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TIME AND TECHNOSTRESS: "WHEN WORK IS DELAYED, CANCER DIAGNOSIS IS DELAYED".

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TREO Paper

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Abstract

Digital transformation (DT) promises efficiency and timesaving, yet it often leads to temporal burdens. This paper explores how time structures and subjective temporal experiences shape technostress in a Danish hospital department specializing in cancer diagnostics. Drawing on 15 qualitative interviews and 185 technostress instances, we reveal how IT systems introduce delays, fragmentation, and invisible tasks, affecting both workflow and patient diagnosis. Our findings show a clash between the temporality of IT systems and the urgency of clinical care, with delays intensifying technostress, particularly for staff closely involved in patient diagnosis. By applying a temporal lens to technostress, we uncover how perceived time loss, waiting, and delays connect to technostress. This study contributes to IS research by extending technostress theory beyond the transactional model and highlights the importance of incorporating temporal concepts to understand the nuanced, practice-based experiences of technostress.

Keywords: Technostress, Time, Digital Transformation, Healthcare IT.

1 Introduction

The ongoing digitalization is affecting organizations in profound ways, giving rise to new ways of working and organizing (Orlikowski & Scott, 2016). Digital Transformation (DT), whose purpose is value creation and organizational efficiency (Vial, 2019), has not escaped the associations we make of modern technology with speed, tempo, or velocity (Hörning et al., 1999). DT has created growing interdependencies between systems, employees and organizations. These interdependencies have spurred substantial reconfigurations of work relationships, processes and tasks (Orlikowski & Scott, 2008). Despite promises of saving time, digital tools frequently introduce invisible tasks (Justesen & Plesner, 2024), require navigation of system breakdowns (Riedl et al., 2012), or impose cumbersome login and access procedures-all of which consume time in unpredictable ways. Rather than freeing time, digital technologies often restructure it, leading to intensified experiences of technostress (Brod, 1984; Califf, 2022). In the end, claim Hörning et al. (1999), we might not have more time than before, but less.

Technostress, the stress we experience in relation to digital technologies in organizations, can be described as an imbalance between demands and resources available (such as skills or time) (Folkman & Lazarus, 1988). Despite technostress being an established research topic in IS research (e.g., Pflügner et al., 2024), the underlying connection between time and technostress has not been explicitly investigated and remains undertheorized. This connection can be found when unpacking the survey question behind predominant conceptualizations, such as techno-overload and techno-invasion (Ragu-Nathan et al., 2008). Techno-overload implicitly addresses time: employees sense they do not have the necessary time to complete their tasks; leading to time pressures. Similarly, techno-invasion is implicitly connected to temporal structures (Orlikowski & Yates, 2002): the overlap between time at work and private time (Benlian, 2020; Hochschild, 2014). Hörning et al. (1999) claim that the modern

technology's relationship to time is characterized by ambivalence. Technologies can save time, or eliminate time and space barriers, but they can also irritate, provoke, disrupt.

Thus, there is an opportunity to explore the entangled connection between subjective and practice-based time experiences of employees and technostress (Saunders & Kim, 2007). We ask: What insights emerge from applying the theoretical lens of time to technostress research?

To explore this question, we conduct qualitative research in a hospital department, dealing with cancer diagnosis. We interviewed 15 staff members about their technology-related stressful experiences. Interviewees included physicians, radiographers, secretaries, bioanalysts and researchers. The research follows an interpretive and hermeneutical approach (Klein & Myers, 1999). We focus on the complexity of human sense making as the technostressful situations emerge and we attempt to understand the relation between time and technostress through the meanings the healthcare personnel assign to these (Klein & Myers, 1999).

Amongst our findings, we highlight that there are two temporalities at play: the temporality of IT systems and that of cancer diagnosis. Sometimes they overlap, sometimes the IT system temporality delays the other, and other times, the IT system temporality is accepted and becomes part of the everyday work practice. From the 185 technostress instances analyzed for this research study, most of the accounts contain references to time. The experiences of delays, waiting time or wasted time exaggerates personnel technostress experiences. At the same time, the closer the personnel are to patient diagnosis (e.g., doctors), the more we notice in our data that they also have reflections on patient diagnosis and evocations of hopelessness. Additionally, we notice a cascading temporal effect: issues experienced while performing one tasks often leads to cumulative delays across others. Because patient diagnosis is sequential (e.g., patient arrival, scan, picture analysis, diagnosis), a delay in one part affects the entire workflow.

As a discussion, we point that while DT promises acceleration and time savings, in practice, these systems often reconfigure time in ways that lead to new forms of waiting, delays and interruptions. Following Orlikowski and Yates (2002), we interpret these effects through the lens of temporal structuring. Employees enact routines, draw on previous structures, and integrate delays into daily life. In our study, technostressors (e.g., waiting time, login problems, systems crashes) are both structural conditions (imposed by IT systems) and enacted structures (as users adapt and routinize them). This duality shows the dialectic between constraint and agency: systems constrain action, but users reshape the systems' temporal impact through workarounds, routines and negotiations. Delays directly compromise patient care, making technostress not just a personal burden, but a systemic and ethical issue. The department becomes an extreme case of how digital transformation can both support and hinder organizational goals.

We extend technostress research by making time a central and analytical lens. While time has often been implicit in technostress constructs (e.g., overload, invasion), we now bring the temporal dimension forward to show what can be gained by going beyond the transactional view of stress.

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