

## From workspace spirituality to performance: How digital skills and innovative work behavior shape teleworking outcomes

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### Abstract

**Purpose:** The purpose of this study aims to introduce workspace spirituality (WSS) as an adaptation of the existing construct, namely workplace spirituality (WPS), to the context of remote and digital work. Furthermore, this study suggests a contextualization of employee performance in teleworking called Teleworker Performance (TP). TP consists of Digital Task Performance (DTP), DAP (Digital Adaptive Performance) and Digital Contextual Performance (DCP). The research proposes and examine the direct impact of WSS on TP, the mediating role of Innovative Work Behavior (IWB), and the moderating role of Digital Skills (DS).

**Design/methodology/approach:** This study is based on a survey of 245 teleworkers from the Special Region of Yogyakarta in Indonesia. Purposive sampling was used to choose the sample, which included WhatsApp groups of teleworkers as well as those working remotely at various workplaces in the Special Region. The data was analyzed using SEM-PLS version 4.

**Findings:** These data demonstrated that WSS positively influenced IWB, DTP, DCP, and DAP, with IWB serving as a partial mediator. This shows that a spiritually grounded digital work environment benefits both telework and IWB. However, DS had minimal effect on the WSS-IWB link, and WSS in the workspace was mostly independent of DS.

**Research limitations/implications:** This study was limited to teleworkers in DIY and focused solely on that area. Future research should be conducted in other regions, using mixed methods, and exploring new constructs to refine the findings.

**Practical implications:** Practically, businesses must strike a balance between investing in workspace skills and encouraging WSS.

**Social Implications:** This study underscores the importance of TP in the success of telework. In addition to infrastructure, companies must build WSS and DS to improve the well-being and sustainability of teleworkers as an effective workforce strategy

**Originality/value:** This study highlights that effective telework depends on task, contextual, and adaptive performance.

**Keywords:** Workspace spirituality, Digital task performance, Innovative work behavior, Digital skills, Teleworker, Remote worker

**Jel Codes:** M12; M14; M15; M51; M54

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## 1. Introduction

The rapid digital transformation of work has fundamentally reshaped how employees engage with organizations and perform their tasks. The proliferation of telework, digital platforms, and hybrid work models has shifted the traditional boundaries of workplace interactions, creating both opportunities and challenges for employees and organization's (Kokshagina & Schneider, 2023; Torner, 2023). Prior to the digital era, employees typically commuted to offices or industrial workplaces. Today, however, work can be conducted remotely through teleworking. Teleworkers frequently adopt a mobile work style, with many integrating their professional activities while travelling. This phenomenon has given rise to the term *digital nomads*, describing individuals who leverage digital technologies to sustain work while simultaneously engaging in geographic mobility and leisure activities (Hannonen, 2020; Rainoldi, Ladkin & Buhalis, 2024). This transformation necessitates a redefinition of various behavioral concepts, including workplace spirituality (WPS), to align with the continuously evolving digital work environment (Mićić, Khamooshi, Raković & Matković, 2022; Walter, 2024). This shift aligns with the need for organizations and employees to demonstrate dynamic flexibility in enhancing their capacity to respond to technological developments and market changes (O'Reilly & Tushman, 2013; Alzoraiki, Milhem, Ateeq, Almeer & Hussein, 2024). In the literature, WPS is defined as meaning in work, the sense of community, and the integration of personal and organizational values (Ashmos & Duchon, 2000; Milliman, Czaplewski & Ferguson, 2003; Sharma & Kumra, 2020; Kim & Song, 2024). The emerging dynamic is that while physical work, due to face-to-face contact with colleagues, potentially strengthens the sense of community, virtual work does not. However, in practice, teleworkers also form communities of fellow teleworkers by working together in working space on certain days, even when the office is open. One office, even in Yogyakarta, has a teleworker community formed under the name Work Friend Coffee (WFC), which, as of this writing, has around 412 members. This is crucial for further research as a phenomenon or new meaning of sense of community in the context of digital work.

WPS was initially implemented across various organizations. Based on a literature review sourced from a Scopus-indexed database with the search keyword "Spirituality AND Workplace OR Digitalization," from 2,373 articles were filtered using a systematic literature review method to 178 articles. The author's analysis revealed 11 input/antecedent variables and 16 output/consequence variables, but none of these variables were tested in a digital context, employee engagement (Petchsawang & McLean, 2017), organizational commitment and spiritual leadership (Hunsaker, 2021), individual spirituality is also identified as an important factor (Pawar, 2017), religiosity (Obregon, Lopes, Kaczam, Da-Veiga & Da-Silva, 2022), spiritual intelligence (Jena & Pradhan, 2018), perceived organizational support (Arshadi & Hayavi, 2013) individual spirituality (Dik, Daniels & Alayan, 2024) ethical climate (Lata & Chaudhary, 2022), organizational culture (Lee, Jin, Lee, Kim & Jung, 2024) and organizational justice (Shin, Vu & Burton, 2022). Among the consequence variables of WPS are performance which is widely discussed (Rifqi-Almahdani-Rahmat, Rofiaty & Djumahir, 2023), followed by work engagement (Shin et al., 2022), citizenship behavior (Vandenbergh, 2011), altruism (Hussain, Usman, Tariq, Ahmed-Lak, Seemi-Malik & Nadeem, 2023) and IWB, which have been discussed in various studies (Suhada, Diantoro, Jannah, Valya & Trianti, 2024; Kim & Song, 2024; Bantha & Nayak, 2021; AlMazrouei, Zatca & Mustafa, 2023), employee organizational commitment (Vandenbergh, 2011), employee retention (Sapra, Khosla & Dungarkoti, 2022), and employee turnover (Vandenbergh, 2011), pro-environmental behavior (Yang & Gao, 2023) and deviant work behavior (Moez, Sadeghi, Tapak & Purfarzad, 2024). However, it has received little scholarly

attention in digital and teleworking context. Only qualitative one research by Walter (2024) has attempted to explore the relationship between the workplace, individual spirituality, digitalization, and psychology.

To address this conceptual gap, this study introduces Workspace Spirituality (WSS), a reconceptualized construct that extends the essence of WPS into the digital realm. *WSS* is defined as employees' cognitive-spiritual experience of meaning, connection, and value alignment within digitally mediated environments where physical co-presence is replaced by technological intermediation. The term "workspace" deliberately replaces "workplace" to reflect the shift from spatial to virtual, from physical gathering to networked collaboration, and from embodied community to digitally mediated belonging (Kingma, 2019). Thus, WSS captures how spirituality in work is reconstructed through digital symbols, virtual interactions, and platform-enabled connectivity. Theoretically, the adoption of Social Cognitive Theory (SCT) (Bandura, 1986) provides a robust foundation for explaining this redefinition. SCT emphasizes reciprocal determinism, an ongoing interaction between personal cognition, behaviour, and environment, that aligns well with digital work dynamics. In digital contexts, employees' spirituality is shaped not only by organizational culture but also by digital affordances (Lagerkvist, 2022) such as platform usability, communication norms (Padmono-Putro, 2023), and algorithmic transparency (Özgün-Atalay, Erdem-Tunç & Ceren-Erkengel, 2023). Even in the absence of physical presence, people create meaning, maintain motivation, and engage in prosocial behaviour through self-regulation, observational learning, and cognitive adaptability (Masaki, 2023; Berti & Cigala, 2022). Therefore, the theoretical need to describe how spirituality develops in a boundaryless, digitally mediated work ecosystem is the driving force for reframing Workplace Spirituality as Workspace Spirituality. Rather than merely renaming the concept, WSS represents a substantive reconceptualization that integrates cognitive, technological, and relational mechanisms underlying spiritual experience in virtual workspaces. This theoretical repositioning contributes to both the advancement of workplace spirituality scholarship and the broader discourse on human meaning and identity in the digital age.

This article is organized as follows. Section 2 provides the theoretical framework and hypothesis formulation based on Social Cognitive Theory to explain how WSS, DS, and IWB interact to effect digital performance, including DAP and CP. Section 3 describes the measurement model, sampling strategy, and research technique that were analysed using SEM-PLS. Section 4 presents the empirical results, while Section 5 summarizes the findings along with their antecedents in previous research and offers theoretical and practical implications for managing employee performance in a digital work environment. Section 6 includes the article's findings, theoretical and practical implications, study limitations, and recommendations for further research.

## 2 Theory and Hypothesis

### 2.1. Theoretical Foundation: Social Cognitive Theory

Grounded in Social Cognitive Theory (SCT), this framework positions WSS as a personal cognitive motivational resource that fosters self-regulation, meaning-making, and proactive engagement in digital work environments (Bandura, 1986; Carillo, 2012; George, Merrill & Schillebeeckx, 2021). Social Cognitive Theory (SCT) examines the reciprocal relationship between DS and IWB, stressing how observation, learning, and self-reinforcement enhance employees' potential to innovate in a digitalized workplace. Employees with excellent digital competences are more likely to spot possibilities, use technology creatively, and increase their abilities through continual engagement with evolving technologies, affecting their performance (TP) (Ogbeibu, Pereira, Emelifeonwu & Gaskin, 2021; Mićić et al., 2022). Thus, WSS is not merely an ethical or emotional dimension, but rather a cognitive mechanism that strengthens awareness, engagement, and commitment to the digitalization process in the workplace (Özgün-Atalay et al., 2023).

Compared to previous models like Self-Determination Theory, which emphasizes internal motivation and fundamental psychological needs, the SCT method provides a more flexible framework (Deci & Ryan, 2000), the Job Demands-Resources Model, which emphasizes striking a balance between available resources and organizational demands (Bakker & Demerouti, 2007). Both models, however, fall short in explaining technology-mediated interactions and reciprocal learning processes, which are unique to digital contexts. In a similar vein, the Spiritual Leadership Theory mainly emphasizes direct social interactions and intrinsic motivation. SCT emphasizes how self-efficacy, behavioural control, and the digital environment interact dynamically to influence employees' spiritual experiences through the reciprocal determinism concept

(Lagerkvist, 2016; Padmono-Putro, 2023). Social Cognitive Theory (SCT), on the other hand, offers a more thorough and flexible theoretical framework for investigating spirituality in the setting of the digital workplace. Reciprocal determinism, its central tenet, explains the dynamic interplay between behavioral regulation (self-control, prosocial behavior), personal cognition (self-efficacy, awareness, reflection), and the digital environment (technology platforms, communication norms)

Workspace Spirituality (WSS) is positioned as a cognitive–motivational resource that fosters the meaning of work, a sense of community, and alignment of values in a digital context (Saxena & Prasad, 2023). When these spiritual values are combined with strong self-confidence, individuals tend to be better able to organize themselves, set goals, and act consciously to achieve meaningful work results (Reave, 2005). In line with SCT principles, Digital Skills (DS) serve as behavioral capabilities that strengthen the relationship between cognitive factors and the digital work environment (Yu, Lin & Liao, 2017). DS enable individuals to learn through observation, experimentation, and self-reinforcement in the use of innovative technologies (Tran & Hasegawa, 2022). Workers with high digital competencies are better able to creatively utilize technology, identify opportunities, and optimize digitally mediated work processes (Cai, Khapova, Bossink, Lysova & Yuan, 2020). Within this framework, Innovative Work Behavior (IWB) emerges as a manifestation of social learning behavior, where individuals emulate best practices in digital environments, internalize innovative values, and implement new ideas that improve work effectiveness (Mićić et al., 2022). The IWB serves as a bridge that transforms digital competencies and spiritual values into tangible and valuable performance outcomes for the organization. These theoretical components form the basis for improving Teleworker Performance (TP), which consists of three main dimensions: Digital Task Performance, Adaptive Performance, and Contextual Performance. The IWB serves as a bridge that transforms digital competencies and spiritual values into tangible and valuable performance outcomes for the organization. These theoretical components form the basis for improving Teleworker Performance (TP), which consists of three main dimensions: Digital Task Performance, Adaptive Performance, and Contextual Performance. The principal contributions of this research are as follows:

- a) This purpose of this study aims to introduce WSS as an adaptation of the existing of workplace spirituality (Sharma & Kumra, 2020; Kim & Song, 2024) within the new context of digital workspaces. Accordingly, this study contributes to the contextualization of workplace spirituality measurement by aligning it with the digital workspace of teleworking.
- b) This study examines a novel role of WSS on IWB, building on previous research findings in physical workplace contexts and contextualizing them within digital workspaces (Hunsaker & Ding, 2022; Shin et al., 2022; AlAbood & Ismail, 2023).
- c) This study examines a novel role of the direct impact and indirect impact of IWB on Digital Task Performance (DTP), Digital Adaptive Performance (DAP), and Digital Contextual Performance (DCP) (Javed, Bashir, Rawwas & Arjoon, 2017; Abualigah, Davies & Harrington, 2021; Lata & Chaudhary, 2022; Deng, Liu, Yang & Duan, 2022; Abdelwahab-Ibrahim-El-Sayed, Shaheen & Farghaly-Abdelaliem, 2024).
- d) This study examines a novel role of digital skills as a moderating factor in the relationship between WSS and IWB. This finding offers new insights into how digital skills (DS) may either strengthen or weaken the influence of WSS on IWB, an area that has received limited attention in prior research (Curzi, Fabbri, Scapolan & Boscolo, 2019). We argue that IWB serves as a critical mediator, as spiritual engagement can foster openness, proactive learning, and creative problem-solving. IWB represents a highly essential capability within the dynamic context of digital work (De-Jong & Den-Hartog, 2010; Saxena & Prasad, 2023; Saif, Amelia, Goh, Rubin, Shaheen & Murtaza, 2024). This study investigates how DS influence the relationship between WSS and TP (Teleworker Performance), as well as the mediating effect of IWB.

## 2.2. Development of Hypotheses

### 2.2.1. The Influence of Workspace Spirituality on Innovative Work Behavior

Unlike the traditional notion of *Workplace Spirituality* (WPS), which is rooted in spiritual experiences emerging from physical work environments, *Workspace Spirituality* (WSS) represents a reconceptualization of workplace spirituality within digitally mediated settings. Classical definitions of WPS emphasize three core dimensions *meaningful work*, *sense of community*, and *value alignment* between individuals and organizations (Ashmos & Duchon, 2000; Milliman et al., 2003; Rathee & Rajain, 2020). WSS is a reconceptualization of workplace spirituality (WPS), defined as employees' spiritual experience within digital work environments. It encompasses three core dimensions: (1) Meaningful of Work —the perception that work carries a significance beyond routine tasks; (2) Sense of Community— the feeling of belonging and connectedness within virtual settings and value alignment (Sharma & Kumra, 2020; Kim & Song, 2024).

Within this framework, spirituality is understood as an experiential outcome of face-to-face interaction and emotional resonance in a shared physical environment, fostering personal meaning, belongingness, and social support among organizational members. However, these dynamics have undergone a profound transformation with the rise of telework and virtual collaboration. Direct physical interaction has been replaced by digital platforms, asynchronous communication, and algorithmic workflows (Waizenegger et al., 2020). Such conditions necessitate a renewed understanding of spirituality as a *digitally mediated construct*, where spiritual experience emerges through virtual engagement and technological intermediation. Consequently, WSS is introduced as a theoretical construct that preserves the essence of spiritual connectedness while redefining its manifestation through virtual collaboration, shared digital values, and an online sense of community (Walter, 2024).

Conceptually adapted from and extending WPS, WSS encompasses three primary dimensions. (1) Meaningful Work refers to the perception that one's work carries significance beyond routine tasks, contributing to a broader purpose for both self and organization. In digital contexts, meaning is constructed through reflective awareness of virtual contributions, recognition of social impact, and a sense of alignment with collective organizational goals facilitated by technology (Sharma & Kumra, 2020; Kim & Song, 2024). (2) Sense of Community captures the feeling of belonging and connectedness within virtual environments. Even in the absence of physical proximity, digital interactions can generate mutual support, trust-based communication, and emotional attachment across distributed teams through collaborative engagement (Milliman et al., 2003; Walter, 2024). (3) Value Alignment denotes the congruence between personal and organizational values as internalized through digital work experiences. Unlike traditional settings where alignment emerges through physical symbols or rituals, in digital workspaces it is enacted through algorithmic transparency, online collaboration culture, and ethical digital practices (Sharma & Kumra, 2020).

Researchers argue that WSS differs from WPS in three ways, namely First, through Epistemic Reorientation, WSS redefines spirituality as a cognitive–symbolic process occurring via digital interfaces rather than as a physically bounded social phenomenon. Meaning and connectedness are co-constructed through technology-mediated communication, where individuals develop self-awareness and shared understanding through digital symbols, texts, and interactions (Cavanagh & Bandsuch, 2002). Second, Contextual Mediators distinguish WSS from WPS by highlighting the role of digital affordances, such as platform usability, algorithmic transparency, and online norms as determinants that shape spiritual experiences. While WPS relies heavily on leadership presence and organizational culture, WSS recognizes that spirituality in digital environments depends equally on how technological systems are designed to support collaboration, inclusivity, and ethical human interaction (Wang, Di, Ye & Wei, 2021; Magliocca, Canestrino, Carayannis & Gagliardi, 2024). Third, the Behavioural Mechanism of WSS, grounded in *Social Cognitive Theory* (SCT), underscores self-regulation, observational learning, and social modelling as central processes through which employees internalize prosocial behaviour, build psychological resilience, and sustain motivation despite spatial isolation (Bandura, 2012; Schunk & DiBenedetto, 2020). Through these mechanisms, teleworkers develop adaptive spiritual engagement that aligns with digital collaboration and personal growth.

Meanwhile, IWB is measured through three adapted dimensions: (1) idea generation, (2) idea promotion, and (3) idea realization (De-Jong & Den-Hartog, 2010; Shanker, Bhanugopan, Van-Der-Heijden & Farrell, 2017;

Deng et al., 2022) With changes to the digital work environment, such as the implementation of online collaboration tools, idea platforms, and virtual project management. Previous research has postulated and empirically studied the relationship between WPS and inventive conduct within a physical work setting (Afsar & Rehman, 2015; Bantha & Nayak, 2021; Saxena & Prasad, 2023). However, the dynamics of WPS and IWB need to be reexamined as businesses move toward digitally mediated and mixed work models. According to early telework study by Bailey and Kurland (2002), working remotely changes the typical social and structural features of the workplace, which can either limit creativity through social isolation or promote it through autonomy. Expanding on this, Kaplan, Engelsted, Lei and Lockwood (2018) contended that employees perceived psychological safety and control, factors essential for idea production and promotion are frequently restricted by managers' skepticism of telework arrangements. Expanding on this, Kaplan et al. (2018) contended that employees perceived psychological safety and control, factors essential for idea production and promotion are frequently restricted by managers' skepticism of telework arrangements. More recently, Becker, Belkin, Tuskey and Conroy (2022) discovered that employees' creative activities and well-being were greatly impacted by the forced shift to remote work during crises, which was mediated by the degree of job control and loneliness they felt. These results imply that although digitalization makes it possible to generate ideas more widely, it also poses a threat to the relational and spiritual aspects of meaningful participation and creation. In this sense, the interaction between WPS and IWB in a digital setting may rely on digital affordances that influence social connectedness, trust, and perceived purpose at work in addition to spiritual and ethical congruence. Therefore, encouraging persistent innovative activity among distant workers requires an awareness of how spirituality appears in virtual relationships.

Based on the findings of the research, it was discovered that spirituality in the workplace can provide a strong motivation for employees to engage in more innovative activities (AlAbood & Ismail, 2023). As WSS is a reconceptualization of WPS, this study draws on analogous theories and prior references to propose the following hypothesis.

*H1: Workspace spirituality positively influences innovative work behavior (IWB).*

### 2.2.2. Workspace Spirituality (WSS) on Teleworker Performance (TP)

Teleworker performance represents a reconceptualization of employee performance within the context of remote work and digital workspaces. In this regard, employee performance is commonly defined as the integration of skills, knowledge, and capabilities that individuals apply to accomplish designated tasks, thereby generating outcomes in alignment with the established norms and objectives of the organization (Nurain, Chaniago & Efawati, 2024).

In the physical workplace, employee spirituality has been shown to alleviate psychological stress and serve as a motivational driver that enhances job performance (Ke, Zhang & Zheng, 2022). Nevertheless, excessive psychological pressure often diminishes employee performance (Kokshagina & Schneider, 2023). Evidence from a large-scale study of 1,114 teachers revealed that higher levels of presence were strongly associated with greater meaning in life—one of the key dimensions of workplace spirituality—which in turn positively influenced effort and the attainment of high-quality work outcomes (Barriga-Medina, Campoverde, Paredes-Aguirre, Melo-Vargas & Rosero-Barzola, 2024).

Consistent with these findings, prior research has demonstrated that workplace spirituality exerts a favorable impact on job performance, suggesting that the integration of spiritual beliefs into organizational contexts can enhance both individual effectiveness and collective outcomes (Jayakumar & Vinodkumar, 2023; Rahman, Zaman, Hossain, Mannan & Hassan, 2019).

As previously stated, the definition of physical work has changed because of the digital transformation program. Work can be done anytime and from anywhere (Dittes, Richter, Richter & Smolnik, 2019). Employee performance is typically conceptualized as a multidimensional construct comprising three sub-dimensions: task performance, contextual performance, and adaptive performance (Pradhan & Jena, 2017). By analogy, within the digital workspace, teleworker performance (TP) is conceptualized as comprising three interrelated dimensions: digital task performance, digital contextual performance, and digital adaptive performance. Digital task

performance refers to the effectiveness with which core job responsibilities are executed through digital tools and platforms. Digital contextual performance captures the voluntary, extra-role behaviors—such as collaboration, digital citizenship, and proactive support—that sustain a positive and cohesive virtual work environment. Digital adaptive performance reflects the teleworker's ability to respond flexibly to technological changes, emerging digital workflows, and continuous innovation. Together, these dimensions provide a holistic framework for assessing employee contributions in digitally mediated work contexts.

Prior research has consistently shown that WPS has a favorable impact on employees' job performance, demonstrating that spiritual beliefs integrated in the work context can boost both individual effectiveness and organizational outcomes (Jayakumar & Vinodkumar, 2023; Rahman et al., 2019). According to Bailey and Kurland (2002), teleworking changes the nature of work by decreasing traditional supervision and physical proximity, which may decrease a sense of community. On the other hand, spirituality in digital workplaces can restore authenticity, meaning, and connection. In a similar vein, Kaplan et al. (2018) point out that while spiritual qualities like trust, compassion, and integrity aid in rebuilding these environments, management mistrust in remote settings compromises autonomy and psychological safety. Furthermore, Becker et al. (2022) discovered that job control and loneliness had a substantial impact on the performance and well-being of teleworkers, indicating that spirituality can lessen these impacts by promoting a sense of purpose and belonging. Consequently, it is expected that Workplace Spirituality in the Digital Workspace (WSS) will have a favorable impact on Teleworker Performance (TP) by offering psychological significance, social connection, and ethical foundation that maintain engagement and performance in distant work environments. According to a different study, workplace spirituality and organizational commitment had a positive but not significant impact on employee work productivity, while job satisfaction and organizational citizenship behavior (OCB) had a positive and significant impact (Ridlo, Wardahana & Jessica, 2021). According to social cognitive theory, individuals with higher levels of WSS are more likely to display intrinsic drive, resilience, and clear goal orientation attributes that are predicted to improve teleworker performance (TP). Building on this theoretical framework and earlier empirical evidence, the second hypothesis is proposed:

*H2a: WSS has a positive effect on DTP*

*H2b: WSS has Positive effect on DAP*

*H2c: WSS has Positive effect on DCP*

### **2.2.3. Innovative Work behavior (IWB) on Teleworker Performance (TP)**

Innovative Work Behavior (IWB) has become a critical competency in the increasingly dynamic digital work setting that determines an individual's ability to function at their best in a technology-based work environment. IWB is the capacity of an individual to create, disseminate, and execute novel concepts that enhance productivity and organizational sustainability. (Halawa, Sridadi, Hardiana, Sundari, Zain & Ramadhan, 2023). IWB places more emphasis on applying creative concepts to actual work procedures than it does on merely being creative. This adds value in the form of improved competitiveness, productivity, and efficiency (Volery & Tarabashkina, 2021; Berisha, Ramadani, Gërguri-Rashiti & Palalić, 2020; Bauwens, Audenaert & Decramer, 2024). Organizations that develop and support Innovative Work Behavior (IWB) among employees can gain a competitive edge by improving performance, productivity, and innovation potential (Buenaventura-Vera, 2017; Abualigah et al., 2021).

Empirical data shows that workplace spirituality has a favorable and significant impact on job performance, especially when measured by task performance and adaptive performance aspects (Saeed, Khan, Zada, Ullah, Vega-Muñoz & Contreras-Barraza, 2022). A study involving 40 supervisors, and 157 employees indicated that persons with higher levels of innovative work behavior consistently achieved superior task performance (Hernaus, Černe & Vujčić, 2023). Employee innovative work behaviors has been found to have a considerable positive effect on task performance, as it improves employees' ability to approach issues creatively, adapt to changing conditions, and achieve essential responsibilities more effectively (El-Kassar, Dagher, Lythreatis & Azakir, 2022). Similar findings showed that IWB significantly boosts employee performance by encouraging innovation and flexibility in response to organizational change (Fitrio, Budiyanto & Agustedi, 2020). Accordingly, El-Kassar et al. (2022) confirmed that innovative behavior enhances employees' capacity to effectively fulfill

tasks and creatively confront work challenges, while Hernaus et al. (2023) discovered that people with high levels of IWB consistently displayed superior task performance. IWB has a big impact on worker performance. Furthermore, because innovative workers are more proactive, adaptable, and solution-focused, research by Bauwens et al. (2024) suggests that IWB expands the advantages of Performance Management Systems (PMSSs). Therefore, in a teleworking setting, employees with high IWB typically show gains in the three main areas of digital performance, which together make up Teleworker Performance: Digital Task Performance, Adaptive Performance, and Contextual Performance. Drawing upon prior theoretical and empirical research, this study proposes Hypothesis 3.

*H3a: IWB has a positive influence on DTP*

*H3b: IWB has a positive influence on DAP*

*H3c: IWB has a positive influence on DCP*

#### 2.2.4. Innovative Work behaviors (IWB) as a Mediator

Innovative Work behaviors (IWB) refer to an individual's efforts to generate, promote, and implement novel ideas within the workplace (AlMazrouei et al., 2023; Anderson, Potočnik & Zhou, 2014; Hunsaker & Ding, 2022). Empirical data consistently points to Innovative Work Behavior (IWB) as an important mediation mechanism that connects numerous organizational and individual antecedents to performance outcomes. For example, IWB has been shown to mediate the relationship between an innovation-friendly environment and organizational performance (Shanker et al., 2017), end-user satisfaction with computer technology and job performance (Deng et al., 2022) and collaborative leadership and productive work performance among healthcare professionals (El-Sayed et al., 2024). Similarly, research on SMEs shows that IWB modulates the influence of religion on company performance (Munthe, Pratikto, Sudarmiatin & Restuningdiah, 2024). Thus, IWB is positioned as a partial mediator bridging the effect of WSS on digital task performance. Based on prior theory and empirical studies, Hypotheses 4 is proposed as follows:

*H4a: IWB mediates the relationship between WSS and DTP*

*H4b: IWB mediates the relationship between WSS and DAP*

*H4c: IWB mediates the relationship between WSS and DCP*

#### 2.2.5. Digital Skill (DS) as Moderator

DS refers to an employee's ability to operate effectively with digital media, which encompasses more than just fluency with digital platforms. These talents contain extra features such as problem-solving and critical thinking (Maran, Liegl, Davila, Moder, Kraus & Mahto, 2022). Digital Skills (DS) are defined as an individual's ability to effectively use digital technology, communication tools, and networks. DS can be classified as fundamental skills, information skills, and communication skills (Van-Deursen, Helsper & Eynon, 2016). In the context of DS as a strategic capability, it refers to the ability of personnel to successfully use digital technologies in accomplishing activities and achieving organizational goals (Yoo & Jang, 2023). DS includes the use of technology, content management, cybersecurity, communication and teamwork, critical thinking, accountability, identity and personal growth, and digital well-being (Audrin, Audrin & Salamin, 2024).

DS are regarded as a vital resource that enhances the connection between creative behaviour and digital work performance in the setting of increasingly complex digital work. According to empirical study, people with high levels of digital skills (DS) are better equipped to integrate technology into work processes and maximize digital-based performance, demonstrating that DS plays a key moderating role in influencing information and communication technology (ICT) adoption behaviour (Yu et al., 2017). According to recent research, DS functions as a job resource that can improve people's capacity for psychological detachment and lessen the detrimental effects of digital work stress, hence maximizing digital performance (Aguirre, 2024). In earlier studies, the author demonstrated that digital skills serve as a moderating factor that enhances the association between innovative work behavior (IWB) and the workplace in a digital context (Suhada et al., 2024). Therefore, workers with good digital skills are better able to utilize technology to innovate, adapt to changes in digital systems, and maintain productivity in a technology-based work environment. Moreover, digital communication skills, particularly relevant in remote work settings, have been shown to moderate the link between perceived

supervisor support and work engagement (Boccoli, Gastaldi & Corso, 2024). According to research on artificial intelligence (AI)-drive technical advancements, digital skills significantly mitigate the danger of job displacement (Chen, Li & Tang, 2022). Recent study show that digital skills considerably and favorably affect the relationship between knowledge acquisition and technology adoption, based on cross-sectional survey data from 574 grain farmers in Hebei Province, China (Yuan, Zhao, Huo, Feng & Xu, 2025).

On the other hand, a recent study that sought to determine the moderating role of digital skills in the impact of autonomy, workload, and educational skills on job satisfaction did not turn out to be significant. 140 workers from the Ministry of Maritime Affairs and Fisheries Head Office were included in the study using a purposive sample technique (Radian, Awa, Syahrudin, Nurlinda & Putri, 2025). People's flow state is a type of dynamic equilibrium that necessitates matching their skill level with the task's difficulty, according to the flow theory model. This equilibrium will be upset and people will become bored when their skill level surpasses the task's complexity; conversely, people will experience anxiety when their skill level falls short of the task's requirements (Nakamura & Csikszentmihalyi, 2009; Wu, Liu & Tian, 2023).

These findings highlight the role of Digital Skills (DS) as a boundary condition influencing the effect of workplace resources on employee outcomes. Accordingly, the following hypothesis is proposed:

*H5: DS moderate the relationship between WSS and IWB.*

Based on the discussion above, the model is shown in Figure 1

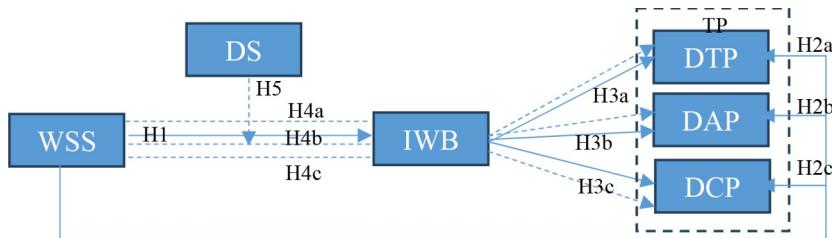


Figure 1. Empirical Model

### 3. Research Methodology

#### 3.1. Research Design and Approach

This study employs a quantitative research design with a cross-sectional approach and applies the Structural Equation Modelling–Partial Least Squares (SEM-PLS) method to examine the hypothesized relationships among workspace spirituality (WSS), innovative work behaviors (IWB), digital skills (DS), and digital task performance (DTP). The study's emphasis on predictive modeling and theory construction including novel, contextualized dimensions, like digital workspace spirituality (WSS), is another reason for choosing PLS-SEM. Several latent variables with mediation and moderation paths (IWB and DS) are included in the model, which is consistent with PLS-SEM's benefits in managing intricate structural interactions with non-normal data distributions. Furthermore, PLS-SEM is a suitable analytical method because the goal of this work is to investigate rather than validate established hypotheses (Hair, Astrachan, Moisescu, Radomir, Sarstedt, Vaithilingam et al., 2021).

#### 3.2. Sample and Data Collection

Sample size estimation using G\*Power with 11 predictors or hypothesis indicated a minimum of 131 respondents at 0.80 power and 185 at 0.95 (Memon, Ting, Cheah, Thurasamy, Chuah & Cham, 2020). According to the guideline by Hair, Sarstedt, Hopkins and Kuppelwieser (2014), the ideal sample size should be 5 to 10 times the number of items in the largest construct of the model (Hair et al., 2014). With 24 items as the largest, a conservative approach (5-10 times the number of items) suggests a minimum sample size of 170-240 respondents. To ensure robustness, a target of 300 was set, and 245 valid responses were ultimately obtained from teleworkers in Yogyakarta, Indonesia. Purposive sampling was applied to professionals across technology, education, creative industries, and digital services. Participants were required to have at least six months of remote work experience, regular use of digital collaboration tools, and employment in organizations allowing full

or partial remote work. Both procedural and statistical controls were put in place to lessen the possibility of common method bias (CMB) arising from the use of self-report data collection methods. To verify respondent eligibility, the researcher randomly assigned the order of questionnaire items following the initial interview and guaranteed respondent confidentiality. To reduce social desirability bias and repeating response patterns, questionnaire items were randomly assigned. The potential for Common Method Bias (CMB) was also evaluated and controlled through the application of marker variable tests

### 3.3. Measurement Instruments

In this study, all constructs were measured using validated scales carefully adapted to the digital work context to ensure both conceptual and contextual relevance. Workspace Spirituality (WSS) was captured through ten items (10) reflecting meaningful in work, sense of community, and value alignment. The variable was adapted and modified from Milliman et al. (2003), Sharma & Kumra (2020), and Kim & Song (2024) to ensure contextual relevance and validity within the scope of this study. Innovative Work behaviors (IWB) was assessed with four (4) items addressing idea generation, promotion, and implementation in remote work settings. IWB measurement items were adopted and adapted from De-Jong and Den-Hartog (2010), and Ahmed, Soomro, Channar, Hashem, Soomro, Pahi et al. (2022) to ensure their applicability and relevance within the context of this study.

Digital Skills (DS) were evaluated using a multidimensional framework encompassing technical, cognitive, and collaborative competencies, measured through 24 items specifically designed to capture employees' proficiency in using digital technologies, managing information, collaborating online, and applying critical thinking in digital work contexts (Audrin et al., 2024). Digital Task Performance (DTP) reflects an individual's capability to execute core work tasks efficiently using digital technologies (Morikawa, 2022; Pradhan & Jena, 2017). Digital Contextual Performance (DCP) captures the extent to which individuals engage in supportive, cooperative, and citizenship-oriented behaviors within digital work environments, such as assisting colleagues, sharing knowledge, and fostering collaboration through digital platforms (Kappagoda, 2018; Pradhan & Jena, 2017; Park & Park, 2019). Digital Adaptive Performance (DAP) refers to an individual's ability to effectively adjust to changes, uncertainties, and new demands in digital work settings, encompassing openness to learning, flexibility in adopting emerging technologies, and resilience in facing digital disruptions (Charbonnier-Voirin & Roussel, 2012; Park & Park, 2019).

DTP was measured with four (4) items, while both DCP and DAP were measured with six (6) items each. All items were adapted and modified from established scales developed by Charbonnier-Voirin and Roussel (2012), Robbins and Judge (2017), Pradhan and Jena (2017), and Lata and Chaudhary (2022). Responses were collected using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree), ensuring consistent, comparable, and reliable measurements across all constructs. This operationalization provides a robust foundation for analyzing the hypothesized relationships within the digital workspace.

The adaptation and modification of all research variables, including the transformation of *Workplace Spirituality (WPS)* into *Workspace Spirituality (WSS)*, followed a systematic three-stage process: (1) literature review (desk study), (2) indicator reduction and contextualization, and (3) expert validation through academic seminars and dissertation proposal examinations. This methodological process was exemplified through the adaptation of the *Sense of Community (SOC)* dimension, one of the core components of the WSS construct. The first stage involved an extensive literature review to analyse the theoretical foundation of *Sense of Community*. Traditionally, this dimension is understood as a feeling of emotional connectedness, shared purpose, and belonging among members of an organization (Ashmos & Duchon, 2000; Milliman et al., 2003). Although subsequent studies by Sharma and Kumra (2020) and Kim and Song (2024) refined the conceptual understanding of community within organizational contexts, their interpretations largely remained within the boundaries of physical workplaces. Based on this synthesis, the current study acknowledged that while the *Sense of Community* remains theoretically relevant, it requires reinterpretation within the digital work environment—particularly to accommodate technology-mediated connections such as virtual collaboration, digital empathy, and shared digital purpose. The second stage focused on reducing and contextualizing indicators using the principles of semantic equivalence and contextual relevance. The original indicators, which emphasized social connectedness in physical workspaces, were refined to capture the dynamics of

virtual interaction while retaining the spiritual essence of connectedness and shared meaning. Through linguistic modification and contextual adjustment, the scale items were reformulated to represent *digital collaboration* and *virtual engagement* rather than physical co-presence. To ensure conceptual clarity and parsimony, the initial five indicators (SOC1–SOC5) were condensed into three contextually relevant items that best reflected the *Sense of Community* within digital work environments. These items represent digital connectedness, shared purpose, and emotional belonging in online collaborative settings. The contextual refinement preserved content validity while achieving conceptual precision and linguistic accuracy suitable for teleworkers. The third stage involved expert validation through academic seminars and dissertation proposal defences. Experts provided substantive feedback to confirm that the adapted indicators not only represent general social relationships but also authentically reflect interaction, togetherness, and emotional support in digital workspaces. Following qualitative validation, empirical validation was conducted using *Confirmatory Factor Analysis (CFA)* to test construct equivalence between the original and adapted versions. The results confirmed that all modified indicators met the reliability and validity thresholds, ensuring the adapted dimension's theoretical coherence and contextual appropriateness within the digital workspace.

The final *Sense of Community (SOC)* items capture the affective and motivational essence of digitally mediated collaboration. The first item (SOC1)—“*I feel motivated to work in the digital workspace because of collaborating with others who provide value and positive energy*”—integrates elements of motivation, collaboration, and positive engagement. The second item (SOC2)—“*I feel that in the digital workspace I get the opportunity to freely express my opinions and connect with others who share the same goals*”—reflects shared mission and open communication, emphasizing digital freedom and participatory expression. The third item (SOC3)—“*I feel connected with colleagues in the digital workspace, trusting that we care for each other and belong to a family-like environment*”—represents emotional connectedness, mutual care, and belonging in virtual collaboration. Collectively, these refined indicators preserve the conceptual foundation of the original *Sense of Community* construct while offering contextual validity and empirical reliability in measuring *Workspace Spirituality (WSS)* among teleworkers. They encapsulate how spiritual connectedness manifests through digital collaboration, shared purpose, and emotional support within technology-mediated work environments.

### 3.4. Data Analysis Procedure

Data were analyzed using Smart PLS 4 following a two-stage approach. The measurement model was first assessed for validity and reliability using Cronbach's Alpha, Composite Reliability (CR), AVE, and HTMT. Subsequently, the structural model was evaluated by testing path coefficients through bootstrapping with 5,000 resamples. Mediation was examined via the Variance Accounted For (VAF) metric, and moderation was assessed through interaction and multi-group analyses when necessary.

## 4. Results

### 4.1. Demographic Profile of Respondents

Among 245 teleworking professionals in Yogyakarta, males constituted 65% of the sample, while females represented 34%, notably in the creative and digital marketing sectors. The Most respondents were in the age range 25-30 (27%) and 31-40 (33%) or equivalent to 60%, indicating a significant presence of young digital natives with excellent technological adaptation. The majority had bachelor's (58.8%) or master's degrees (29.4%), showing a workforce with advanced digital and analytical abilities. 75% of jobs were project-based, 63% were full-time, and 3.5% were part-time, reflecting the prevalence of freelance and short-term contracts. In terms of work modes, 55% worked entirely online, while 45% used a hybrid model that included digital efficiency and face-to-face interaction. IT consulting and engineering were the most popular sectors (26.9%), followed by non-IT consulting, digital marketing, and creative industries. Overall, these data show that teleworking in Yogyakarta is dominated by young, highly educated individuals in technology and creative sectors, working flexibly and results-oriented, reinforcing the city's reputation as a major hub for digital talent in Indonesia.

### 4.2. Measurement Model Evaluation

As shown in Figure 2, the first step of data processing was devoted to finishing, confirming, and validating the first-order measurement model because this study used a second-order SEM-PLS technique. The concepts of

Workplace Spirituality in the WSS) and DS were examined as second-order constructs. Each of the 24 items in the DS variable had satisfactory loading factor values between 0.792 and 0.931, surpassing the 0.70 threshold. Except for item DAP5, which was deleted, nearly all the original loading factor values for each indicator were above 0.7, making them all acceptable. The computed loading factor values ranged from 0.723 to 0.816, and all loading factor values were acceptable after removing one item. As a result, the subsequent step's computations can be completed.

Characteristic	Criteria	Amount	Percentage (%)
Gender	Man	160	65%
	Woman	85	34%
<b>Total</b>		<b>245</b>	
Age	19–24 Years	29	12,0%
	25–30 Years	67	27,0%
	31–40 Years	81	33,5%
	41–50 Years	51	21%
	>50 Years	17	7%
<b>Total</b>		<b>245</b>	
Education	SMA	15	6,1%
	S1	144	58,8%
	S2	72	29,4%
	S3	14	5,7%
		245	
Employment Status	Project based	183	75%
	Full-time	126	63,0%
	Part time	61	3,5%
<b>Total</b>		<b>245</b>	
Work Model	Fully Online Work	135	55%
	Hybrid Work	110	45%
<b>Total</b>		<b>245</b>	
Employment Sector	IT Consultant and IT Engineer	77	31%
	Non-IT Sector	93	26,9%
	Creative Industry, digital marketing & Advertising	42	18,3%
	Financial technology	32	14,0%
	Non-It Consultant		
<b>Total</b>		<b>245</b>	

Table 1. (Processed primary data, 2025)

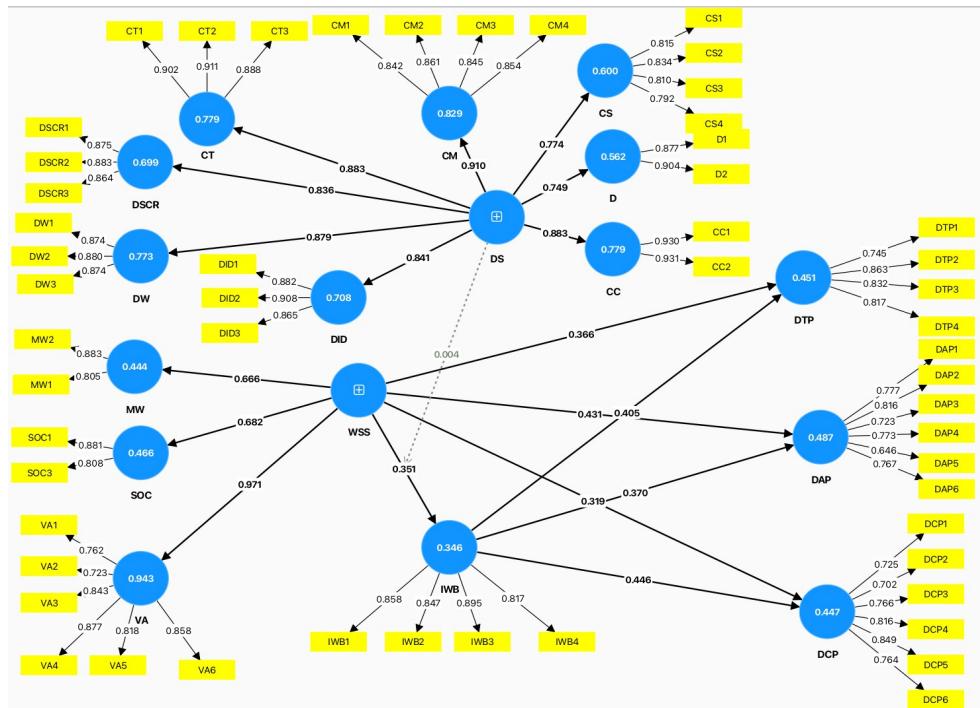


Figure 2. Stage 1 of outer loading (Processed primary data, 2025)

All loading factors in the second step of second-order processing, as shown in Figure 3, have exceeded the recommended limit of 0.70. The resulting loading factors ranged from 0.702 (DCP2) to 0.908 (CM). The overall reliability measures (CR and CA) were strong (Hair, Risher, Sarstedt & Ringle, 2019). IWIB demonstrated the highest indicator reliability, with loadings ranging from 0.814 to 0.896, indicating that the indicators strongly captured the construct. Internal Consistency Reliability, Cronbach's Alpha (CA) values across constructs ranged from 0.831 (DTP) to 0.964 (DS), all exceeding the threshold of 0.70. Similarly, Composite Reliability (CR) values ranged from 0.837 (DTP) to 0.966 (DS in detail can be seen in Table 2). This means that all CR and CA values have exceeded the minimum requirement of 0.70 (Nunnally & Bernstein, 1994).

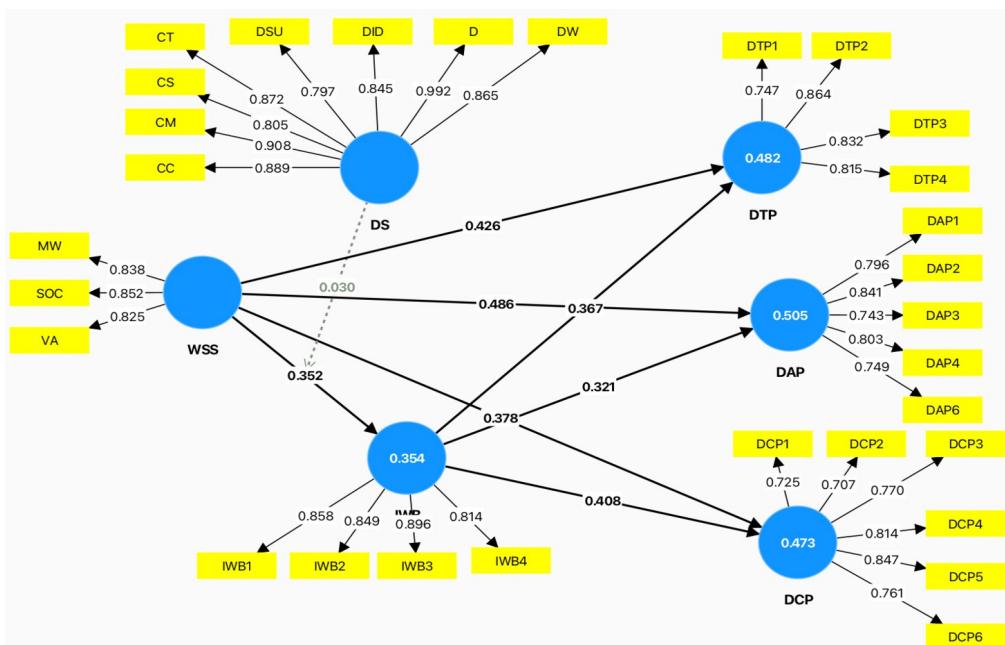


Figure 3. Stage 2 of the Outer Model (Processed primary data, 2025)

These results indicate that each construct demonstrates excellent internal consistency, with DS showing the strongest reliability overall. The Average Variance Extracted (AVE) values were above the recommended threshold of 0.50 for all constructs, ranging from 0.512 (WSS) to 0.730 (IWB). This indicates that each construct explains more than 50% of the variance in its indicators, confirming convergent validity (Fornell & Larcker, 1981). IWB displayed the strongest convergent validity, highlighting that its indicators are highly representative of the underlying construct. The Heterotrait–Monotrait (HTMT) ratio was used to assess discriminant validity. All HTMT values were below the conservative threshold of 0.85 (Henseler, Ringle & Sarstedt, 2015), ranging from 0.548 to 0.840. These findings confirm that each construct is empirically distinct from the others, ensuring no multicollinearity or construct overlap.

All external loadings in Table 2's second-order processing, which ranged from 0.702 to 0.907, were higher than the suggested threshold of 0.70. Two statistical approaches are used to assess and control the potential of Common Methods Bias (CMB). First, Full Collinearity VIF shows that all constructs range between 1,000 and 1,444 (as shown in Table 3), far below threshold 3.3, which shows multicollinearity and CMB at least (Kock, 2017, 2023). Second, the marker variable test reveals a slight increase in  $R^2$  (Table 8 in Appendix) for DAP, DCP and DTP ( $DTP^2 = 0.03-0.05$ ), while the IWB is almost unchanged, confirming that the CMB effect can be ignored. This result shows that the explanatory power of model and its structural relationship remains stable and valid. Future research is encouraged to adopt more powerful methods to minimize CMB potential.

The structural model results demonstrate the importance of WSS in creating digital performance outcomes. Direct effects indicate that WSS has a positive and substantial influence on IWB ( $\beta = 0.366$ ,  $p < 0.000$ ), accounting for 35.9% of the variance with a medium effect size ( $f^2 = 0.142$ ). This demonstrates that higher levels of WSS led to increased employee innovation in digital settings. WSS has a significant positive effect on Digital Task Performance (DTP) ( $\beta = 0.407$ ,  $p < 0.000$ ), with high explanatory power ( $R^2 = 0.361$ ) and a medium to large effect size ( $f^2 = 0.188$ ). WSS has the lowest positive impact among teleworker performance dimensions on Digital Contextual Performance (DCP) ( $\beta = 0.356$ ) but has the strongest effect on Digital Adaptive Performance (DAP) ( $\beta = 0.500$ ,  $R^2 = 0.339$ ), indicating that adaptive capability is the strongest explanatory factor among the three performance dimensions. IWB had a favorable impact on DTP ( $\beta = 0.374$ ), DCP ( $\beta = 0.418$ ), and DAP ( $\beta = 0.323$ ), indicating its importance in connecting workplace spirituality with improved digital performance. On IWB, there was no significant interaction between Digital Skills (DS) and WSS ( $\beta = 0.029$ ,  $p = 0.591$ ). This suggests that digital skills do not play a significant role as a moderator in the link between WSS and IWB. Mediation study indicates that IWB strongly transmits the influence of WSS to all three performance outcomes: DTP ( $\beta = 0.210$ ,  $p < 0.000$ ), DAP ( $\beta = 0.216$ ,  $p < 0.000$ ), and DCP ( $\beta = 0.206$ ). These results demonstrate that while WSS has direct impacts, its impact is further magnified by inventive behavior, emphasizing the crucial significance of creativity as a mechanism relating WSS and teleworker performance.

No	Variable	Outer loadings	CA	CR	AVE	Heterotrait–monotrait ratio (HTMT)a					
						1	2	3	4	5	6
1	DAP	0,743-0,847	0.846	0.855	0.619						
2	DCP	0,707-0,847	0.864	0.876	0.596	0.829					
3	DS	0.797-0.908	0.945	0.946	0.723	0.807	0.745				
4	DTP	0.747-0.864	0.831	0.833	0.665	0.810	0.750	0.718			
5	WSS	0.825-0.852	0.789	0.789	0.703	0.666	0.690	0.557	0.692	0.635	
6	IWB	0.814-0,896	0.877	0.881	0.731	0.805	0.720	0.629	0.701		

Notes: DS = digital skill; WSS = workspace spirituality; IWB = innovative work behavior; DTP = digital task performance; DCP = digital contextual performance; DAP = digital adaptive performance; CA = Cronbach's alpha; CR = Composite reliability; AVE = average variance explained

Table 2. Validity and Reliability Test (Processed primary data, 2025)

	<b>β</b>	<b>SD</b>	<b>t-value</b>	<b>p-value</b>	<b>VIF</b>	<b>F2</b>	<b>R2square</b>	<b>Q<sup>2</sup></b>
<b>Direct effect</b>								
WSS -> IWB	0.366	0.068	5.370	0.000	1.444	0.142	0.374	0.539
WSS -> DTP	0.407	0.057	7.169	0.000	1.358	0.188	0.361	0.434
WSS-> DCP	0.356	0.059	6.054	0.000	1.358	0.136	0.385	0.434
WSS-> DAP	0.500	0.051	9.864	0.000	1.358	0.203	0.339	0.428
IWB -> DTP	0.374	0.058	6.468	0.000	1.000	0.220		
IWB-> DCP	0.418	0.059	7.108	0.000	1.000	0.264		
IWB-> DAP	0.323	0.057	5.616	0.000	1.000	0.193		
<b>Moderating effect</b>								
DS x WSS -> IWB	0.029	0.054	0.537	0.591	1.032			
<b>Indirect effect</b>								
WSS -> IWB -> DTP	0.210	0.048	4.401	0.000				
WSS -> IWB -> DCP	0.216	0.046	4.672	0.000				
WSS -> IWB -> DAP	0.206	0.047	4.379	0.000				

Notes: DS = digital skill; WSS = workspace spirituality; IWB = innovative work behavior; DTP = digital task performance; DCP = digital contextual performance; DAP = digital adaptive performance; CA = Cronbach's alpha; CR = Composite reliability; AVE = average variance explained

Table 3. Structural model results (Processed primary data, 2025)

## 5. Discussion

This study offers strong empirical support in clarifying the interconnections between digital skills (DS), workspace spirituality (WSS), innovative work behavior (IWB), and three dimensions of remote worker performance. These sub variables are DTP, DCP, and DAP. The measurement model demonstrated excellent reliability and construct validity, as reflected in satisfactory values of external loadings, Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE), with the HTMT ratio further confirming discriminant validity. Collectively, these findings confirm the suitability of the measurement instrument for all variables to assess the proposed hypotheses.

The structural model highlights the crucial role of WSS in shaping remote workers' innovation and performance in a digital context. WSS exhibited a strong and positive effect on IWB, explaining more than one-third of the variance, thus corroborating previous findings in traditional workplaces (Afsar & Rehman, 2015; Saxena & Prasad, 2023). This suggests that spiritual engagement in digital environments provides employees with intrinsic motivation to generate, promote, and implement new ideas, compensating for the absence of physical interaction. Similarly, WSS exerted significant effects across all three performance dimensions, with the strongest effect on DAP. This underscores the role of spirituality in enhancing resilience and self-regulation, enabling employees to adapt to technological changes and effectively reconfigure workflows (Ke et al., 2022). The effect on DTP highlights spirituality's capacity to translate meaning into efficient execution of responsibilities, while the relatively weaker effect on DCP suggests a more limited contribution to extra-role behaviors.

Furthermore, IWB improved all performance outcomes by mediating the effects of WSS on DTP, DAP, and DCP. This research underscores that spirituality improves performance both directly and indirectly by cultivating inventive mindsets that translate inner value into tangible outputs (El-Kassar et al., 2022; Hernaus et al., 2023). This study found that the moderating role of Digital Skills (DS) was not statistically significant, in contrast to the widely held theoretical assumption that DS strengthens the relationship between personal and contextual resources and innovative work outcomes (Yu et al., 2017; Suhada et al., 2024; Boccoli et al., 2024). Instead of viewing DS as a conditional amplifier of the association between Workspace Spirituality (WSS) and Innovative Work Behaviour (IWB), this result undermines the usual notion of DS as a reinforcing capability and instead puts it as a baseline enabler of digital fluency (Golz, Peter, Müller, Mutschler, Zwakhalen & Hahn, 2021).

Based on Social Cognitive Theory (Bandura, 1986), people are motivated to adapt and innovate in digital situations by the dynamic interplay of their environment, behaviour, and cognition. However, the regulating role of DS in amplifying the benefits of psychological resources like spirituality tends to decrease as digital competence turns into a generalized skill rather than a cognitive differentiator. Given that the majority of teleworkers in this study had sophisticated and largely consistent digital skills, this non-significant finding may be contextually explained by the homogeneity of digital proficiency among respondents, which would reduce the variation required to identify interaction effects. This effect is consistent with Flow Theory (Nakamura & Csikszentmihalyi, 2009; Wu et al., 2023), which suggests that rather than increased creativity, people are more likely to feel complacency or under-stimulation when skill levels surpass task complexity. Therefore, DS may have a ceiling effect in highly digitalized work situations, changing from a distinctive capacity to a standardized competency.

The theoretical discussion on whether DS should be viewed as a threshold capacity or a strategic resource is extended by this study. The current findings show that in digitally mature contexts, DS primarily serves as a foundational competency for participation rather than a performance differentiator—consistent with capability saturation theory (Maran et al., 2022), despite earlier research portraying DS as a strategic organizational asset that improves technological adaptation, collaboration, and innovation (Van-Deursen et al., 2016; Yoo & Jang, 2023; Audrin et al., 2024). Aligned with the Social Cognitive Theory paradigm, this implies that motivational and meaning-making processes resulting from spirituality and authenticity at work are just as important for improving innovative work behaviour as technical proficiency. These outcomes support Ramadian et al. (2025) empirical findings that DS had no effect on the relationships between workload, job satisfaction, and job autonomy in the public sector. Consequently, the moderating effect of DS seems to be context-dependent, being weaker in digitally saturated ecosystems where technological competence is common and stronger in firms with low digital maturity where skill gaps are more noticeable (Yu et al., 2017; Yuan et al., 2025). However, the lack of a significant moderating effect does not diminish the significance of DS; rather, it emphasizes its potential mediating role as an infrastructure that facilitates the expression of WSS values like connectedness, authenticity, and meaning (George et al., 2021; Carillo, 2012; Aguirre, 2024). Therefore, our study emphasizes that DS's contribution to digital innovation is contextually contingent rather than universally reinforcing, arising from the equilibrium of digital maturity, task complexity, and individual competence within digitally mediated work contexts.

Collectively, these results reconceptualize workplace spirituality as workspace spirituality, place IWB as a core cognitive process linking spirituality and performance and explain the non-contingent function of DS in sustaining employee outcomes in teleworking environments.

Theoretically, this study advances our understanding of WSS in the digital work context by (1) revalidating indicators of spirituality in the physical workplace for remote work, (2) incorporating DS as a fundamental capability that supports meaningful work experiences, and (3) emphasizing IWB as a mediating mechanism linking spirituality to DTP, DCP, and DAP. Practically, companies are encouraged to implement initiatives that enhance digital competencies while fostering WSS, thereby enhancing the creativity, adaptability, and productivity of remote employees. By clarifying the dynamic interaction between digital skills, spiritual experiences, and performance results, these findings provide a significant contribution and provide important insights that can direct the creation of more flexible and value-driven digital work environments.

## 6. Conclusion

This study offers valuable empirical insights into the interconnected roles of Digital Skills (DS), Workspace Spirituality (WSS), and Innovative Work Behaviour (IWB) in shaping remote worker performance across digital task, contextual, and adaptive dimensions (DTP, DCP, and DAP). The findings reaffirm WSS as a key driver of innovation and performance in digital contexts, both directly and through IWB. Specifically, WSS exhibited the strongest effect on DAP, highlighting its role in enabling resilience and adaptability, while its influence on DTP emphasizes meaning-driven task execution. The relatively weaker effect on DCP suggests that spirituality contributes less to extra-role behaviors. Furthermore, IWB was confirmed as a crucial mediating mechanism that translates spirituality into innovative practices, ultimately improving all performance dimensions. Conversely, the

moderating role of DS was not supported, indicating that DS functions more as a baseline capability for digital fluency rather than an enhancer of spiritual influences on performance.

### 6.1. Theoretical Implications

This study adds a number of important theoretical insights to the expanding body of research on digital labour and organizational behaviour. In order to show its theoretical and practical applicability in digital and remote work environments, it first rethinks Workplace Spirituality (WPS) as Workspace Spirituality (WSS). By integrating it into technologically mediated situations where meaning-making, authenticity, and connectedness are digitally generated and experienced, this reconceptualization broadens the conventional bounds of workplace spirituality (Sharma & Kumra, 2020; Kim & Song, 2024). Second, the study presents WSS as a psychological-motivational tool that promotes Innovative Work Behaviour (IWB) and closes the gap between performance outcomes in virtual work environments and intrinsic motivation. By doing this, it enhances knowledge of how proactive involvement and creativity under digital mediation are translated from spiritual cognition. Third, the study expands theoretical understanding of the intricate ways that spirituality affects performance in digital ecosystems by analysing the mediating function of IWB and the moderating function of Digital Skills (DS). Notably, the popular belief that digital competence always improves the relationship between psychological resources and creativity is called into question by the non-significant moderating effect of DS. Rather, the results add to the discussion of digital capacity saturation by indicating that DS changes from a differentiating capability to a fundamental enabler of digital functioning as digital proficiency spreads among remote workers. In this context, DS should be viewed as a fundamental infrastructure resource that supports the expression of higher-order constructs like WSS and IWB rather than as a conditional amplifier.

Lastly, by seeing DS as an environmental facilitator rather than an interacting variable in cognitive-motivational processes, the study improves the application of Social Cognitive Theory (SCT) to digital work. According to this viewpoint, DS is repositioned as a boundary condition, a contextual factor that determines how much digital settings encourage the development of creative and spiritual behaviors. When taken as a whole, these contributions offer a more comprehensive and contextually grounded understanding of how technological, cognitive, and motivational factors interact to influence performance in the changing environment of digital work

### 6.2. Practical Implications

From a practical perspective, these findings have a number of significant ramifications for businesses functioning in more sophisticated digital environments. First, after a certain level of competency has been attained within the workforce, digital upskilling may no longer be a significant differentiator of performance. In order to strengthen Workspace Spirituality (WSS) through value-based leadership, digital community building, and reflective work practices, managers should concentrate on developing meaningful digital work environments where employees can feel purpose, connectedness, and authenticity.

Second, rather than being a strategic benefit, digital skills (DS) now serve more as a fundamental requirement. Therefore, in order to ensure that technology use is consistent with both organizational and spiritual values, human resource development strategies should focus on developing meta-competencies like digital adaptation, ethical awareness, and socio-emotional intelligence in virtual cooperation.

Third, to maintain engagement and avoid digital fatigue in remote and hybrid work systems, it is crucial to maintain an ideal balance between job complexity and employee skill levels (task-skill calibration). This idea guarantees that WSS-driven engagement successfully converts into creative and flexible work behaviors, which is in line with Flow Theory. Lastly, companies should create context-sensitive frameworks for evaluating digital capabilities that consider job requirements, digital maturity, and the workplace's spiritual atmosphere. These diagnostic techniques can assist in determining which elements of digital capabilities are still essential for innovation and which have become saturated.

### 6.3. Limitations and Directions for Future Research

Numerous limitations of this study provide encouraging avenues for further investigation. First, the cross-sectional design makes it more difficult to determine the causes of the dynamic interactions between Innovative

Work Behaviour (IWB), Digital Skills (DS), and Workspace Spirituality (WSS). In order to capture temporal fluctuations and elucidate the causal pathways linking digital skills, spirituality, innovation, and performance, longitudinal or experimental approaches—such as the use of panel data or experience sampling methods—are advised.

Second, the results' applicability to other organizational or cultural contexts may be limited by the study's concentration on remote workers in Yogyakarta. Cross-cultural research is required to investigate how social values and technical intensity affect the relationship between digital and spiritual components in the workplace because both spirituality and digitalization are firmly ingrained in social and cultural contexts. Third, among remote workers who do not share a physical workspace, it is still challenging to cultivate sense of community (SOC), a fundamental aspect of WSS. The majority of the study's participants came from vibrant online groups like Work Friends Coffee, SGVA, and Remote Worker ID, which would suggest that they are more socially connected than the average remote worker. Therefore, in order to better comprehend spiritual connectedness in virtual work contexts, future study is advised to investigate SOC development across more diverse or isolated digital groups.

Finally, the use of self-reported data indeed introduces the possibility of Common Methods Bias. However, in this study, the tests conducted using the marker method and VIF analysis indicate that the potential bias is relatively small and does not compromise the integrity of the research findings. Therefore, future research should use mixed-method or multi-level approaches and integrate data from numerous sources or behavioural measures, such as supervisor ratings, digital activity records, or innovation indicators. To better understand how WSS affects performance and well-being in digital work environments, future study might also examine factors like digital leadership, younger generations' preparedness for digital work, or hybrid work models. In general, greater methodological diversity, contextual scope, and analytical depth will contribute to the development of a more thorough knowledge of how innovative behaviors, spiritual resources, and digital.

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## Appendix

### Workspace Spirituality (WSS)

Indicator	Code	Statement Items
Meaning in Work (MW)	MW1	I feel happy and enthusiastic working in the digital workspace because I gain positive energy from my work.
	MW2	I understand what aspects of my work in the digital workspace provide personal meaning
Sense Of Community (SOC)	SCO1	I feel motivated to work in the digital workspace because of collaborating with others who provide value and positive energy.
	SOC2	I feel connected with colleagues in the digital workspace, trusting that we care for each other and belong to a family-like environment
Value Alignment (VA)	VA1	I have positive feelings toward the organization's values.
	VA2	Our organization shows care and conscientiousness toward employees
	VA3	I feel connected to the organization and its mission.
	VA4	Our organization cares about my work enthusiasm
	VA5	Our organization pays attention to employees' health
	VA6	Our organization cares about the spirit of teamwork

Table 1. WSS Items (Milliman et al., 2003; Sharma &amp; Kumra, 2020; Kim &amp; Song, 2024)

### Innovative Work Behavior (IWB)

Code	Statement Items
IWB1	I often present new ideas and innovations in my work.
IWB2	I frequently develop new methods to improve the tasks I am responsible for
IWB3	I often achieve success in transforming new ideas into solutions for problems or work-related tasks.
IWB4	I frequently develop new approaches to solve problems

Table 2. IWB Items (De-Jong &amp; Den-Hartog, 2010; Ahmed et al., 2022)

### Digital Task Performance (DTP)

Code	Statement Items
DTP1	I can complete tasks independently and on time with high standards in my digital work environment.
DTP2	I feel productive when working enthusiastically using the available technology
DTP3	The available technology helps improve my work efficiency to achieve organizational goals.
DTP4	I feel that the digital work environment values my performance and supports my work needs and objectives

Table 3. DTP Items (Charbonnier-Voirin &amp; Roussel, 2012; Robbins &amp; Judge, 2017; Pradhan &amp; Jena, 2017; Lata &amp; Chaudhary, 2022)

### Digital Contextual Performance (DCP)

Code	Statement Items
DCP1	I am accustomed to helping and support to colleagues through digital platforms (e.g., chat, email, or collaboration applications) whenever needed.
DCP2	I am willing to assume additional responsibilities in digital-based projects or tasks.
DCP3	I consistently demonstrate empathy and concern for colleagues through digital communication when they encounter difficulties.
DCP4	I actively participate in virtual discussions and sustain effective communication with the team via digital media.
DCP5	I regularly share knowledge, ideas, and recognition with colleagues through digital channels.
DCP6	I am accustomed to mentoring new colleagues virtually and contributing to collective decision-making through digital means.

Table 4. DCP Items (Charbonnier-Voirin &amp; Roussel, 2012; Robbins &amp; Judge, 2017; Pradhan &amp; Jena, 2017; Lata &amp; Chaudhary, 2022)

## Digital Adaptive Performance (DTP)

Code	Statement Items
DAP1	I am accustomed to working effectively with virtual teams and mobilizing collective intelligence through digital platforms.
DAP2	I can quickly adapt to technological changes, digital work systems, and the dynamics of virtual teams.
DAP3	I believe that effective communication and mutual understanding in digital spaces can lead to effective solutions.
DAP4	I feel comfortable working flexibly and remain open to feedback or criticism in a digital work environment.
DAP5	I receive adequate support in the form of training and learning opportunities to adapt to technology in my work.
DAP6	I can maintain mental well-being, flexibility, and work-life balance while working in digital or remote environments.

Table 5. DTP Items (Charbonnier-Voirin & Roussel, 2012; Robbins & Judge, 2017, Pradhan & Jena, 2017; Lata & Chaudhary, 2022)

## Digital Skill (DS)

Indicator	Code	Statement Items
Digital in Use (D)	D1	I feel comfortable using technological devices for my work in the digital workspace
	D2	I quickly learn new software to enhance productivity
Cyber Security (CS)	CS1	I understand and apply the fundamentals of cybersecurity when using technology.
	CS2	I remain vigilant against online security threats such as phishing and malware.
	CS3	I use strong passwords and assist colleagues in protecting their personal data.
	CS4	I respect and comply with all confidentiality and security regulations of my organization
Content Management (CM)	CM1	I can find, access, store, and organize online information in various formats to ensure accessibility.
	CM2	I can explain to colleagues how to access and organize content effectively.
	CM3	I can create and share information online while protecting others' integrity and privacy.
	CM4	I can adjust data management processes to facilitate storage and retrieval.
Critical Thinking (CT)	CT1	I can assess the credibility of online sources and ensure the information I find is accurate and up to date.
	CT2	I can help colleagues evaluate online sources and use appropriate digital tools to analyze and solve professional problems efficiently.
	CT3	I can select and use relevant digital tools to create innovative outcomes and assist colleagues in using them effectively
Social, Legal, and Environmental Responsibility (DSCR)	DSCR1	I behave ethically, respect privacy, and show courtesy and respect in online interactions and content sharing.
	DSCR2	I express myself appropriately according to platform norms, comply with privacy and copyright rules, and use digital tools for socially inclusive and compliant collaboration.
	DSCR3	I understand the environmental impact of digital technology and can share best practices with colleagues to reduce it
Digital Wellbeing (DW)	DW1	I can share information online while protecting myself from risks and monitor the use of digital tools to maintain physical and psychological well-being.
	DW2	I can protect myself from threats associated with constant online connectivity.
	DW3	I can share information online while safeguarding others from risks and threats to their integrity
Communication and Collaboration (CC)	CC1	I can provide professional feedback and assist colleagues in using digital tools for communication, collaboration, and networking
	CC2	I can find, access, store, and organize online information in various formats to ensure accessibility

Indicator	Code	Statement Items
Identity and Development (DID)	DID1	I can identify threats to my online reputation and that of my organization and take measures to protect them.
	DID2	I actively monitor and respond to threats to my and my organization's online reputation while using digital tools for personal and professional development.
	DID3	I identify, support, and assess the development of others' digital skills and use digital tools to assist their professional skill development

Table 6. DS Items (Audrin et al., 2024)

Item	Iteration 0	Iteration 1	Iteration 2	Item	Iteration 0	Iteration 1	Iteration 2
CC	0,099	0,103	0,103	DID	0,099	0,106	0,106
CM	0,099	0,100	0,100	DSU	0,099	0,099	0,099
CS	0,099	0,089	0,089	DTP1	0,213	0,213	0,099
CT	0,099	0,101	0,101	DTP2	0,213	0,226	0,213
D	0,099	0,112	0,112	DTP3	0,213	0,195	0,195
DAP1	0,176	0,190	0,190	DTP4	0,213	0,217	0,217
DAP2	0,176	0,203	0,203	DW	0,099	0,085	0,085
DAP3	0,176	0,144	0,144	IWB1	0,203	0,178	0,178
DAP4	0,176	0,167	0,167	IWB2	0,203	0,203	0,203
DAP6	0,176	0,174	0,174	IWB3	0,203	0,219	0,219
DCP1	0,150	0,133	0,133	IWB4	0,203	0,212	0,212
DCP2	0,150	0,145	0,145	MW	0,276	0,278	0,278
DCP3	0,150	0,122	0,122	SOC	0,276	0,258	0,258
DCP4	0,150	0,156	0,188	VA	0,276	0,292	0,292
DCP5	0,150	0,188	0,188	DS x WSS	1000,000	1000,000	1000,000
DCP6	0,150	0,151	0,151				

Notes: DS = digital skill; WSS = workspace spirituality; IWB= innovative work behavior; DTP = digital task performance; DCP = digital contextual performance; DAP = digital adaptive performance; CA = Cronbach's alpha; CR = Composite reliability; AVE = average variance explained

Table 7. Stop Criterion Changes (Processed primary data, 2025)

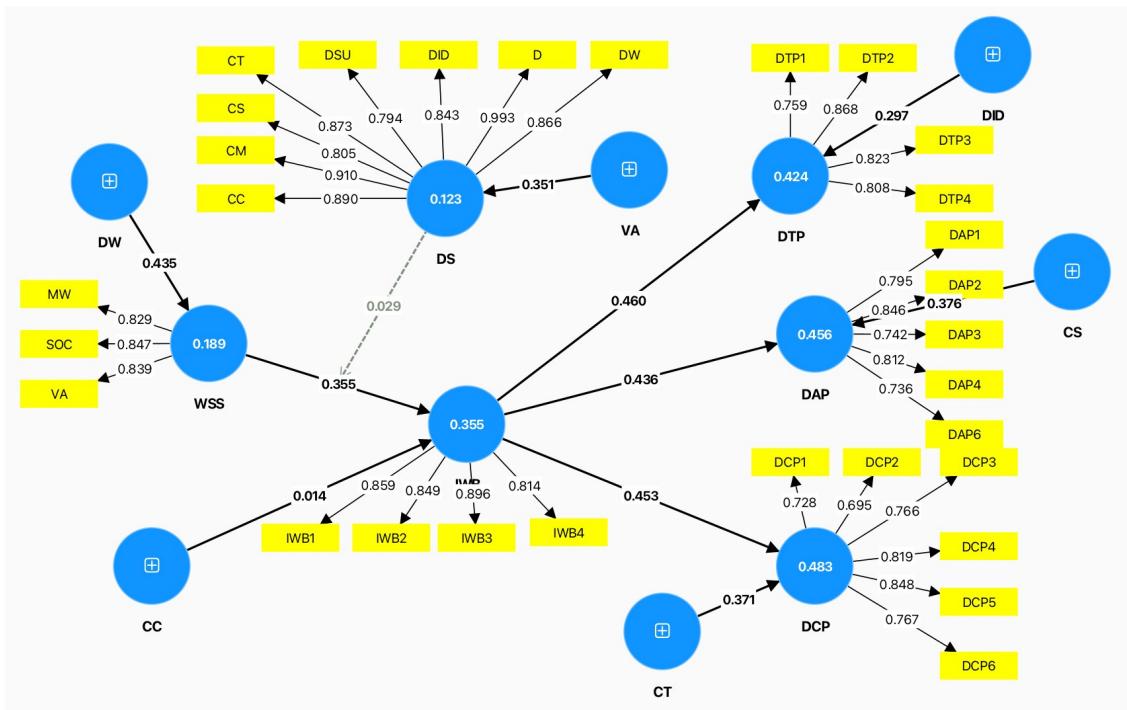


Figure 1. Marker test (Processed primary data, 2025)

	<b>R<sup>2</sup></b>	<b>R<sup>2</sup> after applying the marker</b>	<b>R<sup>2</sup> adjusted</b>	<b>Adjusted R<sup>2</sup> after applying the marker</b>
DAP	0.339	0.387	0.336	0.386
DCP	0.375	0.414	0.372	0.412
DTP	0.354	0.384	0.351	0.382
IWB	0.356	0.357	0.347	0.356

Notes: DS = digital skill; WSS = workspace spirituality; IWB = innovative work behavior; DTP = digital task performance; DCP = digital contextual performance; DAP = digital adaptive performance

Table 8. R<sup>2</sup> before and after applying the marker

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