace Knowledge Diversity | 0.449 | | <0.001 | 0.267 | | | |
| Digital Work Technical Support | Interruption Overload | -0.140 | | 0.018 | 0.024 | 0.230 | 0.229 | 0.210 |
| | Workplace Knowledge Diversity | 0.429 | | <0.001 | 0.227 | | | |
| Digital Work Usefulness | Interruption Overload | 0.552 | | <0.001 | 0.484 | 0.401 | 0.399 | 0.383 |
| | Workplace Knowledge Diversity | -0.210 | | <0.001 | 0.070 | | | |
| Digital Work Safety | Interruption Overload | -0.152 | | 0.037 | 0.027 | 0.180 | 0.179 | 0.156 |
| | Workplace Knowledge Diversity | 0.364 | | <0.001 | 0.154 | | | |
| Invasion of Privacy | Interruption Overload | -0.107 | | 0.102 | 0.014 | 0.226 | 0.224 | 0.201 |
| | Workplace Knowledge Diversity | 0.440 | | <0.001 | 0.238 | | | |

*Note.* β = standardized path coefficient; $f^2$ = effect size; $R^2$ = coefficient of determination; $Q^2$predict = predictive relevance. Following Cohen (1988), $f^2$ values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively.

demand. Rather, its associations may depend on how knowledge heterogeneity is embedded within organizational routines and support structures.

At the same time, WKD demonstrated positive associations with overload, indicating that synthesizing diverse informational inputs may correspond with increased cognitive demands (Tryba et al., 2023). Negative associations with conflicts suggest that exposure to multiple perspectives may be linked to reduced disagreement by broadening interpretive frames. The negative relationships with usefulness and complexity were relatively weaker, suggesting that in highly formalized and regulated environments, WKD may be perceived more in terms of its collaborative benefits than its cognitive cost. This aligns with the assumptions of JD-R, suggesting that the same organizational characteristic may correspond differently to employee perceptions depending on the balance between available resources and cognitive demands. In highly formalized settings such as public banking, institutional stability may reinforce the resource-related aspects of WKD while attenuating some of its demand-related characteristics.

IO refers to perceived disruption of workflow due to technology-driven interruptions. The present findings show that IO was positively associated with complexity, conflicts, insecurity, and usefulness, a pattern that overlaps with the technostress dimensions of techno-overload and techno-invasion (Tarafdar et al., 2007). These associations are consistent with the idea that frequent interruptions may coincide with cognitive fragmentation and heightened attentional demands.

Although 'usefulness' is often associated with technology acceptance, it is conceptualized as a subdimension of DJS within the Digital Stressors Scale (Fischer et al., 2021), where low perceived usefulness may create frustration and cognitive dissonance in mandatory digital work environments. Consequently, usefulness reflects not only perceived benefits but also the evaluative tension between effort and value in technology use. The positive association between interruption overload and usefulness should nevertheless be interpreted with caution. Usefulness reflects employees' evaluations of digital technologies rather than a stressor *per se*. Moreover, the observed relationship does not necessarily imply that interruptions are

beneficial. Rather, it may indicate that employees who experience frequent digitally-mediated interactions also perceive the underlying technologies as important and functional for accomplishing their work tasks.

The positive association between IO and usefulness observed in the present study may indicate that interruptions are not uniformly experienced as detrimental. In digitally intensive environments, frequent notifications and system interactions may simultaneously increase cognitive demands while providing access to timely information and workflow coordination. This interpretation is consistent with studies suggesting that some interruptions may be embedded within collaborative and information-sharing processes rather than functioning solely as disruptive events (Leroy et al., 2021; Mark et al., 2005).

IO was also negatively associated with overload, social environment, technical support, and safety, suggesting that employees who experience frequent interruptions may simultaneously report lower perceptions of support and stability. These associations may indicate resource-sensitive dynamics in which diminished perceptions of collaborative and technical support structures accompany interruptions. At the same time, these patterns may also reflect characteristics of the organizational context in which the study was conducted, where formal procedures, regulatory requirements, and centralized digital systems influence how interruptions are experienced and interpreted by employees. The non-significant association with privacy invasion is consistent with the strong privacy protocols of Türkiye's banking institutions.

Taken together, the differential associations observed across DJS subdimensions highlight the importance of examining digital stress at a granular level rather than relying on an aggregated construct. WKD and IO do not correspond uniformly with digital stressors; instead, their relationships vary according to the specific cognitive or social dimension involved. This supports the theoretical premise that job demands and resources may correspond differently to specific dimensions of digital stress rather than exhibiting uniform associations across all stress perceptions. Consequently, these findings should be understood as context-dependent patterns of association rather than generalized causal relationships.

Türkiye's public banking sector—which combines formalized structures, high regulatory oversight, and rapid digitalization—provides a meaningful context for understanding these patterns (Erhan et al., 2022; Porfírio et al., 2024). In such a setting, institutional structures may shape how digital demands and resources are perceived and interpreted by employees, thereby influencing the observed associations. Consequently, the observed patterns should be interpreted within this institutional context and should not be assumed to generalize automatically to private-sector organizations or other national settings. Given the cross-sectional design, the findings should be interpreted with caution because alternative directional explanations cannot be ruled out.

### *4.1. Theoretical implications*

The present study broadens the predominantly individual-oriented paradigm of technostress research by demonstrating that DJS is shaped through the combined influence of organizational dynamics and technology-related demands. By integrating the Job Demands–Resources (JD-R) model with Technostress Theory, the study provides a framework in which DJS is conceptualized as a multidimensional construct whose subdimensions vary according to the nature of job demands and resources. This perspective strengthens theoretical explanations for the heterogeneous associations observed across the nine DJS subdimensions (Fischer et al., 2021).

First, the integration of JD-R and technostress frameworks highlights how organizational characteristics—such as interruption overload (IO) and workplace knowledge diversity (WKD)—align with distinct DJS components rather than uniformly with overall digital stress. While JD-R emphasizes how demands (e.g., IO) and resources (e.g., WKD) relate to employee strain (Bakker & Demerouti, 2007), Technostress Theory explains how digital environments introduce cognitive and emotional pressures (Tarafdar et al., 2007). The finding that IO was positively associated with complexity, conflicts, and insecurity but negatively associated with social environment and technical support illustrates the differentiated pathways through which digital demands relate to specific forms of strain. Similarly, WKD's positive associations with overload and its negative associations with conflicts reflect its dual characterization as both a resource and a demand, a central tension in JD-R research. These findings suggest that digital stress may be understood not only through individual-level technological interactions but also through organizational structures that shape how demands and resources are perceived and experienced.

Second, the study clarifies the "dual role" theoretical tension surrounding WKD. Prior research conceptualizes WKD as a resource that enhances collaboration, innovation, and shared learning (Wang et al., 2023), but also acknowledges its potential to increase cognitive load and role ambiguity (Tryba et al., 2023). The present findings—positive associations with supportive environments (social environment, technical support, safety) alongside positive associations with overload and negative associations with usefulness—empirically illustrate this duality. The negative association with conflicts further indicates that WKD may help integrate multiple viewpoints, potentially reducing interpersonal strain. This supports the proposition that WKD does not operate unidirectionally; instead, its demand–resource character is shaped by contextual conditions such as work formalization, regulatory pressures, and organizational routines. Moreover, the findings are consistent with JD-R arguments that the same organizational characteristic may correspond simultaneously to both resource-

related and demand-related perceptions depending on contextual conditions. This nuance contributes to the ongoing theoretical refinement of JD-R by showing how a single construct can simultaneously reflect both supportive and demanding attributes.

Third, the study extends Technostress Theory by offering a more context-sensitive understanding of IO. While technostress literature often positions interruptions as classic "techno-overload" stressors (Tarafdar et al., 2007), the present results show a more complex pattern in which IO relates to both strain-related subdimensions (complexity, conflicts, insecurity) and certain adaptive perceptions (usefulness). Rather than suggesting that interruptions are inherently beneficial, the findings indicate that interruption-related experiences may be interpreted differently across dimensions of digital stress. In digitally-intensive environments, interruptions may coexist with perceptions of usefulness when they facilitate information access, communication, or workflow coordination, while simultaneously corresponding to higher cognitive demands.

The negative associations between IO and resource-oriented subdimensions (e.g., social environment, technical support) highlight the importance of organizational infrastructure in shaping how interruptions are evaluated. Rather than suggesting buffering effects, these findings indicate that IO aligns differently with resource-versus demand-related subdimensions depending on the availability and visibility of organizational supports. This contributes to Technostress Theory by emphasizing that interruption-related strain is not uniform but conditioned by contextual and organizational cues.

Finally, by focusing on Türkiye's public banking sector, the study addresses the geographical concentration of technostress and DJS research, which remains largely dominated by Western empirical settings. The strong regulatory climate, high levels of digitalization, and hierarchical organizational structures in this sector create a distinctive environment in which perceptions of digital stress emerge. The non-significant relationship between IO and privacy invasion may reflect sector-specific privacy standards. More broadly, the findings suggest that institutional conditions may shape how digital demands and resources are perceived and interpreted, highlighting the importance of contextualizing technostress and DJS research beyond Western settings. These observations demonstrate that DJS is not universal but shaped by institutional and cultural characteristics, thereby extending the applicability of JD-R and technostress frameworks to non-Western contexts.

### *4.2. Implications for practice*

The present study provides practical insights for managing DJS in Türkiye's public banking sector, where rapid digitalization, regulatory intensity, and customer-focused service routines shape employees' experiences with digital technologies. The findings illustrate how interruption overload (IO) and workplace knowledge diversity (WKD) coincide with different subdimensions of DJS, and these patterns offer several actionable directions for human resource management and organizational design.

First, IO was associated with higher levels of digital work complexity, insecurity, and conflicts, while coinciding with lower perceptions of social environment and technical support. These patterns suggest that uninterrupted workflow and clear communication channels are central for maintaining digital well-being. The findings are consistent with the view that structured communication practices may support employees in digitally-intensive work environments. Banks may therefore benefit from implementing structured notification management practices, such as prioritization filters, muted intervals for non-urgent communication, or institution-wide "focus periods" that reduce unnecessary task switches. Consistent with the negative association between IO and technical support, the findings also suggest that organizations may benefit from strengthening digital support infrastructures, such as extended-hour help desks, rapid-response digital support units, or automated assistance tools, particularly in high-pressure, customer-facing environments.

Second, the dual nature of WKD suggests that knowledge-related practices require careful calibration. WKD was associated with signs of collaboration (e.g., social environment, technical support) but also with higher overload and lower perceptions of usefulness in some subdimensions. This indicates that while knowledge diversity is beneficial for coordination and shared understanding, unstructured or excessive information flows may increase cognitive demands. Banks can address this by standardizing knowledge-sharing channels, reducing redundancy in communication, and supporting employees with digital literacy development. The findings are consistent with the view that structured knowledge-sharing mechanisms may help organizations balance the collaborative benefits of WKD with the cognitive demands associated with processing diverse information sources**.** Centralized knowledge repositories, cross-functional project routines, and scheduled knowledge-sharing sessions may help preserve WKD's collaborative potential while minimizing information overload.

Third, the findings show that DJS is shaped by a combination of technological, organizational, and contextual factors. Approaches that strengthen HRM practices—without framing technology as the sole driver of stress—may help sustain well-being in digitally intensive banking environments. Job prioritization tools, flexible work structuring within regulatory boundaries, and training programs focused on digital coping strategies may assist employees in navigating complex digital workflows. Given the stable privacy perceptions observed in the sector, existing regulatory frameworks appear to create a

predictable environment that organizations can leverage when designing digital routines or employee-support mechanisms. At the same time, these implications should be interpreted within the context of Türkiye's public banking sector because the observed associations may vary across organizational and institutional settings.

Overall, a balanced combination of technological structuring, knowledge management practices, and supportive HRM strategies may help public banks enhance digital resilience while sustaining employee well-being in an environment that continues to evolve through digital transformation.

### *4.3. Limitations and future directions*

Although the present study offers valuable insights into DJS, several limitations should be acknowledged to contextualize the findings. First, the cross-sectional research design restricts interpretations regarding temporal sequences. The associations observed between interruption overload (IO), workplace knowledge diversity (WKD), and various DJS dimensions capture a specific moment of digital work experience rather than its evolution over time. Future research could adopt longitudinal or experience-sampling methods to understand better how digital demands and knowledge structures unfold during daily workflows. Due to the cross-sectional design, causal inferences cannot be established, and reverse associations are also plausible. For example, higher levels of DJS may lead individuals to perceive more interruptions or greater knowledge diversity. Future longitudinal and multi-method studies are needed to disentangle these potential directions.

Second, the study relied on self-report data, which may be influenced by perceptual tendencies and social desirability. Although statistical procedures were applied to mitigate common method concerns, multi-source approaches—such as combining employee perceptions with supervisor ratings, behavioral metrics, or digital system interaction records—could enrich empirical precision. Qualitative or mixed-methods designs may also capture the nuances of digital stress experiences more comprehensively.

Third, the empirical context—Türkiye's public banking sector—has distinct regulatory, structural, and cultural characteristics. These features enhance internal validity but limit the transferability of findings to private banking, technology-intensive industries, or less regulated sectors. For instance, privacy-related perceptions likely reflect sector-specific rules and customer service protocols. Comparative studies across different industries or economies may help clarify how institutional environments shape DJS. Future research could also examine whether the patterns observed in public banking are replicated in private-sector or less regulated digital work environments.

Fourth, WKD demonstrated a dual characterization across DJS dimensions. This suggests that its function is contingent upon contextual conditions and individual attributes, such as digital literacy, work experience, or the density of knowledge-sharing practices. Future research could explore these contingencies more systematically. Likewise, IO encompasses different characteristics—frequency, intensity, perceived urgency—that may correspond to different stress patterns. Experimental or micro-longitudinal designs could help disentangle these distinct components.

Finally, cultural and demographic dynamics merit deeper attention. Although demographic characteristics may shape how employees experience digital work environments, the present study was not designed to examine these relationships directly. Future research could investigate whether factors such as age, work experience, digital literacy, or cultural values (e.g., uncertainty avoidance, collectivism) correspond differently to perceptions of digital stress across organizational and national contexts. Cross-cultural comparisons may further clarify how employees in different work cultures interpret and manage digital stressors.

Taken together, these limitations point to promising avenues for future inquiry. Investigating IO and WKD across different institutional settings, demographic profiles, and methodological approaches can further develop the theoretical scope of DJS research and expand its relevance across diverse digital work environments. Longitudinal, multi-source, and experience-sampling designs may be particularly valuable for capturing the dynamic nature of digital stress perceptions over time.

## 5. Conclusion

The present study contributes to a deeper understanding of digital job stress by expanding the analytical focus beyond individual-level explanations and incorporating organizational dynamics into the discussion. The empirical findings show that interruption overload (IO) is associated with heightened perceptions of digital work strain, while technical support and a positive social environment are associated with more favorable evaluations of digital workflows. In parallel, workplace knowledge diversity (WKD) demonstrated a dual characterization, reflecting both cognitive demands and collaboration-enhancing qualities. These findings highlight that DJS appears to be associated with a combination of technological, organizational, and interpersonal factors rather than being understood solely through digital exposure.

By integrating the Job Demands–Resources (JD-R) model with Technostress Theory, the study offers a coherent framework for explaining the multidimensional structure of DJS. More specifically, the study contributes by showing that digital stress should be understood as an organizationally embedded, multidimensional phenomenon in which technology-related pressures are shaped through demand–resource configurations rather than experienced as uniform individual reactions to digital technologies. The findings further suggest that organizational characteristics such as IO and workplace knowledge diversity may correspond differently to specific dimensions of DJS, reinforcing the value of examining digital stress as a multidimensional rather than a uniform construct. The findings from Türkiye's public banking sector further illustrate that digital stress experiences are context-dependent, shaped by regulatory environments, work culture, and institutionalized service practices. This underscores that DJS cannot be approached as a universal phenomenon but must be interpreted within its organizational and cultural setting.

From a practical perspective, the study provides several actionable insights for public-bank managers and HR professionals. Notification management policies, strengthened technical support infrastructures, and structured knowledge-sharing practices may help to manage digital demands more effectively. However, the usefulness of such interventions is likely to depend on contextual conditions, including workplace design, role expectations, organizational support structures, and regulatory requirements.

Overall, the central contribution of the study lies in proposing an integrated framework that connects individual perceptions with organizational structures. By jointly examining workplace knowledge diversity and interruption dynamics, the study addresses theoretical ambiguities regarding the demand–resource character of digital work environments and offers new conceptual pathways for future research. Given the cross-sectional nature of the study, these contributions should be interpreted as providing insight into patterns of association rather than causal mechanisms, thereby offering a foundation for future longitudinal and multi-method research. This approach supports efforts to improve employee–management relations and enhance workplace well-being in increasingly digitalized organizational environments.

## Authors Note

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## Ethical Considerations

The authors obtained ethics approval from the Akdeniz University Social and Human Sciences Research Ethics Committee (approval number: 2023/713). The study was approved by the Social and Human Sciences Research Ethics Committee of the corresponding author's university (ethical approval details blinded for peer review). Participants provided their written informed consent and were told their participation was voluntary. It was emphasized that they could decline or withdraw from the study at any time.

## Consent to Participate

All the authors of this work agree with the content and give their explicit consent to submit it.

## Consent for Publication

All the participants consented to submit findings for publication.

## Author Contributions

**Nihan Öksüz Narinç:** Conceptualization; Methodology; Writing. **Nermin Akarçay:** Methodology; Writing – Review & Editing. **Korhan Arun:** Conceptualization; Methodology; Writing – Review & Editing; Supervision; Investigation; Software; Formal Analysis. **Cenk Tufan:** Conceptualization; Investigation; Writing – Original Draft; Data Curation; Supervision; Resources. **Mark D. Griffiths,** Conceptualization; Methodology; Writing – Review & Editing, Project Administration.

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## Data Availability Statement

The data that support the findings of the present study are available from the corresponding author upon reasonable request.

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