

The Mediating Role of Cynicism in the Relationship Between ICT Hassle and Poor Communication with Employee Intention to Quit Among Healthcare Professionals

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Abstract

This study investigates the direct and indirect effects of ICT Hassle (recurring frustrations and disruptions, such as technical problems, employees experience when using digital technologies at work) on one hand and poor communication on the other hand on healthcare professionals' intention to quit, with cynicism examined as a mediating factor. Grounded in the Job Demands-Resources (JD-R) framework, this study examines how digital and communicative demands influence retention.

Data were collected from 319 healthcare professionals in Kosovo using a stratified cluster sampling approach across primary, secondary, tertiary care, and support services. Analysis revealed that ICT hassle was directly associated with reduced intention to quit, contrary to the hypothesised direction, suggesting that ICT-related disruptions may be perceived as routine or manageable in this context rather than as a primary driver of turnover intention. On the other hand, poor communication significantly increased intention to quit both directly and indirectly through cynicism, highlighting the critical role that organisational communication plays in this aspect. Cynicism emerged as a key variable linking communication breakdowns to turnover intention.

Interventions aimed at improving communication practices and fostering supportive digital environments are essential for reducing burnout and ultimately retaining skilled healthcare professionals.

Keywords: ICT, poor communication, cynicism, intention to quit, healthcare

JEL classification: J63, M54, M15

1. Introduction

With the emergence of Information and Communication Technologies (ICT), their use nowadays has become somewhat inevitable, if not to say a necessity. Professionals and businesses alike are now more and more reliant on the use of ICT and the potential it possesses in their daily professional activities (Duncombe and Heeks 1999). With an increase in the use of technology in the healthcare sector, the integration of Information and Communication Technologies (ICTs) has become essential for many aspects, including but not limited to delivering timely, accurate, and efficient patient care. According to Kruse et al. (2018), tools such as electronic health records (EHRs), telehealth platforms, and digital communication systems support clinical decision-making and coordination across multidisciplinary teams. However, despite their many advantages, ICTs also introduce new complexities into workplace environments. ICT hassle, which comes in the form of everyday frustrations and disruptions that employees experience when interacting with digital tools and systems in the workplace, may not only hinder productivity but also contribute to increased frustration and strain among healthcare workers. Shanafelt et al. (2016) argue that it may impact staff well-being and, depending on organisational context and intensity, may influence employees' intention to quit, which is a significant issue in a sector already struggling with high turnover rates and staffing shortages (Bae 2024; Chang et al. 2025). Dragano and Lunau (2020) identified ICT hassles as a sub-domain of technostress and are closely related to techno-unreliability (an additional dimension of technostress reflecting technology instability and disruptions).

Recent empirical studies confirm that ICT hassles remain salient in modern digital workplaces and are linked with irritation, reduced work satisfaction, and other negative outcomes (Rasool, Warraich, and Sajid 2022; Pansini et al. 2023). However, recent research also suggests that the impact of ICT-related stressors on employee outcomes is not always linear and may depend on

contextual and organisational factors. Within a Job Demands–Resources framework, persistent ICT hassles are considered job demands that can deplete employees' cognitive and emotional resources, making them more vulnerable to adverse attitudinal and behavioural outcomes.

Understanding the psychosocial mechanisms linking ICT-related demands and turnover intentions is essential for retaining a skilled healthcare workforce, as these mechanisms explain how workplace stressors translate into withdrawal outcomes (Bakker and Demerouti 2017; Pansini et al. 2023; Rasool, Warraich, and Sajid 2022). Two relevant constructs in this regard are cynicism and poor communication. Cynicism, a component of burnout, reflects emotional detachment and negative attitudes toward one's job and organisational practices (Maslach and Leiter 2016). On the other hand, according to a study of Jeong, Yun, and Choi (2025), communication skills, or rather poor communication, are associated with turnover intention, indicating that how well staff communicate at work can influence intentions to quit. In healthcare settings, repeated exposure to frustrating digital systems may lead workers to become disillusioned with their organisations and disengaged from patient care (Wirkkala et al. 2024). Similarly, when ICT hassle interferes with interpersonal communication, user errors and poor graphical user interfaces impact the receipt of information and ultimately, even the decision-making in healthcare may foster perceptions of poor communication (Kim, Coiera, and Magrabi 2017). Both cynicism and communication breakdowns have been linked to diminished job satisfaction and burnout, which would lead to greater turnover intentions among healthcare professionals (Hämmig 2018; Bang and Reio 2017).

This research adopts the Job Demands–Resources (JD-R) theory of Bakker and Demerouti (2017) as a theoretical lens. In this context, ICT hassle and poor communication are conceptualised as job demands that trigger a health-impairment process. This process suggests that chronic workplace stressors exhaust healthcare professionals' mental resources, leading to cynicism and, ultimately, an increased intention to quit.

Existing studies tend to examine these constructs in isolation or focus on direct effects, offering limited empirical testing of integrated mediation models that explain the process through which ICT-related frustrations influence withdrawal cognitions (Chiaburu et al. 2013; Rasool, Warraich, and Sajid 2022). The bulk of prior research has been conducted in institutionally stable healthcare systems, leaving post-conflict and resource-constrained contexts underexplored. This is particularly significant in Kosovo, where healthcare organisations operate in fragmented digital infrastructures, workforce shortages, and persistent migration pressures (Mustafa, Berisha, and Lenjani 2014; Maluku 2026). Understanding the psychosocial mechanisms linking ICT hassle to intention to quit in this setting is therefore critical for designing effective retention strategies and safeguarding the sustainability of the healthcare workforce.

This study investigates the direct and indirect effects of ICT hassle and poor communication on healthcare workers' intention to quit, with cynicism as a mediating variable. By exploring these pathways, the study aims to deepen understanding of how digital work environments influence retention in healthcare settings and to inform interventions that support employee engagement and system usability.

2. Literature Review

2.1. Conceptual overview

This study draws on both foundational and recent literature to capture the evolution of research on technostress and burnout in increasingly digitalised healthcare environments, with particular emphasis on recent empirical evidence to ensure alignment with current developments in the field.

2.1.1. Theoretical Framework

This study is grounded in the Job Demands-Resources (JD-R) model (Bakker and Demerouti 2017), which posits that occupational well-being is determined by two categories of work

characteristics: demands and resources. Job demands refer to physical, social, or organisational aspects of the job (such as ICT hassle and poor communication) that require sustained effort and are associated with physiological and psychological costs.

According to the health impairment process of the JD-R model, chronic job demands exhaust an employee's mental and physical resources, leading to energy depletion and cynicism (a core dimension of burnout). This state of exhaustion eventually results in negative organisational outcomes, such as intention to quit. By applying this framework, this study conceptualises ICT hassle and poor communication as stressors that trigger a psychological withdrawal process, ultimately influencing the decision to leave the profession.

Importantly, emerging research suggests that not all job demands exert equal influence on employee outcomes. Social and organisational demands, such as communication quality, may have a stronger impact on attitudinal and emotional responses than technical demands, particularly in complex work environments (Pansini et al. 2023). This distinction is central to understanding the relative effects of ICT hassle and poor communication in the present study.

Recent research highlights that digitally induced job demands in healthcare environments contribute to strain, particularly when employees lack sufficient resources to cope with technological requirements (Afshin, Mutonyi, and Nybakk 2026).

2.1.2. ICT hassle

ICT usage has become a backbone of modern organisational functioning, shaping communication, work processes, as well as changing the employee experiences. ICT includes, among others, tools such as email, video conferencing and instant messaging, that facilitate remote and real-time communication and work-related collaboration. The integration of ICT into organisational settings is associated with increased flexibility, faster decision-making, and enhanced access to information (Ragu-Nathan et al. 2008).

However, ICT is not very simple and can be seen from various angles. While on one hand, it can enhance productivity, according to Day et al. (2012) ICT exposes individuals to information overload and stress and could impact the work-life balance if it is not properly managed, and may generate recurring frustrations and disruptions, described in this study as ICT hassle. ICT hassle refers to the day-to-day difficulties employees experience when interacting with digital tools and systems, such as technical failures, slow platforms, frequent interruptions, unclear digital procedures, and the need to repeatedly troubleshoot issues, reflecting the concept of daily hassles (Kanner et al. 1981; Lazarus and Folkman 1984) and aligning with technostress research on technology-related disruptions and strain (Tarafdar et al. 2007; Ragu-Nathan et al. 2008; Day et al. 2012).

This conceptualisation is consistent with the daily hassles' perspective, which argues that frequent minor stressors can accumulate over time and negatively affect well-being and work attitudes (Kanner et al. 1981; Lazarus and Folkman 1984). It also aligns with the technostress literature, which explains how technology-related demands create strain through overload, complexity, constant connectivity, and continuous system changes (Brod 1984; Tarafdar et al. 2007; Ragu-Nathan et al. 2008). More recent studies confirm that ICT-related hassles remain a significant digital job demand in modern organisations and are associated with irritation, impaired well-being, and negative workplace outcomes (Rasool, Warraich, and Sajid 2022; Pansini et al. 2023; Christensen, Knardahl, and Nielsen 2024). In healthcare settings, recent evidence indicates that technology-related frustration is associated with stress and emotional exhaustion among staff (Wirkkala et al. 2024), reinforcing the role of ICT disruptions as job demands. According to Würtenberger, Groneberg, and Mache (2025), digital stress is associated with negative work outcomes, including increased strain and reduced well-being among healthcare professionals. At the same time, technostress acts as a job demand that consumes psychological resources and

negatively affects employee well-being across sectors (Mansuroğlu and Smith 2026). This demonstrates that in highly digitalised environments such as healthcare, employees may adapt to recurring technological disruptions, potentially weakening the direct impact of ICT-related hassles on withdrawal outcomes.

2.1.3. Cynicism

Cynicism is a core dimension of burnout and reflects a negative, detached, and disengaged attitude toward one's work, organisation, or professional role. Within the Maslach burnout framework, burnout is conceptualised as a multidimensional construct comprising emotional exhaustion, cynicism (or depersonalisation), and reduced professional efficacy (Maslach, Schaufeli, and Leiter 2001; Maslach and Leiter 2016). Cynicism, in this context, represents a coping response to prolonged exposure to workplace stressors, whereby individuals distance themselves psychologically from their work as a way of managing strain.

Prior research has consistently linked cynicism to negative organisational outcomes, including reduced job satisfaction, lower commitment, and increased intention to quit (Chiaburu et al. 2013; Maslach and Leiter 2016). In this study, cynicism is therefore conceptualised as a key psychological mechanism through which job demands translate into withdrawal intentions, particularly in environments characterised by communication breakdowns and ongoing work-related frustrations. Recent studies applying the JD-R framework in healthcare demonstrate that technostress contributes to psychological strain and burnout, reinforcing its role as a job demand (Kopuz, Turgut, and Aydın 2025).

Within the JD-R framework, cynicism represents a key mechanism in the health-impairment process, linking job demands to withdrawal outcomes. However, different types of demands may vary in their ability to trigger this process, with social stressors often having stronger emotional effects than technical disruptions.

2.1.4. Poor Communication

Communication is a foundational element of organisational success. Good communication facilitates coordination, clarity of roles, team cohesion, and trust. On the other hand, poor communication, characterised by uncertainty, lack of feedback, inconsistent messaging, or lack of or partial information, can lead to confusion, conflict, and dissatisfaction (Clampitt, DeKoch, and Cashman 2000). Poor communication is particularly problematic in very administrative organisational structures or complex work environments, where information gaps can lead to various kinds of misunderstandings and hinder problem-solving.

Research consistently links poor communication with job dissatisfaction and increased turnover intentions. Employees who feel “left in the dark” or unable to express concerns may experience reduced engagement and organisational commitment (Downs and Adrian 2004). Moreover, communication breakdowns can also foster cynicism by reinforcing perceptions of incompetence or indifference on the part of management.

Recent research further highlights that communication quality is a critical organisational resource influencing employee attitudes and retention, particularly in healthcare settings where coordination is essential (Jeong, Yun, and Choi 2025). Within the JD-R framework, poor communication can therefore be conceptualised as a key social demand that directly contributes to cynicism and turnover intentions

2.1.5. Intention to Quit

Employee turnover is a critical organisational concern, and it refers to an employee’s plan to leave the organisation within a specific timeframe. A multitude of factors influence turnover intentions, including job satisfaction, organisational support, workload, interpersonal relationships, etc. (Tett and Meyer 1993). Intention to quit is also influenced

by other factors such as unmanageable workloads, lack of career advancement opportunities, and persistent technical issues, most of which are ICT-related.

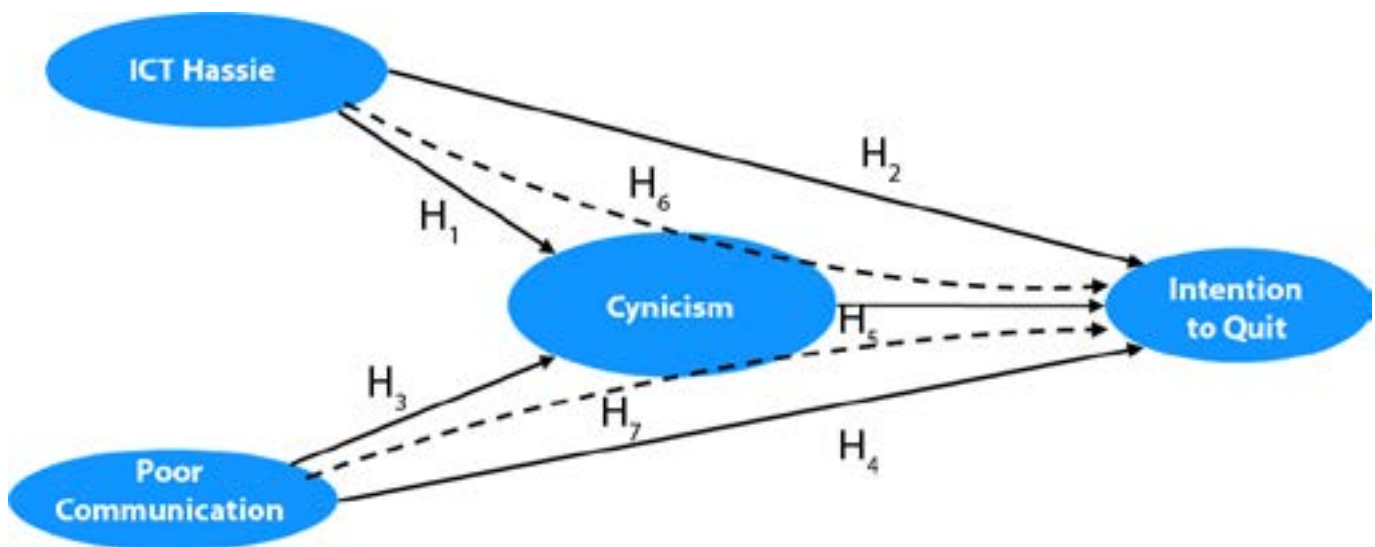
Understanding the root of turnover intention is essential for retaining talent, reducing recruitment costs, and maintaining organisational knowledge. When employees experience job stress, ineffective communication, their commitment wanes, and their intention to quit strengthens (Podsakoff, LePine, and LePine 2007).

Overall, the literature suggests that while both ICT-related stressors and organisational factors influence employee outcomes, their relative impact may differ. In particular, emerging research highlights the importance of distinguishing between technical and social job demands within the JD-R framework. However, empirical evidence remains limited regarding how these demands interact and influence turnover intentions in healthcare settings. This study addresses this gap by examining the relative and mediated effects of ICT hassle and poor communication on intention to quit.

2.2. Hypotheses development

The hypotheses in this study are grounded in the Job Demands–Resources (JD-R) model, which posits that job demands deplete employees’ cognitive and emotional resources and trigger a health-impairment process, leading to strain and withdrawal outcomes. In this framework, ICT hassle and poor communication are conceptualised as job demands, while cynicism represents a key manifestation of the health-impairment process linking these demands to intention to quit.

Having said that and based on the research model presented in Figure 1, the following hypotheses are proposed to examine the relationships between ICT Hassle and healthcare workers’ poor communication and intention to quit mediated by cynicism.

Figure 1. Research model

The figure presents the conceptual research model examined in the study. ICT Hassle and Poor Communication are specified as the independent variables, Cynicism is positioned as the mediating variable, and Intention to Quit is the dependent variable. The model proposes seven hypotheses. H1 examines the relationship between ICT Hassle and Cynicism, H2 the direct relationship between ICT Hassle and Intention to Quit, H3 the relationship between Poor Communication and Cynicism, H4 the direct relationship between Poor Communication and Intention to Quit, and H5 the relationship between Cynicism and Intention to Quit. In addition, H6 proposes that Cynicism mediates the relationship between ICT Hassle and Intention to Quit, while H7 proposes that Cynicism mediates the relationship between Poor Communication and Intention to Quit. Overall, the model assumes that ICT Hassle and Poor Communication influence employees' intention to quit both directly and indirectly through the mediating role of Cynicism

H1: ICT Hassle is positively related to cynicism among healthcare professionals.

ICT hassle can be conceptualised as a job demand that exposes employees to recurring digital disruptions, draining cognitive and emotional resources. According to daily hassles and technostress research, such persistent stressors foster frustration and emotional detachment from work (Kanner et al. 1981; Tarafdar, Pullins, and Ragu-Nathan 2015). In healthcare settings, unstable and unreliable ICT may therefore contribute to cynical attitudes toward the organisation (Dragano and Lunau 2020).

H2: ICT Hassle is positively related to intention to quit among healthcare professionals.

ICT hassle represents a job demand that increases work strain by disrupting workflows and

reducing efficiency. Prior research shows that technostress and technology-related disruptions are associated with withdrawal cognitions, including intention to quit, often through psychological strain (Tarafdar, Pullins, and Ragu-Nathan 2015; Rasool, Warraich, and Sajid 2022). However, recent evidence suggests that these effects may vary depending on context, particularly in highly digitalised environments such as healthcare (Pansini et al. 2023). Based on this literature, a positive relationship between ICT hassle and intention to quit is hypothesised.

H3: Poor communication is positively related to cynicism among healthcare professionals.

Poor communication increases uncertainty, reduces coordination, and undermines employee satisfaction, all of which are key predictors of turnover intentions. Such social job demands are

particularly influential in shaping withdrawal-related outcomes. Repeated communication failures can foster negative interpretations of management competence, leading to emotional detachment and cynicism (Bakker and Demerouti 2017). In healthcare, ineffective ICT-mediated communication may further intensify these negative attitudes (Cianci, Weibel, and Elfering 2024).

H4: Poor communication is positively related to intention to quit among healthcare professionals.

Inadequate communication increases uncertainty and dissatisfaction, which are key predictors of turnover intentions. Research indicates that poor communication, particularly in digital work contexts, contributes to disengagement and withdrawal cognitions (Bakker and Demerouti 2017; Rasool, Warraich, and Sajid 2022). This effect is likely amplified in healthcare settings requiring high coordination.

H5: Cynicism is positively related to intention to quit among healthcare professionals.

Cynicism represents a central outcome of the health-impairment process within the JD-R framework, reflecting emotional disengagement and negative attitudes toward the organisation. Burnout research consistently shows that cynicism is associated with increased withdrawal intentions and turnover behaviour (Maslach, Schaufeli, and Leiter 2001; Meyer and Tisch 2024). Among healthcare professionals, such attitudes are therefore expected to strongly predict intention to quit.

H6: Cynicism mediates the relationship between ICT hassle and intention to quit among healthcare professionals.

Job demands influence employee outcomes not only directly but also indirectly through the health-impairment process. ICT hassle may influence intention to quit indirectly by fostering cynical attitudes. Persistent digital disruptions can erode psychological resources and promote negative organisational appraisals, leading to cynicism (Tarafdar, Pullins, and Ragu-Nathan 2015; Dragano and Lunau 2020). Cynicism, in turn, increases employees' inclination to leave (Maslach, Schaufeli, and Leiter 2001).

H7: Cynicism mediates the relationship between poor communication and intention to quit among healthcare professionals.

Poor communication may influence intention to quit indirectly through its impact on cynicism. As a social job demand, communication failures can generate distrust and negative perceptions of organisational effectiveness, leading to emotional disengagement and cynical attitudes (Bakker and Demerouti 2017). These attitudes subsequently increase withdrawal cognitions and turnover intentions (Meyer and Tisch 2024), indicating a mediating role of cynicism.

3. Methodology

3.1. Research context

In the healthcare sector, ICT plays a vital role in streamlining patient care, improving diagnostic accuracy, and facilitating information sharing. Electronic health records (EHRs), telemedicine platforms, and digital communication tools are increasingly integral to clinical workflows. However, despite their benefits, these technologies present unique challenges. The use of ICT increases the efficacy, while on the other hand, it increases workload and with it the exhaustion too (Pira and Pira 2025). According to Kaptanoğlu (2025), the ongoing digital transformation of healthcare is associated with increased job demands, including higher workload and stress, which are linked to elevated burnout risk among healthcare professionals. Healthcare workers often report ICT-related stress due to technical glitches, usability issues, and lack of training (Top and Gider 2012).

Technical problems in healthcare can be particularly frustrating due to the high-stakes nature of the work. Delays or errors caused by faulty ICT systems can directly affect patient outcomes, placing additional pressure on staff and contributing to dissatisfaction and burnout (Boonstra and Broekhuis 2010). Moreover, poor communication, due to ineffective digital tools, can compromise patient safety, increase the likelihood of mistakes, and increase the stress level among healthcare workers.

These factors collectively contribute to the intention to quit, especially among nurses, physicians, and support staff already working under intense pressure. Cynicism and poor communication often mediate this relationship, amplifying the effects of ICT-related frustrations. Healthcare organisations must therefore invest not only in reliable technology but also in supportive communication structures and staff well-being initiatives to mitigate turnover risks (Agarwal et al. 2010).

Kosovo, a country that came out of a decade of political conflict and armed conflict, faced significant challenges in reforming its health system (Mustafa, Berisha, and Lenjani 2014). Over the past decade, Kosovo has achieved steady economic growth and reached upper-middle-income status, yet progress in health outcomes has lagged, with fragmented digital health systems and limited interoperability (Maloku 2026).

Regarding the healthcare workforce in Kosovo, according to the Kosovo Agency of Statistics (KAS), as of 2023, the health sector employed 26,636 individuals, including 5,287 specialist doctors, 16,134 nurses, 2,448 dentists, 1,221 physiotherapists, and 1,546 pharmacists, in both public and private healthcare facilities.

3.2. Sample and Data Collection

The study focuses on healthcare professionals working in Kosovo's healthcare sector. Based on data from the KAS from the 2024 report on Health Statistics for 2023, the total population includes 26,636 professionals across primary, secondary, and tertiary healthcare levels, as well as other services such as pharmacists.

Given the geographical dispersion of healthcare facilities, cluster sampling was employed. This method is suitable when the population is naturally divided into groups or clusters, such as institutions or geographical areas, and when direct access to all individual population members is impractical (Sekaran and Bougie 2010). The Prishtina region was selected as the cluster since it encompasses all three healthcare tiers: primary, secondary, and tertiary.

Within this cluster, stratified sampling was applied to ensure representation across all professional levels, which enhances efficiency and reduces sampling errors (Sekaran and Bougie 2010). Data collection was conducted across six healthcare institutions, reflecting the full spectrum of Kosovo's healthcare system:

- two clinics from the University Hospital Clinical Centre representing secondary and tertiary care,
- three Family Medicine Centres for primary care, and
- the Kosovo Chamber of Pharmacists, representing support (non-clinical) services.

To ensure reliable generalisation in the study, an appropriate sample size was carefully determined based on established research guidelines. According to Tabachnick and Fidell (2013), a sample of fewer than 100 participants is considered small. Field (2018) classifies a sample between 100 and 200 as medium or fair, while Hair et al. (1995) suggest that a sample exceeding 200 is regarded as large. For a population of 3,500, according to Krejcie and Morgan (1970), a sample of 346 and above is recommended.

In this study, out of 690 distributed questionnaires, 319 valid responses were received, resulting in a response rate of 46%. Though this number is slightly below the 346 sample recommended by Krejcie and Morgan (1970), it meets the Hair et al. (2010) recommendation, where a sample of 200 or more is sufficient for most multivariate techniques and an ideal ratio of 20 observations per indicator, and in this case this study achieves a ratio of 24.5:1 (319 responses for 13 indicators).

Furthermore, the sample size of 319 is well positioned relative to the 10-times rule commonly applied in PLS-SEM (Barclay, Higgins, and Thompson 1995). In the measurement model, the largest construct (Cynicism) contains four indicators, requiring a minimum of 40 cases. In the structural model, the most complex endogenous construct (Intention to Quit) is predicted by three indicators, requiring a minimum of 30 cases. With 319 valid responses, the study provides nearly eight times the minimum requirement of the 10-times rule, ensuring substantial statistical power to detect the hypothesised mediation effects.

A sample of 319 also provides adequate statistical power to detect mediation effects (H6, H7) using the bias-corrected bootstrapping method, which is effective for samples in the 200–300 range (Fritz and MacKinnon 2007).

The sample includes representation from primary care, secondary and tertiary care, and the pharmacy sector. The largest proportion of respondents is concentrated in the clinical sector, which includes Family Medicine Doctors, Specialised Doctors and Nurses (just over 60%), and non-clinical (pharmacists) professionals (just under 40%). While this enhances sector-specific insights, it may limit the generalisability of findings across all healthcare settings.

Data was gathered through in-person interviews and online surveys (Google Forms) between December 2022 and March 2023. Face-to-face interviews were conducted in all healthcare facilities, with prior approval of all department heads, while the online survey targeted pharmacists and was distributed via the Kosovo Chamber of Pharmacists.

Respondents in face-to-face interviews were assured of confidentiality, while online participants were guaranteed anonymity.

3.3. Measurement Instruments

In the study, a structured questionnaire was used, which was organised into several key sections. These included demographic information, the ICT hassle, cynicism, poor communication and intention to quit. Each section was designed to gather targeted insights relevant to the research objectives.

The ICT hassle (2 indicators), poor communication (3 indicators) and cynicism (4 indicators) scales were adapted from Day et al. (2012a) and modified to fit the study context. Originally in English, the questionnaire was translated into Albanian and used a 5-point Likert scale: (1) Never, (2) Rarely, (3) Sometimes, (4) Very often, and (5) Almost always.

On the other hand, in order to measure employees' intention to quit, the study adapted a four-indicator scale from the ITQ subscale

of the Michigan Organizational Assessment Questionnaire (Cammann et al. 1979), which was later contextualised by Hom and Griffeth (1991), which focuses on key aspects such as contemplating resignation, actively seeking alternative employment, and the overall intent to leave the current job. The questionnaire was also translated into Albanian and employed a 5-point Likert scale: (1) Never, (2) Rarely, (3) Sometimes, (4) Very often, and (5) Almost always.

3.4. Control Variables

In empirical research, the use of control variables is essential for isolating the effects of independent constructs and enhancing the internal validity of findings. Demographic variables such as age, gender, and education are among the most commonly used controls, as they often influence outcomes across various domains. Aguinis et al. (2016) emphasise that controlling for these variables helps reduce confounding effects and improves the precision of statistical estimates in organisational and psychological research.

The demographic profile of the sample ($n = 319$) reveals a female majority (63%), which is broadly consistent with global healthcare workforce patterns, where women account for around 70% of the health and social care workforce (World Health Organization 2019). The educational background is notably high, with 56% holding a master's degree and 10% a PhD, indicating a well-qualified sample capable of engaging with complex healthcare challenges. This aligns with Bernerth and Aguinis (2016), who highlight education as a critical control variable due to its influence on job performance and decision-making. The average age of 36.65 years, ranging from 19 to 64, suggests a relatively young but diverse workforce, which is important when considering factors such as adaptability, burnout, and career development. Finally, regarding control variables, the mean professional experience was 7.70 years ($SD = 7.31$). This distribution suggests that the majority of the sample consists of newer professionals.

Table 1. Sample description

Characteristic	Category/statistic	Sample (n=319)
Gender	Male	117 (37%)
	Female	202 (63%)
Education	PhD	33 (10%)
	Master	178 (56%)
	Bachelor	76 (24%)
	High school	32 (10%)
Age	Mean (SD)	36.65 (10.27)
	Range	19-64
Work Experience	Mean (SD)	7.70 (7.31)
	Range	0-40

Notes: SD = standard deviation

3.5. Validity and Reliability

The reliability and validity of the scales were assessed through the PLS-SEM measurement model by examining indicator loadings, Cronbach's alpha, composite reliability, rho_A, and average variance extracted (AVE). To evaluate internal consistency, Cronbach's alpha coefficients were calculated, with values above 0.70 generally considered acceptable for established scales (Nunnally and Bernstein 1994). Composite reliability values were also assessed, with values between 0.70 and 0.90 considered satisfactory in PLS-SEM research (Hair et al. 2019). The value of Cronbach's alpha coefficients for all constructs was above 0.7, indicating good internal consistency and high reliability of the scales used.

During the initial assessment of the measurement model, the rho_A coefficient for the ICT Hassle was estimated at 1.11. In the context of PLS-SEM, a value exceeding 1.0 suggests potential overestimation of internal consistency, typically occurring when the indicators are redundant or overly similar or the consistent PLS algorithm over-corrects for measurement error in data that may

not strictly adhere to common factor assumptions. After removing one item due to being overly similar and inflated reliability estimates, the rho_A coefficient approached 1, which reflects high internal consistency between the remaining indicators. Composite Reliability (rho_C) and AVE were within recommended thresholds (0.77 and 0.86, respectively), supporting the reliability and convergent validity of the construct. The retained items capture distinct yet related aspects of ICT-related disruptions, ensuring adequate representation of the construct domain.

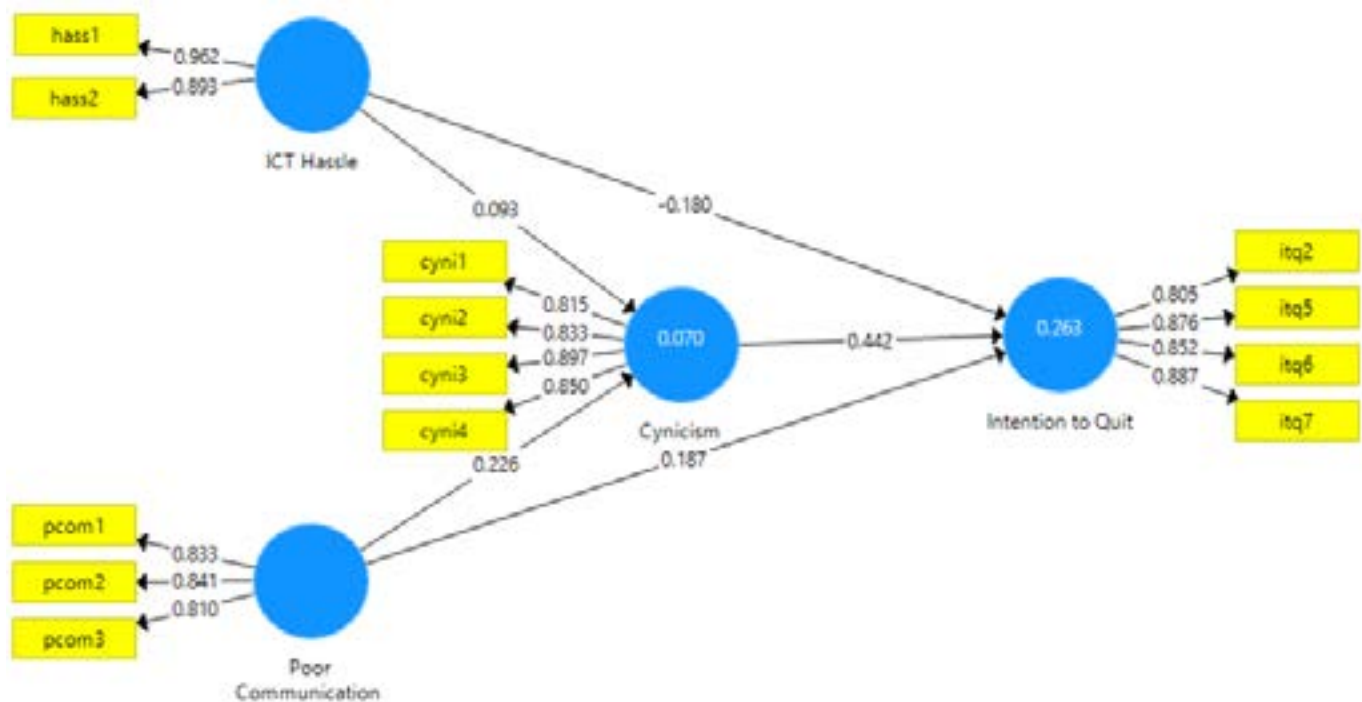
Furthermore, following the conservative reporting strategy recommended by Hair et al. (2019), construct reliability was instead validated using Cronbach's Alpha and Composite Reliability. According to Nunnally and Bernstein (1994), rho_C values between 0.7 and 0.9 are considered satisfactory. In this study, rho_C values ranging from 0.8 to 0.9 were deemed acceptable, and at the same time all constructs demonstrated Cronbach's alpha values above 0.7.

To further assess the reliability of the scale, factor loadings (FL) were examined. For FL, which indicates the reliability of individual indicators, Hair

et al. (2010) recommend a threshold of 0.7, although Hulland (1999) allows for values between 0.4 and 0.7 under certain conditions. Additionally, when the Average Variance Extracted (AVE) exceeds 0.50 and composite reliability (CR) is above

0.70, indicator loadings slightly below the recommended threshold may still be considered acceptable (Hair et al. 2019). In this study, all constructs demonstrated FL values above 0.7 (Figure 2 and Table 2).

Figure 2. Outer Loading, Path Coefficients, and R^2 values of all indicators



The figure presents the estimated PLS-SEM structural model, including the measurement and structural models. ICT Hassle and Poor Communication are shown as exogenous constructs, Cynicism as the mediating construct, and Intention to Quit as the endogenous construct. Each latent construct is linked to its observed indicators with standardised outer loadings. ICT Hassle is measured by two indicators with loadings of 0.962 and 0.893. Poor Communication is measured by three indicators with loadings of 0.833, 0.841, and 0.810. Cynicism is measured by four indicators with loadings of 0.815, 0.833, 0.897, and 0.850. Intention to Quit is measured by four indicators with loadings of 0.805, 0.876, 0.852, and 0.887. The structural model shows a path coefficient of 0.093 from ICT Hassle to Cynicism, -0.180 from ICT Hassle to Intention to Quit, 0.226 from Poor Communication to Cynicism, 0.187 from Poor Communication to Intention to Quit, and 0.442 from Cynicism to Intention to Quit. The model explains 7.0% of the variance in Cynicism ($R^2 = 0.070$) and 26.3% of the variance in Intention to Quit ($R^2 = 0.263$).

Table 2. Reliability and Validity of the Scales and Constructs

Constructs	Items	Factor Loadings (FL)	Variance Inflation Factors (VIF)	Cronbach's Alpha	Composite Reliability (rho_C)	rho_A	Average Variance Extracted (AVE)
ICT Hassle	I lose files because my computer crashes.	0.962	2.189	0.85	0.93	1.00	0.86
	I experience glitches with software.	0.893	2.189				
Cynicism	I have become less interested and enthusiastic about my job.	0.815	1.824	0.87	0.91	0.88	0.72
	I feel increasingly less involved in the work I do.	0.833	2.076				
	I doubt the significance of my work.	0.897	3.301				
	I can't really see the value and importance of my work.	0.850	2.793				
Poor Communication	People misinterpret my e-mail messages.	0.833	1.696	0.77	0.87	0.78	0.69
	I receive rude emails from my colleagues and/or clients.	0.841	1.500				
	I have misinterpreted the tone of my incoming e-mail messages.	0.810	1.602				
Intention to Quit	I will most certainly look for a new job in the near future.	0.805	2.087	0.88	0.92	0.90	0.73
	Often, I have considered quitting my current job.	0.876	2.284				
	I'm likely to be looking for a new job in the coming period.	0.852	2.449				
	As soon as possible, I will leave the institution I work for.	0.887	2.444				

Figure 2 presents ICT hassle and poor communication as exogenous constructs, cynicism as a mediator, and intention to quit as the final endogenous construct. The figure reports the outer loadings of the indicators, the structural path coefficients between constructs, and the R^2 values for cynicism and intention to quit. ICT hassle had a weak positive path to cynicism ($\beta = 0.09$) and a negative path to intention to quit ($\beta = -0.18$). Poor communication had positive paths to cynicism ($\beta = 0.23$) and intention to quit ($\beta = 0.19$), while cynicism had the strongest direct path to intention to quit ($\beta = 0.44$). The model explained 7.0% of the variance in cynicism and 26.3% of the variance in intention to quit.

To assess discriminant validity, the Heterotrait-Monotrait (HTMT) ratio of correlations was calculated. This method is considered superior to the traditional Fornell-Larcker criterion for PLS-SEM applications (Hair et al. 2019). As presented in Table 3, all HTMT values were below the conservative threshold of 0.85 suggested for conceptually similar constructs. This confirms that each latent construct in the model (ICT Hassle, Poor Communication, Cynicism, and Intention to Quit) is empirically distinct from the others, providing full support for the discriminant validity of the measurement model.

Table 3. Heterotrait-Monotrait (HTMT) correlation matrix

Constructs	ICT Hassle	Cynicism	Poor Communication	Intention to Quit
ICT Hassle				
Cynicism	0.151			
Poor Communication	0.257	0.250		
Intention to Quit	0.065	0.462	0.251	

4. Data Analyses and Results

In order to conduct a comprehensive analysis, a multi-layered analytical approach was employed. First, a general descriptive overview of the sample characteristics was conducted in order to provide context and demographic insights, followed by correlation analysis to explore the relationships between key variables and identify potential associations. Finally, the structural model was evaluated using path coefficients within the PLS-SEM framework to examine the strength and direction of the hypothesised relationships among constructs. These analytical steps collectively support the evaluation of the research model and the testing of proposed hypotheses.

4.1. Preliminary Analyses

Descriptive statistics for the dataset are summarised in Table 4. The average age of respondents was 36.6 years (SD = 10.3), while the mean work experience was 7.7 years (SD = 7.31), indicating a relatively young and moderately experienced sample.

To assess the distribution characteristics of the data, skewness and kurtosis values were examined. For demographic variables, skewness ranged from -0.53 to 1.80 and kurtosis from -0.58 to 4.13. For the main study constructs, kurtosis values ranged from 0.12 to 2.62 and skewness from 0.75 to 1.62. The skewness and kurtosis values indicate that most variables were within an acceptable range, although experience and cynicism showed noticeable departures from normality. Given that PLS-SEM does not require strict multivariate normality, the data were considered appropriate for the selected analytical approach.

In order to determine the existence of a relationship and, where possible, the level (strength and direction), between the variables, the correlation analysis was conducted. The results of the analysis are presented in Table 5.

When analysing the correlation between main variables, the results showed that ICT Hassle was positively correlated with Poor communication ($r = 0.294$, $p < 0.01$), Poor communication was also positively correlated with Cynicism ($r = 0.212$, $p < 0.01$) and Intention to quit ($r = 0.239$, $p < 0.01$) while Cynicism was positively (and strongest of them all) correlated to Intention to quit ($r = 0.414$, $p < 0.01$).

Table 4. Descriptive Statistics

Variables/Constructs	No.	Min.	Max.	Mean	SD	Skew.	Kurt.
Age	319	19	64	36.65	10.28	0.49	-0.58
Education	319	0	3	1.66	0.80	-0.53	-0.08
Experience	319	0	40	7.70	7.31	1.80	4.13
ICT Hassle	319	1	5	2.14	0.81	0.75	0.12
Poor Communication	319	1	4	1.58	0.70	1.36	1.52
Cynicism	319	1	5	1.76	0.89	1.62	2.62
Intention to Quit	319	1	5	2.17	0.96	0.95	0.33

Notes: SD = standard deviation; Min = Minimum; Max = Maximum; Skew = Skewness; Kurt = Kurtosis

Table 5. Correlation Matrix

Constructs	ICT Hassle	Cynicism	Poor Communication	Intention to quit
ICT Hassle	1			
Cynicism	0.090	1		
Poor Communication	0.294*	0.212*	1	
Intention to quit	-0.025	0.414*	0.239*	1

Contrary to expectations, ICT Hassle was found to have a significant negative effect on intention to quit. This finding deviates from prior technostress literature, which typically conceptualises ICT-related disruptions as hindrance demands that increase withdrawal cognitions.

One possible explanation lies in the relatively low level of ICT hassle reported in this study (Mean = 2.14), suggesting that such disruptions may be perceived as routine and manageable rather than as severe stressors. Additionally, in healthcare settings, ICT systems such as electronic health records are essential for task completion. As such, employees may adapt to recurring technical issues without translating them into turnover intentions.

4.2. Hypotheses Testing

A regression analysis using path coefficients was performed within the Structural Equation Modelling (SEM) framework via SmartPLS to examine hypothesised structural relationships among the variables.

This approach is commonly employed for hypothesis testing and assessing the direct and indirect relationships between dependent, mediating and independent variables. The analysis included both the direct effects of ICT Hassle and Poor communication on Intention to quit, as well as the indirect effects using cynicism as a mediator.

The results show that ICT Hassle does not influence Cynicism, thus not supporting hypothesis H1. On the other hand, while H2 proposed a positive relationship between the variables, the results show the opposite: the relationship was negative, contrary to the hypothesised direction. Therefore, H2 was not supported. The result also shows that poor communication significantly influences cynicism ($\beta = 0.23$, $p < 0.01$) and intention to quit ($\beta = 0.19$, $p < 0.05$), supporting the hypotheses H3 and H4. Last but not least, Cynicism significantly influences Intention to quit ($\beta = 0.44$, $p < 0.01$), supporting the hypothesis H5.

Table 6. Hypotheses 1 through 5 Path Coefficient (direct effect)

Hypothesis/path	Path Coefficient	p-value	Result
H1: ICT Hassle -> Cynicism	0.09	0.274	Not Supported
H2: ICT Hassle -> Intention to quit	-0.18	0.001	Not Supported
H3: Poor Communication -> Cynicism	0.23	0.000	Supported
H4: Poor Communication -> Intention to quit	0.19	0.002	Supported
H5: Cynicism -> Intention to quit	0.44	0.000	Supported

Table 7. Hypotheses 6 and 7 Path Coefficient (indirect effect)

Hypothesis/path	Path Coefficient	p-value	Result
H6: ICT Hassle -> Cynicism -> Intention to quit	0.04	0.286	Not Supported
H7: Poor Communication -> Cynicism -> Intention to quit	0.10	0.003	Supported

In addition to the direct effect of the constructs, the results show that there is no significant influence of ICT Hassle on Intention to quit through the mediating role of Cynicism, therefore, H6 is not supported. On the other hand, the results show that Poor communication had a positive indirect effect on intention to quit through the mediating role of cynicism ($\beta = 0.10$, $p = 0.003$), supporting H7 (Table 7).

5. Discussion

This study investigated the influence of ICT Hassle and Poor Communication on healthcare professionals' intention to quit, with Cynicism examined as a mediating construct within the Job Demands–Resources (JD-R) framework.

The result showed that cynicism was found to significantly increase Intention to Quit, which is in line with the findings from prior studies that link negative emotional attitudes at work to turnover intentions. In emotionally demanding sectors such as healthcare, employees experiencing feelings of scepticism are more likely to consider leaving their roles.

Contrary to expectations, ICT Hassle was found to have a significant negative effect on Intention to quit. This finding deviates from prior technostress literature, which typically conceptualises ICT-related disruptions as job demands that increase withdrawal intentions. However, this result does not imply that ICT-related disruptions are beneficial. Rather, it suggests that in this context, ICT hassle may not be perceived as a critical stressor driving turnover behaviour.

One possible explanation lies in the relatively low level of ICT Hassle reported in this study, indicating that such disruptions may be perceived as routine and manageable rather than severe

stressors. Within the Job Demands–Resources framework, this suggests that ICT Hassle functions as a relatively low-intensity job demand that does not strongly activate the health-impairment process leading to withdrawal.

Additionally, ICT in healthcare may exhibit a dual role as both a job demand and an essential work resource. While technical disruptions introduce frustration, ICT systems such as electronic health records and digital communication platforms are fundamental for clinical workflows, coordination, and patient safety. This dual role may explain why ICT-related hassles do not translate into higher turnover intentions, as employees remain dependent on these systems for task completion and organisational functioning.

Furthermore, the absence of a significant bivariate correlation between ICT Hassle and Intention to quit, combined with a significant negative path coefficient in the structural model, suggests the presence of a suppression effect. This indicates that when other job demands, such as Poor communication and Cynicism, are accounted for, ICT Hassle may capture variance that is not directly associated with withdrawal intentions.

ICT Hassle was not found to significantly influence cynicism, suggesting that ICT-related disruptions do not strongly trigger the emotional detachment process associated with burnout. This may be due to the routinised nature of ICT use in healthcare, where employees adapt to recurring technical issues without developing negative organisational attitudes. Alternatively, this finding may reflect the relatively low intensity of ICT Hassle observed in the sample, limiting its capacity to generate sustained psychological strain.

In contrast, Poor Communication had strong and significant effects on both Cynicism and Intention to quit, emerging as a more critical job

demand in this context. Within the JD-R framework, poor communication directly undermines key organisational and social resources, including clarity, trust, and perceived support. Unlike ICT Hassle, which primarily disrupts task execution, poor communication affects interpersonal relationships and organisational functioning, making it more likely to trigger emotional exhaustion, cynicism, and withdrawal intentions.

The mediating role of cynicism further highlights differences between job demands. While Poor communication demonstrated a significant indirect effect on Intention to quit through Cynicism, ICT hassle did not. This suggests that poor communication contributes to turnover intentions by fostering emotional detachment and negative organisational attitudes, consistent with the health-impairment process of the JD-R model. In contrast, ICT-related disruptions appear insufficient to trigger this psychological pathway. This may reflect contextual buffering factors, such as adaptation to digital systems or the necessity of ICT in healthcare work, which reduce the emotional impact of technical issues.

This supports earlier literature that identifies cynicism as one of the key components of burnout and a critical factor in employee turnover (Dean, Brandes, and Dharwadkar 1998; Chiaburu et al. 2013). Also, poor communication, in a hospital setting where accuracy in the content of the communication is essential, is crucial. When this is missing, it can lead to confusion, self-guilt, job dissatisfaction, and potentially to the intention to quit (Clampitt, DeKoch, and Cashman 2000; Tourangeau et al. 2010; Podsakoff, LePine, and LePine 2007). Furthermore, when employees experience job stress, ineffective communication, their commitment wanes, and their intention to quit strengthens (Podsakoff, LePine, and LePine 2007). Additionally, the finding also aligns with recent evidence suggesting that digital transformation in healthcare increases job demands and burnout risk, although its effects may depend on the availability of individual and organisational resources (Kaptanoğlu 2025).

Overall, the findings suggest that not all job demands equally contribute to employee

withdrawal. While interpersonal and organisational demands such as Poor communication strongly activate the health-impairment process, leading to cynicism and intention to quit, technical demands such as ICT Hassle appear to function as weaker or context-dependent stressors. This highlights the importance of distinguishing between different types of job demands when examining employee outcomes in digitalised healthcare environments.

6. Conclusion

This study examined the effects of ICT Hassle and Poor Communication on healthcare professionals' intention to quit, with Cynicism as a mediating mechanism, within the framework of the Job Demands–Resources (JD-R) model. The findings reveal that not all job demands exert equal influence on employee withdrawal. While poor communication emerged as a strong and consistent predictor of both cynicism and intention to quit, ICT hassle did not show the expected positive effect and instead demonstrated a negative direct relationship with turnover intention.

From a theoretical perspective, these findings contribute to the refinement of the JD-R framework by highlighting the differential impact of social versus technical job demands. Specifically, the results suggest that interpersonal and organisational demands, such as poor communication, are more likely to activate the health-impairment process leading to cynicism and withdrawal. In contrast, ICT-related demands may function as weaker or context-dependent stressors, particularly in highly digitalised and routinised environments such as healthcare. Furthermore, the unexpected negative relationship between ICT hassle and intention to quit may indicate the presence of contextual boundary conditions, adaptation mechanisms, or suppression effects when multiple job demands are considered simultaneously. This finding contributes to the technostress literature by suggesting that the impact of ICT-related stressors is not uniform and may depend on the broader organisational context.

From a practical perspective, the findings underscore the critical importance of improving

organisational communication in healthcare settings. Healthcare managers should prioritise the development of clear and structured communication protocols, particularly in high-pressure environments where coordination is essential. This may include standardising communication procedures across departments, implementing regular briefings and feedback loops, and investing in communication skills training for staff. Additionally, organisations should focus on improving ICT-mediated communication systems to ensure clarity, reduce misinterpretation, and enhance coordination. While ICT hassle was not found to be a primary driver of turnover intention, system usability and reliability should still be addressed through user-centred design, continuous technical support, and staff training to minimise disruption and maintain workflow efficiency.

This study has several limitations that should be acknowledged. The use of cross-sectional and self-reported data limits the ability to draw causal inferences and raises the possibility of common method bias, although procedural and statistical checks were applied. Additionally, the sample is geographically concentrated and characterised by an uneven distribution of professional groups, with a relatively higher representation of pharmacists, which may limit generalisability. The classification of respondents into healthcare sectors was based on professional roles rather than direct institutional identifiers, which may introduce minor classification bias.

Future research should address these limitations by employing longitudinal designs to better capture causal relationships and changes over time. Comparative studies across different healthcare systems or countries would help assess the generalisability of the findings and identify contextual differences. Additionally, future research should explore potential moderating variables, such as organisational support, ICT training, or digital maturity, to better understand under what conditions ICT-related demands influence employee outcomes. Expanding the use of multi-source data, including supervisor assessments or objective organisational indicators, would further strengthen the robustness of findings.

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