From Managers to Employees to Customers: The Hidden Toll of Technology-Induced Workload

Bulent Menguc
Professor of Marketing
Leeds University Business School
University of Leeds, Leeds LS2 9JT, U.K.
E-mail: busbme@leeds.ac.uk

Seigyoung Auh (corresponding author)
Professor of Marketing, Thunderbird School of Global Management
Research Faculty, Center for Services Leadership
Arizona State University, Phoenix, AZ 85004, U.S.A
Tel: (602) 496-7000,
E-mail: seigyoung.auh@thunderbird.asu.edu

Aypar Uslu
Professor of Marketing
Faculty of Business Administration
Marmara University, Istanbul, Turkey
E-mail: auslu@marmara.edu.tr

Volkan Yeniaras
Associate Professor of Marketing
Faculty of Business
Ozyegin University, Istanbul Turkey
Email: volkan.yeniaras@ozyegin.edu.tr

Funding
The authors received no financial support and technical assistance for this research.

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ABSTRACT

Retailers like Walmart, Target, and Home Depot have adopted Enterprise Resource Planning (ERP), leading to cost savings and efficient inventory and supply chain management. However, some companies, such as Nike, Waste Management, and Lidl, have faced challenges in transitioning from old to new systems, marked by changes in employee behavior, increased workload, and rising stress levels. Although extant literature focuses on employees' technology-induced workload, limited insight exists into whether and how such workload transpired by ERP is transmitted from managers to employees and the implications on customer service. To address these gaps, we draw on the conservation of resources theory, utilizing multilevel and multirespondent data collected during the initial phases of ERP implementation in retail stores. We find an indirect crossover effect of technology-induced workload from managers to employees, mediated through manager close monitoring, and an indirect effect of manager technology-induced workload on customer sabotage, serially mediated by manager close monitoring and employee technology-induced workload. Furthermore, surface acting amplifies the impact of employee technology-induced workload on customer sabotage. The study contributes to the discourse between technology-induced workload as a technology-related stressor and customer service, two areas that have evolved in parallel fashion without much cross-pollination.

Keywords

Technology-induced workload; manager close monitoring; customer-directed sabotage; crossover; conservation of resources

INTRODUCTION

Market forecasts predict that the global Enterprise Resource Planning (ERP) market value will rise from $81.15 billion in 2024 to $238.79 billion by 2032 (Fortune Business Insights 2024). Retail giants like Walmart, Target, Home Depot, and Best Buy have integrated ERP systems across supply chains, procurement and inventory management, sales, CRM, and financial reporting, achieving cost reductions, operational efficiency, and enhanced customer service. The adoption of ERP is crucial for real-time data accuracy and decision-making support in dynamic markets (Davenport 1998, 2000; Morris and Venkatesh 2010; Stratman 2007), aiding in financial and operational control and enhancing retailer-supplier coordination to improve productivity and customer service (Davenport 1998, 2000; Shang and Seddon 2000).

Despite ERP's touted benefits, high-profile failures at companies like Nike, Waste Management, and Lidl illustrate the difficulties of transitioning from a legacy system to an enterprise system, including significant changes in employee behavior, increased workload, and stress. ERP systems introduce new rules, processes, and complex information that can overwhelm employees. This overload diminishes employees' confidence and sense of security, ultimately affecting their customer interactions. Boudreau and Robey (2005) report an illustrative example where employees at a governmental agency mindlessly performed tasks following ERP implementation, similar to "pushing buttons like monkeys", without understanding the purpose behind their actions.

The implementation of ERP systems can be a significant source of stress for retail managers and frontline employees (FLEs, henceforth), especially in the "shakedown" phase (i.e., the period from when the system is first functional and accessible to when it is operating normally and routinely) (Bala and Venkatesh 2013; Sykes 2015). Considering that the central

role of FLEs in retailing is to provide customer service, they may perceive ERP as a burden that disrupts their regular work routine and flow and interferes with their primary responsibility of customer service. Managers can be equally affected as they are expected to be successful change agents and role models during this stage of the transformation process. The shakedown phase is a period of disruption and change during which affected parties perceive a sense of increased job demand, such as technology-induced workload and decreased job control (Bala and Venkatesh 2013; Markus and Tanis 2000). Technology-induced workload is an exhausting job demand, and FLEs must expend their resources to cope. This type of workload falls under the broader umbrella of technostress, which the information systems (IS) literature defines as "IS stress creators appraised by the individual as threatening" (Tarafdar, Cooper, and Stich 2017, p. 5).

Retailers rely on managers to drive effective organizational change when implementing ERP and inspire FLEs to embrace new initiatives (Rafferty and Griffin 2006). However, we know little about how managers cope with such transformative shifts, especially when confronted with technology-induced workload. A paucity of research examines how managers' personal experiences of change affect their interactions with FLEs (cf. Neves and Schyns 2018; Oreg and Berson 2019). The prevailing assumption is that managers are regarded as change agents and FLEs as change recipients (Ozawa 2020). However, it may be overlooked that managers wear both hats: agents and recipients of change. Thus, we argue that as managers navigate the transformative change that comes with ERP implementation, they face heightened demands, including increased workloads and pressure, compelling them to adapt to these changes personally and to serve as "champions of change."

While the technology-induced workload is prevalent across all levels within an organization, existing research has predominantly focused on employees as the primary

recipients of such workload (e.g., Ayyagari, Grover, and Purvis 2011; Nastjuk et al. 2024; Ragu-Nathan et al. 2008). This limited perspective highlights a gap in the literature, warranting further investigation because this narrow view only provides a limited perspective that neglects the transmission of technology-induced workload (i.e., crossover from managers to FLEs). While research has primarily examined customer-related factors (e.g., customer incivility) in customer-directed sabotage, internal organizational factors, especially those related to technology, remain understudied. This study addresses this gap by investigating how early-stage ERP implementation contributes to customer-directed sabotage by FLEs and the underlying mechanisms driving this behavior.

To address this, we propose a model that examines the transmission of technology-induced workload from managers to FLEs and how this transmission impacts FLEs' deviant behaviors towards customers. Furthermore, prior studies in technology-induced workload and customer service have advanced independently, with little integration between the two domains, hindering our understanding of whether managers' technology-induced workload can induce customer mistreatment by FLEs through their workload. This research explores the intersection of marketing (customer service), information systems, and organizational behavior to examine how digital transformations like ERP affect managers and FLEs and how such changes influence FLEs' mistreatment of customers.

Drawing on the conservation of resources theory (Hobfoll 1989) and the transactional theory of stress (Lazarus and Folkman 1984), we make three primary contributions to the intersection of technology-induced workload and customer service literature. First, we examine the transmission of technology-induced workload from managers to FLEs and the underlying mechanism of how this unfolds. Our contribution responds to calls stating the need for research

to extend beyond merely examining the association between stress in managers and FLEs to the processes linking leader stress and employee stress (Skakon et al. 2010). We find that manager close monitoring, a concept that reflects managers' close monitoring of subordinates' adherence to the rules and protocols of ERP, mediates the effect of managers' technology-induced workload on FLEs' induced workload, shedding light on the process.

Second, we contribute to the self-depletion literature (Baumeister et al. 1998; Muraven and Baumeister 2000) by exploring the downstream implications of managers' technology-induced workload, which extend beyond FLEs' workload to customer-directed sabotage. This finding provides a unique perspective compared to the existing literature, which has primarily focused on the impact of technology-induced workload on employees' deviant behaviors towards their organization and co-workers.

Third, we employ emotional labor (i.e., surface acting and deep acting), which we define as processes by which FLEs regulate and manage their emotional expressions in line with display rules during interactions with customers (Hochschild 1979; Grandey 2003), that conditions the relationship between FLEs' technology-induced workload and customer-directed sabotage. We demonstrate that customer-directed sabotage increases when FLEs experience technology-induced workload and use surface acting but not deep acting. Our findings contribute to the emotional labor literature (Gabriel, Diefendorff, and Grandey 2023) by offering implications for interventions and support systems that can discourage FLEs from engaging in surface acting when they experience technology-induced workload.

In summary, this study examines how a backend technology, like ERP, can have extensive effects beyond managers and FLEs by adversely affecting customers (Chan and Wan 2012). Figure 1 depicts our conceptual model. In the following sections, we discuss the

theoretical background and the development of the hypotheses. We explain our research setting and subsequently report hypotheses testing using multilevel, multirespondent (i.e., retail store managers and FLEs) data. We conclude by discussing the theoretical and managerial implications of the findings, limitations, and future research directions.

[Insert Figure 1 here]

THEORETICAL BACKGROUND

Crossover Effect

According to the spillover–crossover model (Bakker and Demerouti 2013), "spillover" entails the transmission of stress from one domain to another, impacting an individual's experience in both domains (Wang et al. 2019). On the other hand, "crossover" is the transfer of experiences from one person to another within the same domain (Wang et al. 2019). Thus, while spillover operates between different domains but within the same individual (i.e., interdomain and intraindividual), crossover operates between different individuals but within the same domain (i.e., interindividual and intradomain) (Westman 2006). Given our focus on technology workload transmission from managers to FLEs, the crossover is pertinent for our research.

Our review of select empirical studies on spillover and crossover reveals two themes (see Web Appendix A, Table WA.1.). The initial research in this domain focused on intimate relationships, such as those between partners and spouses (Haines, Marchand, and Harvey 2006; Westman and Vinokur 1998). Subsequently, studies began to explore work-family conflict, examining how work-related issues like emotional exhaustion spill over to family domains and vice versa (Martinez-Corts et al. 2015; Song, Foo, and Uy 2008), and how occupational stress affects the stress levels of partners at home, or the reverse, in the context of crossover effects (Demerouti 2012).

Despite the considerable research conducted thus far, we have identified two gaps in the crossover literature. The first gap pertains to whether and how crossover effects between managers and FLEs impact FLEs' interactions with customers. To the best of our knowledge, no studies have explored the effects of stressors passed from managers to FLEs on customer-directed sabotage. The second gap lies in the lack of research on stressors originating from organizational interventions at the firm level, such as ERP implementation (Chen, Westman, and Eden 2009). Previous studies either have not identified the source of the stressor (e.g., Wirtz et al. 2017) or have attributed it solely to work-family conflict (e.g., Ten Brummelhuis, Haar, and Roche 2014).

Technology-Induced Workload

To better understand technology-induced workload, we draw on the transactional theory of stress (TTS) and conservation of resources theory (COR) as our theoretical framework (e.g., Califf, Sarker, and Sarker 2020; Nastjuk et al. 2024). The TTS comprises two processes: appraisal and coping. Appraisal involves the "process of categorizing an encounter, and its various facets, concerning its significance for well-being" (Lazarus and Folkman 1984, p. 31), while coping refers to "cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus and Folkman 1984, p. 141). We posit technology-induced workload as a hindrance stressor, especially during the shakedown phase of a mandated ERP implementation, consistent with the view of technostress as a threat in the information systems literature (Tarafdar, Cooper, and Stich 2017). Hindrance stressors reduce motivation to learn and impair performance (LePine, LePine, and Jackson 2004). Therefore, we suggest that technology-induced workload, as a hindrance stressor,

can decrease learning motivation and hinder performance, particularly in the early stages of ERP implementation.

Coping serves as the mechanism that FLEs employ to navigate technology-induced workload (Gaudioso, Turel, and Galimberti 2017). Bhattacherjee et al. (2018) found that over time, doctors' responses to new information communication technology (ICT) transitioned from reluctant, seeing ICT as a low-control threat, to compliant, recognizing it as an opportunity with low control, and finally to an engaged response, embracing it as a high-control opportunity, suggesting that appraisal toward ICT can change with time.

COR theory, grounded in a resource-based perspective of stress, centers on the idea that individuals strive to preserve, safeguard, and amass resources (Hobfoll 1989). COR theory serves as a calculus-based resource management framework, elucidating how individuals manage resources from a protection, restoration, and acquisition perspective. TTS and COR are mutually reinforcing and complementary, as individuals experience stress when they lack resources for coping (e.g., Li et al. 2016; Stempel, Dettmers, and Rigotti 2023). For example, Chan and Wan (2012) revealed that resource depletion due to work-related stress leads to diminished performance in tasks requiring self-regulation, such as handling customer complaints. Thus, by integrating TTS and COR, we propose that technology-induced workload depletes resources, leading to stress. It is likely that stress-induced impairment in self-control and self-regulation capacity can lead to controlling behaviors (e.g., close monitoring) and deviant behaviors (e.g., customer-directed sabotage) (Chen et al. 2022).

The body of literature on stressors impacting FLEs can be classified into customer-related stressors (i.e., customer incivility, mistreatment, counterproductive work behaviors) and technology-related stressors (i.e., techno-complexity and techno-invasion) (see Web Appendix

A, Table WA.2.). Capacity for self-control acts as a mediator between past experiences of customer mistreatment and the quality of service provided to subsequent customers (Yue, Wang, and Groth 2022). Additionally, impairments in self-regulation mediate the relationship between the intrusion of work-related technology into personal life (techno-invasion) and deviant workplace behaviors (Chen et al. 2022). Moreover, job demands and emotional exhaustion have been found to serially mediate the effects of customer incivility on employees' behaviors (van Jaarsveld, Walker, and Skarlicki 2010).

However, although studies have typically concentrated on either customer- or technology-related stressors, it is rare for research to include both types of stressors within a single model. Furthermore, there has been a lack of investigation into the downstream consequences of technology-related stressors on customer treatment. More specifically, limited studies have examined the interaction between technology-related stressors and emotional labor on customer-directed sabotage. Our research aims to address these gaps in the extant literature.

Manager Close Monitoring

We define *manager close monitoring* as a store-level construct defined as FLEs' shared belief that managers closely supervise FLEs to safeguard strict adherence to the protocols of ERP, ensuring they execute tasks precisely as instructed (e.g., continuous surveillance akin to "looking over the shoulder") (George and Zhou 2001). Close monitoring at the store level aligns with the social information processing view (Salancik and Pfeffer 1978), which suggests that FLEs within the same store tend to develop similar perceptions of the store manager's behavior due to social interactions and learning. In this respect, close monitoring is an emergent group-level construct representing shared and collective perceptions of FLEs within a store (Chan 1998; Kozlowski and Klein 2000).

Close monitoring is a controlling rather than supportive behavior. Engaging in close monitoring leaves FLEs feeling deprived of social support and autonomy, perceiving it as a threat and disruption to their daily workflow. When close monitoring is pervasive, FLEs experience a constant sense of scrutiny and undue pressure to conform to expectations (George and Zhou 2001). Consequently, it hinders perceived self-control, empowerment, and motivation, ultimately leading to heightened stress levels. Close monitoring can be considered an example of the broader concept of customer-facing adverse manager behaviors, an inclusive term that captures the dark side of managerial involvement (Johnson 2023). In the retail context, research shows that as the level of close monitoring increases, retail sales productivity for high-end retail outlets suffers, corroborating the damaging impact of close monitoring (Banker et al. 2010).

Monitoring practices, rooted in surveillance literature, have been extensively studied in call centers, often described as modern Taylorism with rigid, standardized processes (Nyberg and Sewell 2014; Kinnie, Hutchinson, and Purcell 2000). Surveillance studies present two opposing views: care (protective, ensuring fairness and efficiency) and coercion (dominating, undermining autonomy) (Anteby and Chan 2018; Sewell, Barker, and Nyberg 2011). Despite this duality, employees generally perceive surveillance negatively, leading to a self-fulfilling cycle where employee resistance justifies increased surveillance (Anteby and Chan 2018). Our study examines close monitoring in retail following ERP implementation. We align with the coercive view of surveillance, recognizing its potential to decrease trust, morale, and well-being while increasing employee burnout and stress.

Emotional Labor and Customer-Directed Sabotage

Emotional labor refers to the process by which FLEs regulate and manage their emotional expressions during customer interactions (Hochschild 1979). These employees may experience

emotional dissonance—a mismatch between their internal emotions and the emotions they display. For instance, an FLE may feel internal anger and frustration but show a calm demeanor, which can lead to emotional exhaustion and burnout. This is because they must constantly align their emotions with the organization's display rules, which dictate acceptable emotional expressions and those that must be suppressed when interacting with customers (Wilk and Moynihan 2005). Adhering to these display rules requires mental effort, especially when there is a disparity between felt and displayed emotions (Diefendorff and Richard 2003). Diefendorff and Richard (2003) highlight that job-specific factors, such as a supervisor's role and expectations, along with individual personality traits like extraversion and neuroticism, influence how employees perceive and respond to display rules. Wilk and Moynihan (2005) build on this by arguing that supervisors act as enforcers of display rules, and stricter compliance demands can result in emotional exhaustion for employees.

We explore two forms of emotional labor: surface acting and deep acting. Surface acting involves FLEs disguising their genuine emotions to comply with the positive emotions required by display rules, such as maintaining a smile despite inner turmoil. Surface acting is often likened to "painting on affective displays" (Grandey 2003, p. 86), representing feigning or concealing genuine emotions to conform to display rules or scripts. In contrast, deep acting involves aligning one's genuine emotions with those expressed, thereby minimizing emotional dissonance. Strategies such as attentional deployment—redirecting focus away from emotional triggers—or cognitive change—adopting the customer's perspective or reappraising the situation may be effective for reducing emotional dissonance (Grandey 2000).

Deep acting is an activation-oriented strategy focused on fostering and expressing genuine positive emotions by aligning internal feelings with external expressions, enhancing

emotional delivery (Chi and Grandey 2019). In contrast, surface acting is an inhibition-oriented strategy aimed at suppressing unwanted emotions. While such a defensive approach controls negative displays, it can lead to emotional exhaustion and service sabotage, where employees intentionally lower service quality (Chi and Grandey 2019). Gabriel and Diefendorff (2015) show that emotional labor is a dynamic process with significant within-episode variability, often triggered by customer incivility. They challenge the traditional dichotomy of surface and deep acting, arguing that employees often employ both simultaneously to regulate emotions. This suggests emotional labor is more complex and adaptive than previously recognized, with employees strategically combining techniques to manage customer interactions.

Customer-directed sabotage, defined as "organizational member behaviors that are intentionally designed negatively to affect service" (Harris and Ogbonna 2006, p. 543), is closely linked to the two emotional labor strategies. As Harris and Ogbonna (2009, p. 326) emphasize, "The line between sabotage and simple error is delineated by intent. Thus, sabotage encompasses deliberate actions by employees that knowingly negatively disrupt or harm otherwise functional service encounters."

By synthesizing TTS and COR, we posit a relationship between emotional labor and customer-directed sabotage rooted in the common element of resources. While emotional labor suggests that surface acting depletes resources and leads to emotional exhaustion, customer-directed sabotage can also be explained by FLEs' inability to exercise self-control and self-regulation due to resource depletion (Chen et al. 2022; Wang et al. 2011; Zhang et al. 2018). Since surface acting necessitates greater resource consumption than deep-acting, FLEs will have fewer residual resources for self-control and self-regulation (Grandey, Dickter, and Sin 2004).

Consequently, resource depletion becomes more evident when FLEs face technology-induced workload and engage in surface acting (Brotheridge and Grandey 2002).

HYPOTHESES DEVELOPMENT

Indirect Process Crossover of Technology-Induced Workload

When managers grapple with technology-induced workload, necessitating the consumption of resources to unlearn legacy systems and acclimate to the demands of ERP, the finite pool of self-regulation resources becomes depleted (Baumeister et al. 1998; Muraven and Baumeister 2000). As managers' regulatory resource pool is limited, diverting resources to cope with technology-induced workload detracts from the resources that could have been directed towards productive and supportive tasks for FLEs (Harris et al. 2022). When managers' self-control resources are depleted, they are more likely to engage in higher levels of deviant behavior, such as abusive supervision (Hoobler and Hu 2013; Li et al. 2022; Ten Brummeluis, Haar, and Roche 2014; Yam et al. 2016). Hence, in line with existing literature and the self-regulation depletion argument, we posit that when managers perceive technology-induced workload, they are inclined to exhibit more controlling behavior, such as close monitoring.

Furthermore, managers can be pivotal in shaping how FLEs perceive technology-induced workload (Harris et al. 2015; Hwang 2021). Managers can assuage the fear and anxiety that FLEs may experience due to technology-induced workload by instilling confidence and providing reassurance. Even if managers wrestle with technology-induced workload, FLEs' perception of it can be mitigated if they observe supportive leadership behavior. Hwang (2021) demonstrated that authentic leadership ameliorated the technology-induced workload associated with knowledge management systems. The quality of the relationship between a manager and an employee can also mitigate technology-induced workload (Harris et al. 2015). In cases where

this relationship is strong, FLEs are more likely to receive both instrumental (e.g., work-related) advice and expressive resources (e.g., interpersonal affect and interest, such as emotional support), which is not feasible under controlling manager behavior such as close monitoring.

However, because close monitoring is fundamentally at odds with supportive leadership behavior, close monitoring will exacerbate perceived technology-induced workload. While manager support and the relationship quality between managers and FLEs represent social resources that FLEs can draw upon for coping, close monitoring requires FLEs to expend resources to manage controlling behavior, leaving fewer resources for FLEs to address technology-induced workload. Considering these factors collectively, managers' technology-induced workload leads to increased close monitoring, resulting in the heightened perception of technology-induced workload among FLEs.

Hypothesis 1: Managers' technology-induced workload has a positive indirect effect on FLEs' technology-induced workload, and this effect is mediated by close monitoring.

Indirect Effect of Manager's Technology-Induced Workload on Customer-Directed Sabotage

We posit that the repercussions of managers' technology-induced workload will extend beyond impacting FLEs' technology-induced workload, ultimately leading to customer-directed sabotage (Chen et al. 2022). This chain operates through a serial mediation effect, wherein managers' technology-induced workload influences customer-directed sabotage through the channels of close monitoring and FLEs' technology-induced workload (Chan and Wan 2012; Harris et al. 2015).

We present two arguments supporting the sequence of serial mediation where close monitoring leads to FLE technology-induced workload rather than vice versa. To begin with,

close monitoring typically involves managers keeping a watchful eye over their subordinates' activities. Given this dynamic, it stands to reason that such supervision would directly affect the workload experienced by FLEs due to technology, as these employees are the primary recipients of managerial oversight. Therefore, close monitoring by a manager is more likely to create a ripple effect that intensifies the technology-related demands placed on FLEs. Furthermore, building upon the concept of an indirect crossover effect (Li et al. 2016), we propose that close monitoring acts as a conduit through which the pressures of technology-induced workload are transferred from managers to FLEs. This transmission mechanism posits that the meticulous oversight by supervisors does not just apply pressure in isolation; it also cascades down, augmenting the technology-related workload for FLEs (Bhattacherjee et al. 2018). This happens as managers, through their intensive monitoring practices, pass on the pressure to utilize technological tools more extensively, heightening the workload experienced by FLEs in performing their duties. Consequently, with resources depleted, a state known as ego depletion occurs, which hampers self-control and self-regulation, thereby increasing the likelihood of customer-directed sabotage. (Chen et al. 2022; DeWall et al. 2007; Stucke and Baumeister 2006).

Hypothesis 2: Managers' technology-induced workload has a positive indirect effect on customer-directed sabotage that is serially mediated by close monitoring and FLEs' technology-induced workload.

The Moderating Role of Emotional Labor

While both surface and deep acting require resource expenditure, they differ in that surface acting does not facilitate resource recovery, whereas deep acting allows for acquiring new resources, such as through receiving positive customer feedback and praise. Acquisition of such

social resources can compensate for resource consumption, potentially resulting in a net gain (Côté 2005; Grandey and Gabriel 2015).

Surface acting imposes significant costs on FLEs, including emotional exhaustion, job burnout, and psychological strain. The main reason for such adverse effects is mainly the ongoing depletion of resources caused by the necessity to monitor and suppress one's genuine emotions to prevent any "emotional leakage" (Hülsheger and Schewe 2011). When FLEs resort to surface acting, the positive relationship between technology-induced workload and customer-directed sabotage becomes even more pronounced. The strain is exacerbated when combined with their already limited coping abilities in the face of technology-induced workload. Song et al. (2021) found that emotionally exhausted employees were more prone to act out when they viewed their supervisor as unfair. Such perceived unfairness further drained their already limited resources, complicating their ability to conform to customer service standards.

In contrast, deep acting, consistent with COR theory, enables FLEs to safeguard against further resource depletion and gain new resources, helping to balance future losses (Grandey and Melloy 2017; Halbesleben et al. 2014). Deep acting minimizes emotional dissonance, sparing employees from the additional strain of conforming to display rules contrary to their genuine feelings (Gabriel, Diefendorff, and Grandey 2023). Consistent with the social interaction perspective (Côté 2005) of emotion regulation, a view that underscores the importance of emotional feedback between senders and receivers, deep acting does not just preserve resources—it can also replenish them through the acquisition of social resources such as positive customer feedback and authentic customer interactions, which can be inherently rewarding and revitalizing (e.g., Gabriel Diefendorff, and Grandey 2023). These positive experiences can thus rejuvenate employees' mental reserves, equipping them to handle better the demands associated

with technology-induced workload (Yang and Chen 2021). Engaging in deep acting can enhance feelings of control, authenticity, positive affect, and personal accomplishment while decreasing feelings of depersonalization, helping to restore the capacity for self-regulation (Grandey and Melloy 2017). Consequently, the otherwise positive relationship between technology-induced workload and customer-directed sabotage can be mitigated (Deng et al. 2017).

Hypothesis 3a: Surface acting amplifies the positive effect of FLEs' technology-induced workload on customer-directed sabotage such that the positive effect of FLEs' technology-induced workload on customer-directed sabotage is stronger when surface acting is high versus low.

Hypothesis 3b: Deep acting mitigates the positive effect of FLEs' technology-induced workload on customer-directed sabotage such that the positive effect of FLEs' technology-induced workload on customer-directed sabotage is weaker when deep acting is high versus low.

METHOD

Research Context

Our research context is retail chain stores of two companies, one operating in the electronics and electrical appliances and the other in the clothing and apparel industry. The ERP systems were new to the companies. The implementation of ERP involved the integration, automation, and streamlining of four previously disconnected and siloed key areas: procurement, inventory management, customer relationship management, and finance/accounting. The primary goal of the ERP system was to liberate resources, enabling FLEs to become more efficient and productive, thereby enhancing the customer service experience. For instance, before ERP was implemented, if a customer wished to purchase an out-of-stock item, the FLE would need to contact the vendor, which might be placed on hold or wait for a call-back for information.

However, with ERP in place, an FLE can directly access the system to determine when the item will be delivered and available on the shelf. Additionally, from a redundancy reduction perspective, ERP has enabled FLEs to save time by eliminating the need to contact a vendor multiple times regarding the same item's availability when requested by different customers.

While companies recognized the benefits of ERP, they were also concerned about challenges for retail store managers and FLEs. Store managers and FLEs may have to work quicker to adapt to the technology, paradoxically work more rather than less, and change work routines by unlearning old habits and learning new processes. These stressors can be burdensome and lead to emotional exhaustion as resources are expended in the initial implementation phase until everyone learns the ropes and feels comfortable working with the new technology. Hence, our research context is suitable for studying the crossover of technology-induced workload.

Sample and Procedures

Before data collection, we obtained permission from both companies' human resources (HR) departments and briefed them on the purpose of the survey. Our target respondents were store managers and FLEs working in retail stores. Accordingly, we detailed the survey's objectives, emphasizing our interest in the perceptions of retail store managers and FLEs following the implementation of the ERP system. We requested that the HR departments email store managers and FLEs about the impending survey to gather insights into their reactions to the ERP system. The HR departments informed store managers and FLEs about the upcoming survey to show support and encourage participation. Consequently, we are assured that the respondents were fully aware that the survey was intended to gauge their opinions on the ERP system and that the company was entirely behind it.

We conducted this study at 45 retail stores owned by the two companies in Istanbul's districts. Each store has a manager who is responsible for its day-to-day operations and supervises FLEs. When we conducted the study, the number of FLEs per store manager ranged from 7 to 23 (mean = 13.22, SD = 3.27). We designed two separate online surveys. Using the contact information provided by the companies, we invited all 595 FLEs and 45 managers of 45 stores to participate in our study by emailing the online survey link. We stated in the email that participation in the survey was voluntary and that the gathered information would be used purely for academic purposes and would not be disclosed on an individual basis. We also reminded FLEs and store managers to respond to the surveys during work hours. The FLE survey consisted of demographic questions, control variables, and scales measuring customer orientation, technology-induced workload, customer-directed sabotage, close monitoring, and emotional labor (deep-acting and surface-acting). The store manager survey contained scales for assessing technology-induced workload, demographic questions, and control variables. We coded the surveys to match FLEs' responses with store managers' responses for further analysis.

After two reminders, we received surveys from all 45 store managers and 372 FLEs across 45 stores. We eliminated four FLE surveys due to incomplete responses. The final sample consisted of 45 store managers and 368 FLEs (an effective response rate of 62%). At least half of the FLEs at each store participated in the survey, ranging from four to sixteen FLEs, with an average of 8.18 FLEs per manager/store. Therefore, we did not need to exclude any store from our analyses. In order to conduct subsequent analyses, we created a dataset in which we matched the responses of store managers and FLEs to our surveys.

The demographic profile of the respondents was as follows: of the FLEs, 76.4% were male, 75% were older than 26, 56.3% had a college degree, and 82.6% had at least one year of

store experience. Of the store managers, 68.9% were male, 95.6% were older than 26, 44.4% had a college degree, and all had at least one year of store experience. We report the distribution and differences in demographic characteristics between the two companies in Web Appendix B.

Surveys and Measures

As stated earlier, we designed two surveys to collect data from FLEs and store managers. We measured all the variables in the model with previously developed and widely used scales in the literature, all of which had demonstrated validity and reliability (Table 1). Because all the original scales had been developed in English, we designed the survey in English and translated it into Turkish using the translation and back translation method (Brislin 1986). Unless otherwise stated, all scales used the Likert format (1 = "strongly disagree," 5 = "strongly agree").

[Insert Table 1 here]

Main Variables. FLEs responded to technology-induced workload, close monitoring, customer-directed sabotage, deep acting, and surface acting. We measured technology-induced workload with five items (Tarafdar et al. 2007) and close monitoring with six items (George and Zhou 2001). Previous research has extensively explored customer-directed sabotage, a form of employee counterproductive behavior, primarily within service industries such as hospitality (e.g., Harris and Ogbonna 2006), retail services (e.g., Chi, Tsai, and Tseng 2013), call centers (e.g., Skarlicki et al. 2016; Song and Park 2022; Wang et al. 2011), and healthcare (e.g., Zhang et al. 2018). Customer sabotage scales vary depending on their use in various service contexts, such as call centers (e.g., Skarlicki, van Jaarsveld, and Walker 2008: Wang et al. 2011) or face-to-face interactions (e.g., Chi, Tsai, and Tseng, 2013: Harris and Ogbonna 2006). Since our study focused on FLEs with direct customer interactions, we measured customer-directed sabotage with five items (1 = "never" to 5 = "always") from Chi, Chang, and Huang's (2015) scale,

developed for various face-to-face service environments (i.e., banking, hospitality, financial services). Although Chi, Chang, and Huang's (2015) scale originally included six items from Chi, Tsai, and Tseng (2013) and Harris and Ogbonna (2006), we removed the item “trying to take revenge on rude customers” because FLEs in the retail stores were less likely to engage in direct acts of revenge. We measured deep acting with three items and surface acting with five items (1 = “never,” 5 = “always”) taken from Brotheridge and Lee (2003). Managers responded to the measure of technology-induced workload, which we assessed using the same scale we used for FLEs.

Control Variables. We included control variables to minimize omitted variable bias, account for heterogeneity, and isolate alternative factors affecting dependent variables. For FLEs, controls included gender, negative affectivity, customer orientation, techno-complexity, and customer verbal aggression. For store managers, controls included education, store experience, and techno-complexity. We controlled for unobserved heterogeneity arising from industry-specific factors by including an industry dummy (1 = electronics and electrical appliances, 0 = clothing and apparel). Since the data were collected from two companies, one operating in the electronics and electrical appliances industry and the other in the clothing and apparel industry, this control accounts for industry-level variation and firm-specific differences (see Web Appendix B for details).

Analytical Approach

The analytical approach has two steps. First, we assess the validity and reliability of the multi-item scales that FLEs and their managers responded to separately using confirmatory factor analysis. Second, we estimate the model in two stages using a two-level random intercept approach with the Bayesian estimator in Mplus 8.7. We tested H1 and H2 in the first stage by

estimating the mediation model. In the second stage, we tested H3a and H3b by including the interaction effects of deep acting and surface acting with technology-induced workload on customer-directed sabotage in the model. In both stages, we included correction terms in the model to account for endogeneity bias and common method bias. We provide detailed information about the analytical approach and analysis results in Web Appendix B.

RESULTS

Main and Indirect Effects

Table 2 reports the results of the mediation model (i.e., Model 1). Manager technology-induced workload is related to close monitoring (b = .387, p < .01). Close monitoring is positively related to FLE technology-induced workload (b = .583, p < .01), which in turn is positively related to FLE customer-directed sabotage (b = .140, p < .01).

[Insert Table 2 here]

Next, we computed the indirect effects to test H1 and H2. Accordingly, we conducted Markov Chain Monte Carlo bootstrapped estimation with 30,000 iterations to examine Bayesian inference regarding indirect effects. A Bayesian credibility interval that does not encompass zero indicates statistical significance for an indirect effect (see Web Appendix C, Table WC.1). The indirect effect of manager technology-induced workload on FLE technology-induced workload via close monitoring is significant (b = .223, 95% CI [.077, .375]), supporting H1. It is also worth noting that we found the direct effect of manager technology-induced workload on FLE technology-induced workload to be statistically significant (b = .175, p < .01). Therefore, manager close monitoring acts as a partial mediator as both the direct and indirect effects of manager technology-induced workload on FLE technology-induced workload are significant. In addition, the indirect effect of manager technology-induced workload on FLE customer-directed

sabotage via close monitoring *and* FLE technology-induced workload (i.e., serial mediation) is significant (b = .030, 95% CI [.003, .062]). Hence, H2 is supported.

Interaction Effects

Table 3 reports the results of the full model with hypothesized interaction effects (i.e., Model 2). The effect of FLE technology-induced workload on customer-directed sabotage is moderated by surface acting (b = .116, p < .05). The relationship is stronger at the high level of surface acting (b = .247, 95% CI [.118, .382]) but not at the low level of surface acting (b = .004, 95% CI [–.136, .144]). These findings provide support for H3a (Web Appendix C, Figure WC. 1). However, H3b is not supported, as the interaction effect of FLE technology-induced workload and deep acting on customer-directed sabotage is not significant (b = .087, p > .05).

[Insert Table 3 here]

We also performed a floodlight analysis to represent the interaction effect between FLE technology-induced workload and surface acting on customer-directed sabotage and reported the region of significance using Johnson and Neyman's technique over the entire range of (mean-centered) surface acting [-2.79 to 2.67]. The slope of the technology-induced workload–customer-directed sabotage relationship is significant for all values of surface acting that fall outside the range [lower bound = -5.39, upper bound = -.26]. The lower bound is meaningless since it falls outside of the measured range, and the confidence band does not cross zero. However, at .26 standard deviations below the mean value of surface acting, the lower bound crosses zero (see Web Appendix C, Figure WC.2). As the level of surface acting increases from -.26 (simple slope = .095, SE =.049, p < .05) to 2.67 (simple slope = .436, SE =.119, p < .01), the technology-induced workload-customer-directed sabotage relationship becomes more positive.

Additional Analyses and Robustness Check

We conducted additional analyses to assess the robustness of our model. First, we re-estimated mediation and moderation models without control variables or correction terms. Results confirmed H1, H2, and H3a, but not H3b, indicating the findings were not dependent on controls. Second, we addressed the potential influence of outliers by removing extreme cases of customer-directed sabotage, reaffirming the significant relationship between FLE technology-induced workload and customer-directed sabotage. Lastly, we tested three alternative models: (1) the interaction of technology-induced workload and customer orientation, (2) the moderating effect of managers' close monitoring, and (3) a three-way interaction involving close monitoring and emotional regulation strategies. None of these alternative models showed significant effects on customer-directed sabotage. These analyses validate the robustness of our initial model (see Web Appendix D for details).

DISCUSSION

Drawing on the transactional theory of stress (TTS) and conservation of resources (COR) theory, this study investigated technology-induced workload crossover from managers to FLEs during the shakedown phase of the ERP experience cycle. First, close monitoring was a mediator in transmitting technology-induced workload from managers to FLEs. Second, through a serial mediation effect, we demonstrated that the impact of managers' technology-induced workload extended beyond FLEs to customer-directed sabotage. Third, we observed that surface acting intensified the positive effect of FLEs' technology-induced workload on customer-directed sabotage. These findings underscore the downstream consequences of technology-induced workload, illustrating their wide-ranging implications that reach beyond FLEs to impact customers. We now examine these results in greater depth and the contributions to the existing literature.

Theoretical Contributions

This study provides several theoretical contributions by closing critical gaps at the intersection of customer service and technology-induced workload literature. We discuss the contributions of our study in three key areas: indirect process crossover, combining technology-induced workload and customer service, and emotional labor.

Indirect Process Crossover. While most crossover research has traditionally focused on the family context between spouses and partners, a growing body of research has investigated crossover between managers and their subordinates (Hoobler and Hu 2013; Li et al. 2015; Ten Brummelhuis, Haar, and Roche 2014). However, transferring technology-induced workload from managers to employees remains largely unexplored. Our findings support the indirect process crossover model, which, as noted by Li et al. (2015, p. 2), has been "largely overlooked."

The link between managers' and FLEs' technology-induced workload was mediated by close monitoring. Prior studies have suggested that the quality of the relationship between managers and employees (Harris et al. 2015) and authentic leadership (Hwang 2021) can mitigate perceptions of technology-induced stress. However, since close monitoring, as controlling behavior, contradicts the principles of supportive leadership, constant surveillance and oversight can exacerbate FLEs' perceptions of technology-induced workload. By uncovering the underlying mechanism of the crossover effect, we not only reveal a trickle-down effect from top to bottom but also elucidate how technology-induced workload is transmitted from managers to FLEs. Our results extend the work of Stempel, Dettmers, and Rigotti (2023), who demonstrated that leader workload (although not driven by technology) can impact subordinate workload through the erosion of transformational leadership.

Synthesis of Technology-Induced Workload and Customer Service. Managers' technology-induced workload impacts not only FLEs but also customers. Through serial mediation analysis, we found that close monitoring and FLEs' technology-induced workload, together, mediate the relationship between managers' workload and customer-directed sabotage. While research on technology-induced stressors leading to deviant behavior toward employees or organizations is limited (Chen et al. 2022 being an exception), even fewer studies explore their effects on customer mistreatment. Our study fills this gap by extending technology-induced stress research to include external stakeholders, particularly customers.

Our results represent a shift from an "inward" perspective to an "outward" one, paving the way for further research on how FLEs' stress stemming from technology can negatively impact customer interactions. Moreover, these findings demonstrate the potential for cross-fertilization between the technology-induced stress and customer service literature, which have mainly progressed independently thus far.

Emotional Labor. While previous meta-analyses have investigated the roles of surface and deep acting primarily as mediators (Hülsheger and Schewe 2011; Kammeyer-Mueller et al. 2013), few studies have looked at emotional labor as moderators. Our research examines both forms of emotional labor in this capacity. We discovered that surface acting amplifies the effect of technology-driven workload on customer-directed sabotage, whereas deep acting does not. Although the reasons behind these findings are beyond the scope of our research, we cautiously suggest that the differing dynamics of resource loss and gain associated with surface and deep acting may play a role (Grandey and Gabriel 2015).

Both forms of acting consume resources, but surface acting depletes them more due to the need to follow emotional display rules despite emotional dissonance. This aligns with the

resource-based view of self-regulation (DeWall et al. 2007; Stucke and Baumeister 2006; Wang et al. 2011). Our findings suggest that technology-induced workload and surface acting drain FLEs' resources, reducing their capacity for self-regulation. This is consistent with research linking emotional exhaustion to deviant behaviors, such as abusive leadership and deceptive sales (Li et al. 2016; Yoo and Frankwick 2013). These results support the resource-based explanation of self-regulation and explain increased customer-directed sabotage.

Conversely, deep acting can replenish resources through a sense of achievement or positive customer interactions (e.g., compliments or feedback), potentially leading to net resource gains. This contrasts with surface acting, which, when combined with technology-induced workloads, can result in a downward spiral of resource depletion, reducing employees' ability to self-regulate and increasing the risk of customer-directed sabotage (Halbesleben et al. 2014). Deep acting, however, may offset resource loss by acquiring new mental and social resources, helping prevent such negative outcomes.

Finally, this research contributes to understanding change management in digital transformations, such as ERP implementation. Anand and Barsoux (2017) challenge common misconceptions, arguing that problems often arise not just from poor execution or change methods but from failing to identify what should change. Our research emphasizes that employees' perceptions (appraisal of technology-induced workload) and behaviors (treatment of customers) must shift. Therefore, we took a less prescriptive approach—focusing less on the "how to"—and instead adopted a more descriptive perspective, examining the nature of changes in employee perceptions and actions during the early stages of digital transformation.

Managerial Implications

Our results yield informative practical implications for firms in the following three ways.

Be Aware of the Trickle-Down Effect of Technology-Induced Workload. Companies must remain vigilant in identifying when managers experience technology-induced workload. Our results have demonstrated a significant cascading impact from the top, making it essential to have systems and awareness tools that can proactively detect signs of managers feeling overwhelmed by the demands of new technology adoption. For instance, as a proactive measure, companies can implement a daily routine where managers log into a database at the end of their workday. This database would prompt managers to provide feedback on the extent to which they perceive an excessive workload resulting from implementing new digital technology. Over time, companies can accumulate this data and identify individuals who consistently exceed a predefined threshold. These individuals may be potential candidates for engaging in close monitoring behavior and should be offered additional support and assistance.

Prevent and Mitigate Close Monitoring. Close monitoring is critical in the relationship between managers' and FLEs' technology-induced workload. Therefore, firms must take measures to prevent or alleviate close monitoring. As previously stated, close monitoring results from insufficient self-regulation from depleted resources for coping with technology-induced stress. Resource replenishment is essential to mitigate close monitoring.

Offering additional training before and after implementing the ERP system can replenish managers' resources. This could involve workshops designed to convey clear and realistic expectations and bring managers up to speed on digital technology, particularly for those needing to be better versed in it. For FLEs, in cases where they cannot find support from managers, seeking assistance from their co-workers can serve as a valuable coping resource and a substitute for manager support. Since FLEs often find themselves in similar situations while coping with technology-induced workload, they can provide mutual support to one another.

Furthermore, it is expected that the technology-induced stress from workload will be more pronounced during the "shakedown phase" and gradually subside over time as managers and FLEs adapt to the new system. Given that the downstream consequences of managers' technology-induced workload are distal, firms may not be initially aware of its far-reaching impact on customers, especially in the early stages of the transformation. Therefore, by promoting awareness throughout the organization early in the technological change process, firms can proactively take measures to minimize the crossover of technology-induced workload beyond company boundaries.

Manage Surface Acting. By discouraging surface acting and providing additional resources, firms can mitigate the impact of FLEs' technology-induced workload on customer-directed sabotage. We propose that implementing organizational resources, such as fostering a customer-oriented (or service-oriented) climate that recognizes and rewards FLEs for service excellence (e.g., through initiatives like an "Employee of the Month" award), can help replenish resources among FLEs and reduce surface acting. Additionally, firms can offer social resources, such as promoting high-quality relationships among coworkers and facilitating peer advice connections (Sykes 2015), to counteract the adverse effects of surface acting. Strengthening these relationships can help replenish depleted resources and, in turn, discourage surface acting. Through these interventions targeting managers and FLEs, firms can enhance their perceived control during the appraisal process, allowing managers and FLEs to allocate fewer resources to coping mechanisms. By saving resources, there is a greater capacity for self-regulation, which diminishes the need for close monitoring and reduces instances of surface acting.

We posit that managers can play a crucial role in managing FLEs' surface acting. As enforcers of display rules, supervisors greatly influence how employees perceive emotional

display expectations (Wilk and Moynihan 2005). Clear communication and alignment of expectations between managers and FLEs can mitigate the negative effects of emotional labor, particularly in managing the suppression of negative emotions through surface acting. Even with increased technology-induced workload, effective managerial guidance can help reduce emotional exhaustion and decrease the likelihood of customer-directed sabotage, helping FLEs better navigate emotional labor demands.

Finally, our research has implications beyond ERP, extending to Artificial Intelligence (AI) as an emerging techno stressor. We propose that AI integration in the workplace resembles the ERP shakedown phase in its impact on employees, work routines, and organizational dynamics. Both represent significant technological transitions. However, unlike ERP systems which stabilize post-shakedown, AI technologies continuously evolve, demanding ongoing adaptation. This necessitates managers to constantly redesign job roles, ensuring AI complements rather than replaces employees.

Limitations and Future Research Directions

While this research exhibits several strengths, it also comes with certain limitations that present opportunities for future research. First, future studies should assess whether the findings from the shakedown phase (e.g., onward and upward) of the ERP cycle extend to later stages, considering that employees may develop more favorable appraisals of technology over time (Bhattacherjee et al. 2018; Salanova and Shaufeli 2000). Second, researchers should explore crossover effects not only from managers to FLEs but also in the reverse direction (bottom-up) and among FLEs (horizontal). Third, future research should investigate social mechanisms, such as social undermining or workplace ostracism, as potential mediators in the relationship between

managers' and FLEs' technology-induced workloads. This exploration could deepen our understanding of the dynamics at play in these interactions.

Fourth, while we conceptualized technology-induced workload as a hindrance stressor, consistent with the information systems literature that frames technostress as a threat (Califf, Sarker, and Sarker 2020; Tarafdar, Cooper, and Stich 2017), employees may develop a more positive appraisal of digital technology with increased exposure (Salanova and Schaufeli 2000). Over time, as employees become familiar with the ERP system, they may perceive technology-induced workload as a challenge (Bhattacherjee et al. 2018). This dual appraisal aligns with LePine et al. (2016), who propose that situations can be challenging and hindering, with perceptions shifting. Thus, future research should utilize longitudinal data to investigate how appraisals of the same stressor evolve.

Fifth, our findings suggest that deep acting was ineffective in preventing resource loss or replenishing resources to offset the effects of technology-induced workload on customer-directed sabotage. Future research should explore why deep acting failed to moderate this relationship, as effective deep acting requires resource restoration to exceed the losses incurred by technology-induced workload, leading to a net gain (Grandey and Gabriel 2015).

Sixth, our model did not account for FLEs' and managers' resistance to technological change. Oreg (2003) defines dispositional resistance as a multidimensional construct, including routine seeking, emotional responses to change, cognitive rigidity, and short-term focus. Oreg et al. (2008) note that individuals respond differently to change, with some embracing it while others resisting it. Consequently, how FLEs and managers cope with technology-induced stressors may vary based on their resistance levels. Future research should, therefore, consider employees' resistance to change when modeling similar relationships.

Seventh, despite utilizing multirespondent and multilevel data, future studies should consider longitudinal or time-wave data to establish causality in crossover research. Customer-directed sabotage could be assessed directly from customers, who are the recipients of mistreatment. Additionally, the experience sampling method (ESM) is the most effective approach for examining spillover or crossover effects (e.g., Yang, Zhou, and Huang 2024). Given the cross-sectional nature of our dataset, it may not capture the full effects; therefore, future research should employ ESM for more accurate investigations.

Finally, digital customer interactions present new challenges for emotional labor research. Future studies should examine how employees manage emotions in the absence of non-verbal cues and address increased customer incivility stemming from perceived online anonymity. Additionally, comparing emotional labor strategies before and after AI adoption could yield valuable insights for effective management in the digital age, ultimately aiding organizations in supporting employees as they navigate the evolving landscape of customer interactions and emotional demands.

Conclusion

Our research examined the transfer of technology-induced workload from managers to FLEs and its subsequent impact on customer-directed sabotage. We uncovered the mediation mechanisms involved and how emotional labor—specifically surface acting—plays a moderating role. Our results revealed significant and unexpected adverse outcomes from managers' technology-induced workload, with repercussions that ripple well beyond the internal confines of the organization. Future research should strive to provide a deeper understanding of how technology-induced stress affects overall firm performance beyond customer-directed sabotage.

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Table 1. Descriptive Statistics, Intercorrelations, and Reliabilities

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Industry															
2. Store manager education	.091														
3. Store manager experience	.314**	.073													
4. Store manager technology-induced workload	.021	.106*	-.068												
5. Store manager techno-complexity	-.081	.092	.006	.239**											
6. Store manager close monitoring	-.411**	-.224**	-.297**	.249**	.060										
7. FLE gender	-.032	-.102	.014	-.189**	-.050	-.048									
8. FLE negative affectivity	.088	.135**	.069	.074	.109*	-.174**	-.215**								
9. FLE customer verbal aggression	-.028	.071	-.024	.096	.110*	-.045	-.133*	.329**							
10. FLE customer orientation	-.137**	-.130*	-.054	.178**	-.006	.332**	-.110*	-.106*	-.087						
11. FLE techno-complexity	-.043	.149**	-.012	.215**	.059	.004	-.092	.324**	.554**	-.058					
12. FLE technology-induced workload	-.047	.111*	-.057	.186**	-.005	.101	-.164**	.257**	.448**	.005	.442**				
13. FLE deep acting	-.153**	-.136**	-.023	.152**	.010	.324**	-.031	-.010	.059	.385**	.147**	.130*			
14. FLE surface acting	-.096	-.007	-.041	.082	.079	.151**	-.062	.157**	.249**	.156**	.225**	.095	.405**		
15. FLE customer-directed sabotage	-.078	.070	.001	.005	.114*	-.055	-.081	.317**	.501**	-.144**	.396**	.323**	.057	.154**	
Mean	-	-	-	3.20	3.06	2.37	-	2.90	2.31	4.54	2.81	3.13	2.05	2.60	1.40
SD	-	-	-	1.10	1.16	.39	-	1.35	1.16	.68	1.06	1.06	.94	1.05	.93
Cronbach's alpha	-	-	-	.87	.87	.88	-	.91	.85	.81	.86	.87	.87	.75	.96
Composite reliability	-	-	-	.96	.84	.88	-	.92	.86	.81	.86	.87	.89	.76	.96
Average variance extracted	-	-	-	.92	.72	.59	-	.78	.61	.52	.55	.57	.73	.51	.81

Notes: (1) Industry (1 = electronics and electrical appliances, 0 = clothing and apparel). (2) FLE gender (1 = male, 2 = female).
*$p < .05$; ** $p < .01$ (two-tailed test

Table 2. Results of the Mediation Model (Model 1)

	Store manager close monitoring				FLE technology-induced workload				FLE customer-directed sabotage			
	b	Posterior SD	Lower 95% CI	Upper 95% CI	b	Posterior SD	Lower 95% CI	Upper 95% CI	b	Posterior SD	Lower 95% CI	Upper 95% CI
Covariates												
Industry	-.233	.323	-.873	.399	.058	.165	-.263	.384	-.394*	.167	-.726	-.071
Store manager education	.427	.269	-.122	.942								
Store manager experience	.614**	.160	.293	.922								
Store manager techno-complexity	.207	.119	-.029	.439								
FLE gender					-.094	.102	-.291	.109	-.051	.109	-.265	.163
FLE negative affectivity					.072	.039	-.005	.149	.106**	.038	.031	.182
FLE customer orientation					.004	.076	-.146	.151	-.167*	.073	-.309	-.023
FLE techno-complexity					.206**	.055	.100	.315	.116*	.053	.013	.222
FLE customer verbal aggression									.222**	.050	.127	.321
Main effects												
Store manager technology-induced workload	.387**	.123	.144	.627	.175**	.077	.022	.326	.027	.059	-.092	.142
Store manager close monitoring					.583**	.062	.466	.708	-.357*	.173	-.692	-.010
FLE technology-induced workload									.140*	.050	.040	.234
FLE deep acting									.047	.057	-.065	.158
FLE surface acting									.008	.048	-.087	.101
Copula term$_{(Store\ manager\ close\ monitoring)}$					-.020	.045	-.108	.068	.053	.044	-.034	.139
Copula term$_{(FLE\ technology\text{-}induced\ workload)}$									.080	.088	-.087	.261
CMB correction									-.062	.058	-.173	.052
Pseudo-R^2 (within stores)	-				.079				.234			
Pseudo-R^2 (between stores)	.466				.724				.803			
Pseudo-R^2 (total)	.121				.146				.276			

Notes: (1) Industry (1 = electronics and electrical appliances, 0 = clothing and apparel). (2) FLE gender (1 = male, 2 = female). (3) CMB = common method bias. (4) The Bayesian estimation procedure provides posterior standard deviation (SD) instead of standard error. (5) Estimated parameters = 38, Deviation Information Criterion (DIC) = 3032.60.

*p < .05; ** p < .01 (two-tailed test).

Table 3. Results of the Moderation Model (Model 2)

	Store manager close monitoring				FLE technology-induced workload				FLE customer-directed sabotage			
	b	Posteri or SD	Lower 95% CI	Upper 95% CI	b	Posteri or SD	Lower 95% CI	Upper 95% CI	b	Posteri or SD	Lower 95% CI	Upper 95% CI
Covariates												
Industry	-.229	.322	-.874	.395	.061	.164	-.251	.388	-.395*	.165	-.721	-.069
Store manager education	.423	.268	-.105	.950								
Store manager experience	.612**	.161	.298	.930								
Store manager techno-complexity	.209	.121	-.034	.445								
FLE gender					-.095	.103	-.293	.108	-.037	.107	-.253	.167
FLE negative affectivity					.072	.039	-.006	.147	.099*	.038	.025	.174
FLE customer orientation					.003	.076	-.143	.153	-.194**	.072	-.336	-.054
FLE techno-complexity					.207**	.054	.100	.313	.097	.053	-.005	.200
FLE customer verbal aggression									.216**	.049	.121	.313
Main effects												
Store manager technology-induced workload	.386**	.123	.145	.626	.175*	.077	.025	.328	.019	.059	-.094	.138
Store manager close monitoring					.582**	.061	.464	.706	-.315	.172	-.659	.019
FLE technology-induced workload									.126*	.049	.030	.222
FLE deep acting									.057	.057	-.055	.166
FLE surface acting									.015	.048	-.077	.110
Interaction effects												
FLE technology-induced workload x Deep acting									.087	.061	-.031	.191
FLE technology-induced workload x Surface acting									.116*	.047	.024	.208
Copula term$_{(Store\ manager\ close\ monitoring)}$					-.020	.045	-.109	.067	.072	.044	-.014	.158
Copula term$_{(FLE\ technology\text{-}induced\ workload)}$									.102	.087	.024	.207
CMB correction									-.043	.057	-.156	.069
Pseudo-R^2 (within stores)	-				.079				.253			
Pseudo-R^2 (between stores)	.466				.724				.800			
Pseudo-R^2 (total)	.121				.146				.294			

Notes: (1) Industry (1 = electronics and electrical appliances, 0 = clothing and apparel). (2) FLE gender (1 = male, 2 = female). (3) CMB = common method bias. (4) The Bayesian estimation procedure provides posterior standard deviation (SD) instead of standard error. (5) Model 2 fits the data well (Estimated parameters = 40, Deviation Information Criterion (DIC) = 3024.15, significantly improving over Model 1 (ΔDIC = 8.45, $\Delta df = 2$). *$p < .05$; ** $p < .01$ (two-tailed test)

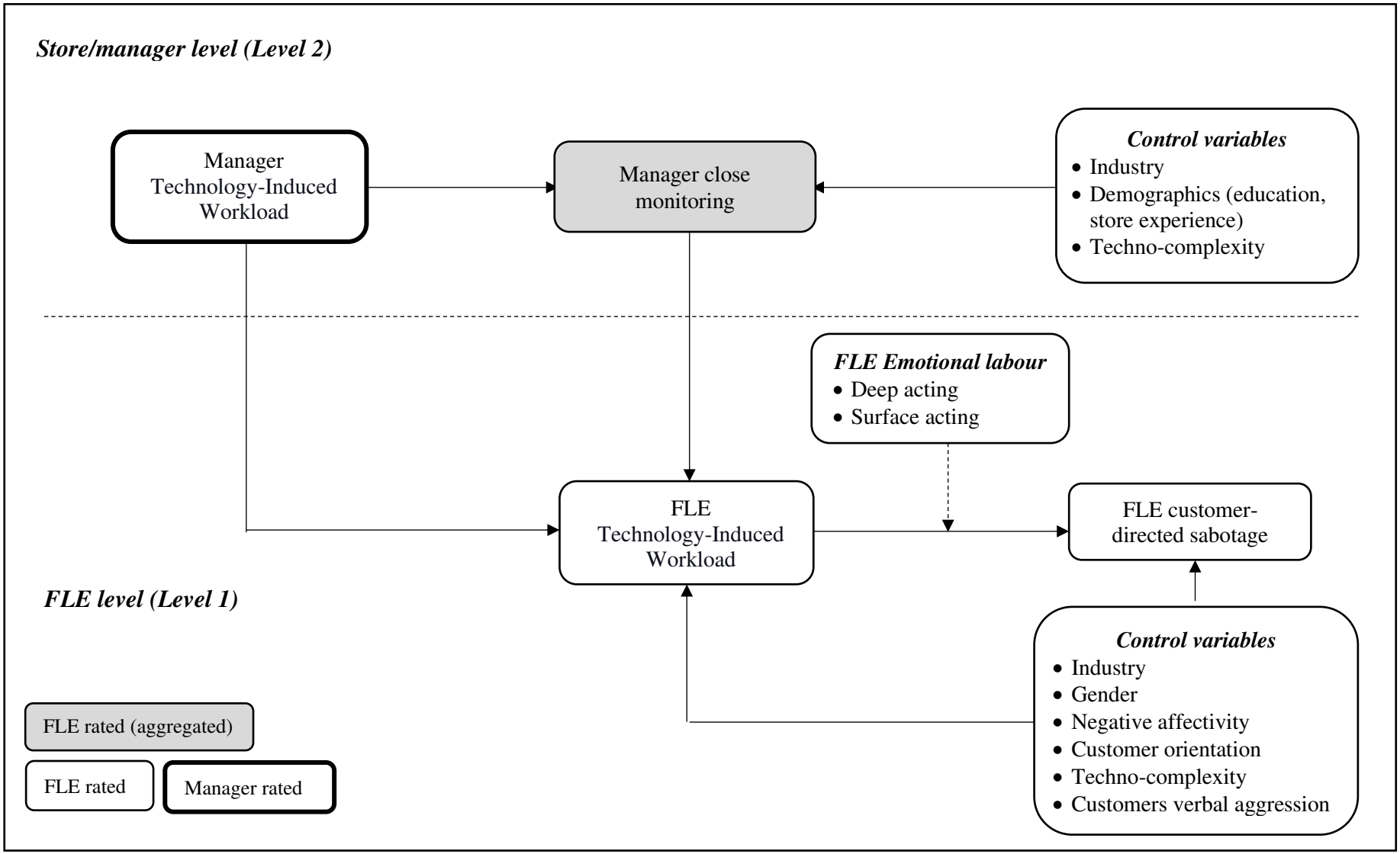

Figure 1. Model