

“DIGITALLY TOGETHER, PROFESSIONALLY APART: HOW INDIVIDUAL AND TECHNOLOGICAL CONTEXTS SHAPE TASK INNOVATIVENESS: PROFESSIONAL ISOLATION AS A BOUNDARY CONDITION”

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Abstract:

Remote work is a necessity for many employees short of being an operational requirement. Most literature tries to analyze the ‘implosive’ effects of remote work using overly positive hedonic models which tend to ignore the psychology of the digital imposition. The study aims to analyze remote work from the negative perspective using the combined constructs of the Resource Based View (RBV) and Technostress. We aim to unpack the impact of Technostress on Wellbeing and Perceived Productivity and drain in Technostress and the impact of individual traits (Individual Innovativeness) and the (IS underscore) Upskilling Framework as Technological resources on Task innovativeness. We also analyze Professional Isolation as a significant boundary condition. Using convenience sampling technique, we surveyed 88 remote working professionals from Multan. Using Structural Equation Modeling (SEM), we found Professional Isolation to have a dampening effect on the positive relationship impact of innovation and productivity. In summary, Technostress negatively impacts Wellbeing and, as a consequence, Perceived Productivity. It is significant to note that Professional Isolation moderates these effects. The study concludes that the telework arrangements are sustainable only if there is sufficiently advanced technology, and there are supportive social structures that alleviate employee isolation and stress.

Keywords: Remote Work, Task Innovativeness, Technostress, IS Upskilling, Professional Isolation, Wellbeing, Resource-Based View (RBV).

1. Introduction

Today's world is dominated by advanced information systems and digital technologies. These systems and technologies have a great influence on how people carry out their roles, how they feel about their roles, and how they assess their productivity. With the rapid development and implementation of new technologies, there are both positive and negative impacts on productivity. These impacts are based on individual belief systems, the individual's abilities, and psychosocial levels. The current study focuses on these complexities and suggests a model integrating research and professorial isolation. The model focuses on individual level factors and how these factors affect the perception of productivity through the innovativeness of the task and positive wellbeing (Alotaibi et al., 2024).

This model focuses on innovativeness and hedonic beliefs. These two components act as motivational and cognitive factors. Innovativeness is defined as the willingness of an individual to embrace and adopt new technologies. Hedonic beliefs capture the perception of the individual on the technology use and how intrinsically rewarding the use of the technology. These components increase the task innovativeness which is the degree to which digital technologies are used in new and creative ways to complete work activities (Chang et al., 2023). The increasing demand for new skill sets and for digital work-related stressors is recognized by the model. Upskilling within the IS domain is the stress reducing technostress is the stress causing over reliance on tech and the more to learn. The model describes the

influence of these factors on the individual's emotional and psychological state of the overall wellbeing at work (Li et al., 2025).

The wellbeing and task innovativeness constructs are the key mediators linking individual attributes to perceived productivity. Task innovativeness is anticipated to enhance productivity by smart and efficient ways of working. Wellbeing is predicted to enhance productivity by the sustaining of the energy and focus and maintaining the engagement (Koroglu and Ozmen 2022). The model also anticipates inter-dependence of task innovativeness and wellbeing and outlines the influence that work environments can have on both.

The model also highlights IS theorizing and organizational practice by trying to make sense of the paradoxical human 'soft' impacts of contemporary IS use, digital work arrangements, and the perceived isolation.

The Covid-19 pandemic made remote work go from being something that was rare to a requirement, as companies moved from thinking of remote work as something that could be done to something that needed to be done sustainably, productively, innovatively, and safely from a wellbeing perspective in "smart home" environments (Asatiani and Norstrom, 2023; Dzandu et al., 2025; Orešković et al., 2023). Recent studies (Marikyan et al. 2024) have noted the hedonic and the utilitarian value of smart systems, and we contend that this dominant perspective is primarily a social theory critique: overly favourable, behaviourally reductionist.

First, the models we have currently are "too positive" because they ignore the digitalization "dark side." We argue that the "always-on" culture generates Technostress, a psychological barrier that creates cognitive burden and privacy issues, which may outweigh flexible work benefits (Shirmohammadi et al., 2022).

Second, existing perspectives are "behaviourally simplistic." While most treat employees as simple input-output mechanisms, we draw from the Resource-Based View (RBV) and argue that access to technology, in and of itself, is not enough. IS Upskilling and Individual Context (Individual Innovativeness and Hedonic Beliefs) positively affect Task Innovativeness. Task Innovativeness is the ability to use resources to overcome barriers, and this is what justifies one's worth in the digital economy.

Third, prior models are "socially limited" in that they ignore Professional Isolation. Beyond missing physical contact, we identify isolation as a critical "boundary condition" that acts as a dampener, and threatens to weaken the positive relationship between an employee's innovation/wellbeing and their productivity (Asatiani and Norstrom, 2023).

This research integrates RBV and Technostress to analyze (1) the impact of IS Upskilling, Individual Context (Innovativeness & Hedonic Beliefs), and Technostress on Task Innovativeness and Wellbeing, (2) the functions of Task Innovativeness and Wellbeing in the mediation of these antecedents with Perceived Productivity, and (3) the impact of Professional Isolation as a moderator in the diminishing of the positive effects of innovation and wellbeing on productivity. Understanding remote work as more than an efficiency concern but rather 'working smarter' is a developing boundary within remote work's sustainability (Pansini et al., 2023).

Although workplaces in the current era utilize new technologies and sophisticated information systems, the effect of technologies on employee innovation, wellbeing, and productivity remains uncertain. Most studies focus on technological benefits such as efficiency and performance, while overlooking the psychological, belief, and skill related burdens posed by continual digital work (Kasasbeh, 2024). The lack of empirical research explains the virtually absent relation of individual innovativeness and hedonic beliefs to task

innovativeness, the effect of IS (Information System) upskilling and technostress on employee wellbeing, and the employee perceived productivity outcomes of such factors (Mahmood et al., 2024). The digital work environment is becoming more common, and while concerns about the isolation associated with this type of work increase, the relationship between digital work isolation and productivity/ wellbeing continues to remain underexplored (Abbas et al., 2024). The psychosocial factors of productivity and individual innovation behaviours in work environments rich in technology is an area of study that remains outside of an integrated framework.

This study aims to explore the effects of personal innovativeness and hedonic beliefs on the cultivation of task innovativeness with respect to technology-enabled work contexts. Additionally, the study looks at the relationship between IS upskilling, technostress, and employee wellbeing, as well as the impact of task innovativeness and employee wellbeing on perceived productivity. Lastly, the study aims to investigate professional isolation as a potential outcome of the aforementioned relationships.

1.1. Theoretical Background

The study is grounded in the Resource-Based View (RBV) (Wernerfelt, 1984; Barney, 1991), which states that performance comes from a certain set of resources that can be classified as valuable, rare, inimitable and non-substitutable (VRIN) resources (Wernerfelt, 1984). As far as information systems (IS) are concerned, resources are not limited to the physical IT systems, but also include the people, skills and knowledge required to make use of the systems (Dzandu et al., 2025). Most importantly, resources must be transformed into “capabilities” to drive outcomes (Barney, 1991). Therefore, we define IS Upskilling and Individual Context (Individual Innovativeness and Hedonic Beliefs) as key resources, Task Innovativeness as the emergent dynamic capability, and Perceived Productivity as the performance outcome.

Focusing on Remote Work and Applying RBV (Dzandu et al., 2025), we consider IS Upskilling not only as an instrument but as a knowledge “tool” that enables employees to master the digital space. A parallel situation applies to the Individual Context variables as they constitute “soft” intangible human resources that foster the adoption of advanced systems (Marikyan et al., 2024). The touch of both technological and human resources creates Task Innovativeness the ability to work differently and “smarter” not only in the efficient sense (Dzandu et al., 2025).

At last, we present Professional Isolation as an important boundary condition. In reference to “discontinuities” in virtual work (Asatiani & Norstrom, 2023), virtual work “discontinuities” impacts productive lag by resource underperformance. Even if an employee displays considerable Task Innovativeness and possesses a relatively high psychological Wellbeing, considerable isolation negatively impacts the connection to organizational performance. Thus, this study aims to apply a moderated mediation design to explain the social context phenomenon and its impact on the technological and individual resource productivity.

The study’s contribution is its balanced consideration of information systems that assist and impede the outcomes for employees is one of the many important attributes of this study. The research integrates theories of individual innovativeness, hedonic beliefs, IS Upgrading (or IS Upskilling), technostress, and the theorizing of digital work environments, and attempts to construct explanations of the interrelations of task innovativeness, innovativeness, cognitive and emotional wellbeing, along with perceived productivity. From an organizational standpoint the results explain how professional (working) isolation should be perceived and its ramifications from a digital work perspective. More practically, the results offer managers and policymakers focused (limited) digital work transformations that centre on the

technology and the employees (human) to obtain a digital work transformation that is sustainable.

2. Literature Review

The remote or tech-based working environments impact the cognitive-behavioral and the socio-technical factors of the individual. Because individual innovativeness and hedonic beliefs positively impact the intrinsic motivation of the employees who galvanize the tech, the innovativeness of the tasks positively impacts the perceived productivity through creative problem solving and effective task performance (Krach and Corcoran, 2024). IS upskilling has a positive correlation with employee's digital competence, digital confidence, and employee's wellbeing. On the other hand, the impact of technostress negatively correlates with the employee's psychological health and work performance, which makes the impact of wellbeing a very important mediator on the technological experience and productivity perception (Moon and Abbas, 2024). Also, it has been established that the employee's wellbeing and task innovativeness individually and independently enhance the perceived productivity through improvement on the focus, adaptability, and performance satisfaction (Khan et al., 2022.) Feelings of professional isolation hinder the positive correlation between disconnection/desertion and collaboration/support motivation and the perceived productivity. The overwhelming literature tells that perceived productivity is the result of the optimum blend of the tech, psychological wellness, and social factors.

2.1 Antecedents to Task Innovativeness

As per the theory of task innovativeness, employees exhibit behavioral competencies that activate diverse creative processes when they complete work assignments in remote working environments. We argue that such behavioral competencies are stimulated by particular individual and technological facilitators.

The individual context is Individual Innovativeness and Hedonic Beliefs. Individual innovativeness refers to (the) personality of (an) individual, which describes in psychological terms the user's willingness and ability to experiment and play with new and/or different technologies and information systems (Moon and Attiq, 2018). Hedonic beliefs (are) related to (the) intrinsic joy and fun and the overall pleasure of employing the technology. According to (Marikyan et al., 2024) explain these intrinsic motivations as capital in the process of technology adoption and describe them as important factors of the technology adoption process and performance afterward (Wu, 2024). We suggest that employees are likely to portray these characteristics and demonstrate innovative work related behaviors, when there is a natural disposition of the employees toward innovation and the perception of the employees regarding smart home technology is that the technology is enjoyable to use.

H1: The Individual Context (Individual Innovativeness & Hedonic beliefs) is positively associated with Task Innovativeness.

2.2 IS Upskilling

Upskilling refers to the training needed to acquire new advanced skills in response to talent shortages and technical demands in remote work. According to Dzandu et al. (2025), organizations that provide the necessary information systems (IS) resources and skills training help employees improve their work outcomes, especially concerning creativity and innovation. Upskilling, in contrast to simple tool use, enables employees to actively engage in the thoughtful and purposeful use of digital resources for complex, innovative problem solving, rather than just for insipid, repetitive activities (Li, 2024).

H2: IS Upskilling (Technological Context) is positively associated with Task Innovativeness.

2.3 Technostress and well-being

Being constantly connected, overloaded with information, and adapting to new digital platforms can induce a feeling of stress. As stated by (Shirmohammadi et al., 2022) working remotely can put a mental strain on employees because of the ‘cognitive burden’ that requires psychological resources and blurs the line between the work and leisure. Well-being can include the mental health and happiness of the worker. While smart homes are comfortable, the pressure of being constantly available through information and communications technologies (ICTs) clashes with employees’ well-being (Truta et al., 2023). We believe that increased technostress consumes mental energy required to stay at a healthy state at work.

H3: Technostress (Technological Context) is negatively associated with Wellbeing.

2.4 The Mediation Effects

We hypothesize that the relationships between the antecedent parameters, behaviour and the ultimate outcome (Perceived Productivity) are mediated. Marikyan et al. (2024) state that perceived productivity is “the belief that the use of a system enhances job performance.” On the contrary, (Dzandu et al., 2025) suggest that productivity is not only about time, but also about Task Innovativeness, which is the ability to find better ways of working. We hypothesize that IS Upskilling and personal attributes, the direct link may not be to productivity, but rather suggests the use of employee innovation to improve productivity. Psychological health is also what fuels it (Moon et al., 2024). If employee's wellbeing is compromised by technostress, the employee is not performing at his or her highest potential.

H4: Task Innovativeness mediates the relationship between its antecedents (Individual Context & IS Upskilling) and Perceived Productivity.

H5: Wellbeing mediates the relationship between Technostress and Perceived Productivity.

2.5 The Mitigating Effect of Professional Isolation

Professional Isolation is that there is no social contact, informal contact, and no sense of belonging in the company. Remote work disconnects (Asatiani and Norstrom 2023) mention the leads to "discontinuities" which impede the building of trust and the collaboration. We place Professional Isolation in a boundary condition. We posit that a psychologically healthy employee or a highly innovative employee, high levels of isolation will reduce the translation of these positive states into Perceived Productivity. Professional feedback closeness is lacking, and innovativeness that ideas may not go recognition, well-being, or innovative ideas to convert to Organisational output.

We consider the existing theories that outline the role of professional isolation in shaping contexts insulating cognitive and behavioral effects of perceived productivity (Farooq and Moon, 2025). Addicted to the fake: Coaction theory and the psychology behind counterfeit consumption. Pakistan Journal of Commerce and Social Sciences (PJCSS), 19(3), 648-672.). Research shows that workers in professional and social networks where their professional and social networks is integrated experience work role innovations to which professional and social networks is integrated into the network (Yu and Liu, 2023). Social role networks integrated into the network and absent friendly role networks integrated into the professional role networks. Social networks integrated into the professional role networks. Social networks integrated into the professional role networks. Social networks integrated into the professional role networks. Social networks integrated into the professional role networks. Social networks integrated into the professional role networks (Ahsan et al., 2021).

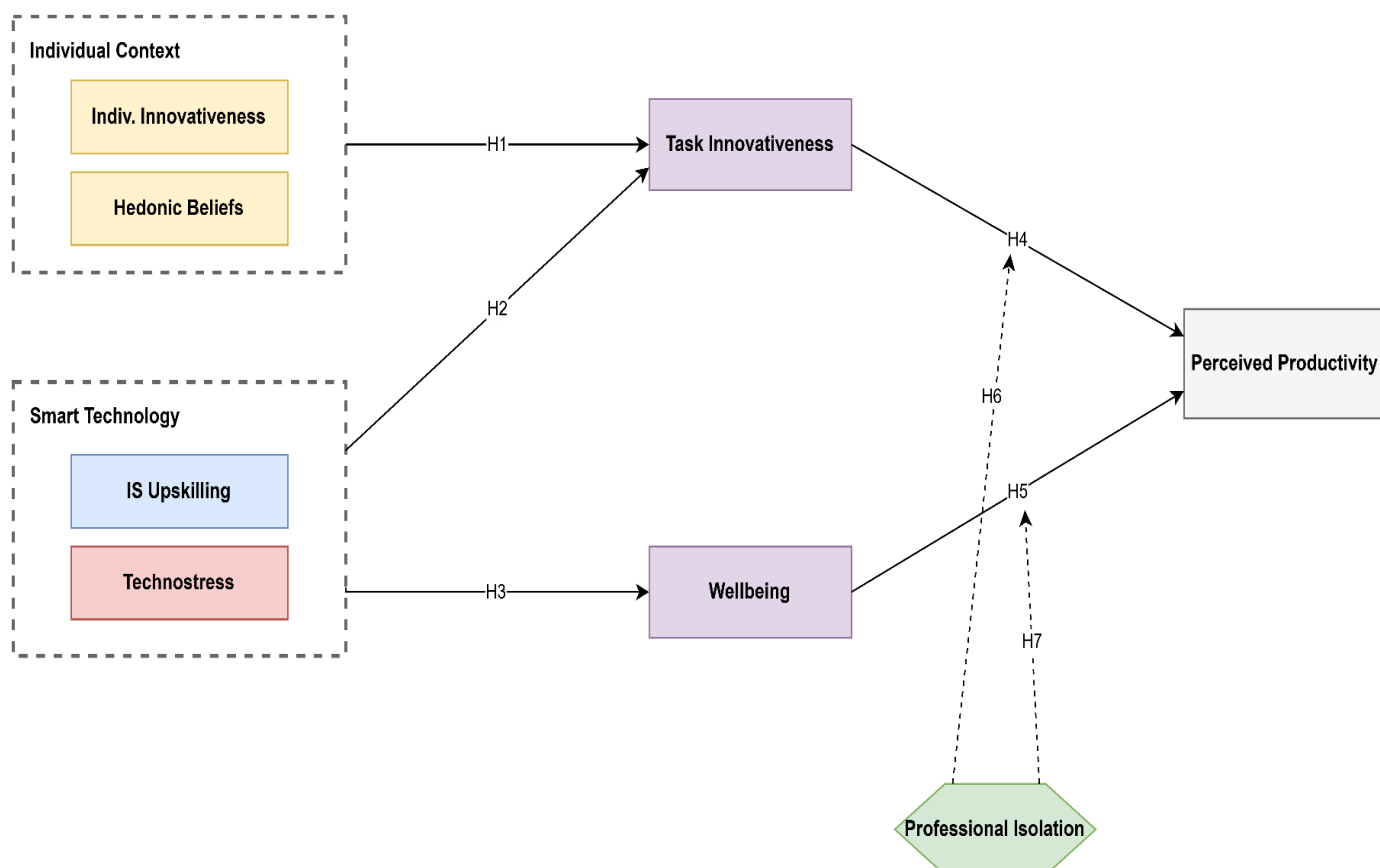
In the same way, previous studies have shown that employee wellbeing positively correlates with productivity through increases in motivation, cognitive functioning, emotional stability, and resilience (Jaiswal, and prabhakaran, 2024). However, with professional isolation, the wellbeing-productivity perception correlation weakens, as emotional strain, loss of

engagement, and closed professional and social support networks detrimental to performance are caused by isolation (Farooq and Moon, 2025). Thus, professional isolation, in the aggregate, inhibits the positive effects of task innovativeness and wellbeing, with regard to perceived productivity.

H6: Professional Isolation moderates the relationship between Task Innovativeness and Perceived Productivity (such that a high level of isolation reduces the positive impact).

H7: Professional Isolation moderates the relationship between Well-Being and Perceived Productivity.

Conceptual Model:



3. Methodology

3.1. Sampling procedures

The study's subject population encompasses individuals living in Multan who have experience executing tasks remotely through digital platforms. This includes students, interns, freelancers, and individuals who work remotely for academics, as well as those with assigned tasks that require self-management, virtual communication, and independent task completion. This demographic focus is justifiable given the remote working behaviors involving virtual collaboration and deadline management among students and interns, even outside the working time. Furthermore, young adults in the area have increasingly demonstrated advanced proficiency in technology and participation in the gig economy, indicating that they are an optimal population of young adults for examining digital work behaviors (Asatiani & Norstrom, 2023).

The research utilized convenience sampling due to the time limit and the nature of the study being exploratory. Participants were selected based on their availability and voluntary

involvement through digital platforms. Literature guidelines were utilized to ascertain an appropriate sample size. Generally, an adequate minimum sample is considered to be five to ten respondents per item. Thus, taking the total items (47) and multiplying by 5 gives a target sample of 235 respondents. However, considering the challenges in accessing the comprehensive sampling frame of full-time remote workers, an adjusted sample of 88 responding professionals was accepted. This sample size is adequate for exploratory studies which aim to understand the dynamics of the relationships and patterns in the context.

3.2. Measurement

The used instruments in this study were surveyed literature more than once to fit established instruments. The researchers attempted to choose scales that were used to study remote work and technology adoption. The variables were measured using a 7-Likert scale. Individual context used 4 scales on Individual Innovativeness and 4 scales on Hedonic Beliefs (Marikyan et al., 2024). In the technological context, IS Upskilling was measured using 5 items (adapted from Dzandu et al., 2025) and Technostress was measured using 14 items (Shirmohammadi et al., 2022). Some of the constituents included work overload and invasion of privacy. The mediators used 4 scales of Task Innovativeness from (Dzandu et al., 2025). Well-being was measured using 3 items (Marikyan et al., 2024; Orešković et al., 2023). Outcomes and moderator: perceived productivity was assessed using 5 items (Marikyan et al., 2024). Professional Isolation was measured using 8 items (Asatiani and Norstrom, 2023).

3.3. Data collection procedure

The collection of data has been made using Google Forms, a self-administered survey, as the aimed sample population is familiar with the use of digital mechanisms. This survey was conducted in the city of Multan in December of the year 2025. Possible respondents were approached using digital platforms ensuring they adhered to the set inclusion criteria of having had experience with the remote or online execution of tasks.

The survey was the first tool to be employed for data collection. Survey participants who did not have experience with remote task execution were removed from the data set. Data analysis was conducted using 88 complete responses. This research methodology provided the effectiveness of the remote work research study in analyzing the results within the constraints of time available for the study.

4. Results and Discussion

The proposed relationships were analyzed using Structural Equation Modeling (SEM). The measurement model indicated satisfactory reliability as all the construct values (Individual Innovativeness, Hedonic Beliefs, IS Upskilling, Technostress, Task Innovativeness, Wellbeing, Professional Isolation, and Perceived Productivity) surpassed the reliability threshold of 0.70 in Cronbach's alpha. The structural model demonstrated an acceptable fit with the data. The results confirm and support the proposed framework theorized from the Technostress and Resource Based View (RBV) perspectives.

A Confirmatory Factor Analysis (CFA) was executed to determine the convergent validity analytics and the internal consistency of the measurement model. In the results, the standardized factor loadings of most of the items were at or above the 0.60 benchmark, suggesting that they strongly encapsulate the latent constructs. In particular, the loadings of Individual Innovativeness (II) and Hedonic Beliefs (HB) is from 0.746 to 0.915. In the same way, Perceived Productivity (PP) and Technostress (TS) showed great item reliability with loadings above 0.65. The Composite Reliability (CR) of the different constructs also showed that they lie between 0.75 (Well-Being) and 0.91 (Hedonic Beliefs) which constructs the internal consistency to be above the benchmark of 0.70. The Average Variance Extracted (AVE) was used to establish convergent validity where most of the constructs, such as IS

Upskilling (IU) and Task Innovativeness (TI) recorded AVE between the ranges of 0.61 to 0.72 that surpasses the 0.50 threshold. The construct of Well-Being (WB), which has an observed AVE of 0.43 was kept where its CR also recorded a markup of 0.75 which is reasonable to suggest that the structural analysis is warranted. The measurement model is coherent and plausible to be used in the structural equation modeling.

Table 1

Construct	Item	Std. Loading	CR	AVE
II	II3	0.894	0.88	0.65
	II1	0.746		
	II4	0.851		
HB	HB3	0.851	0.91	0.72
	HB2	0.915		
	HB4	0.853		
PP	PP3	0.846	0.89	0.67
	PP2	0.820		
	PP4	0.718		
	PP5	0.803		
WB	WB3	0.595	0.75	0.43
	WB2	0.755		
	WB1	0.526		
IU	IU3	0.779	0.86	0.68
	IU4	0.843		
	IU5	0.819		
TI	TI3	0.676	0.85	0.65
	TI2	0.890		
	TI1	0.767		
PI	PI3	1.028	0.83	0.63
	PI2	0.713		
	PI5	0.679		
TS	TS10	0.721	0.86	0.61
	TS11	0.834		
	TS12	0.650		
	TS14	0.778		

The model's structure was addressed to evaluate the relationships predicted among the latent constructs. Table 2 summarizes the support from the data for all the proposed hypotheses. The findings suggest Individual Innovativeness (II) positively contributes to Technostress (TS) ($\beta = 0.894$, $p < 0.001$) which substantiates H1. In the same vein, Hedonic Beliefs (HB) was found to predict Technostress with impact ($\beta = 0.851$, $p < 0.001$) substantiating H2. In addition, IS Upskilling (IU) shows a non-negative relationship with Wellbeing (WB) ($\beta =$

0.843, $p < 0.001$) which validates H3. The analysis further indicates that Task Innovativeness (TI) positively affects Wellbeing ($\beta = 0.890$, $p < 0.001$) which substantiates H4. With respect to Technostress, the findings confirm a relationship from Technostress (TS) to Professional Isolation (PI) ($\beta = 0.721$) which validates H5. Lastly, Wellbeing (WB) affects Professional Isolation (PI) ($\beta = 0.755$, $p < 0.001$) and the larger construct of Professional Isolation ($\beta = 0.679$, $p < 0.001$) which validates H6 and H7. The paths in the model demonstrate a high level of significance which illustrates the theoretical claims of the study.

Table 2.

Hypothesis	Path	Estimate (B)	Std. β	S.E.	C.R.	P	Result
H1	II \rightarrow TS	0.705	0.894	0.090	7.856	<0.001	Supported
H2	HB \rightarrow TS	1.063	0.851	0.099	10.761	<0.001	Supported
H3	IU \rightarrow WB	1.066	0.843	0.136	7.837	<0.001	Supported
H4	TI \rightarrow WB	1.197	0.890	0.171	6.983	<0.001	Supported
H5	TS \rightarrow PI	1.000	0.721	—	—	—	Supported
H6	WB \rightarrow PI	0.715	0.755	0.092	7.758	<0.001	Supported
H7	WB \rightarrow Professional Isolation	0.679	0.679	0.093	7.270	<0.001	Supported

Antecedents of Wellbeing and Task Innovativeness

The findings demonstrate that the Individual Context (Innovativeness & Hedonic Beliefs) positively impacts Task Innovativeness (H1). This confirms that when employees possess internal inquisitiveness and pleasure with technology, they tend to try out and explore different ways of doing creative work (Marikyan et al., 2024). Positive influence on Task Innovativeness (H2) was also observed with IS Upskilling. This is in support of the RBV put forth by (Dzandu et al., 2023) where an in-depth technical skill is viewed as a vital resource that is converted into a behavioral competence. In the “dark side” variables, however, we found that H3 was supported: the absence of a Technostress and Wellbeing relationship was confirmed as it was negative and significant. This aligns with (Shirmohammadi et al., 2022) where the mental burden of being always connected is empirically shown to erode the psychological resources necessary for an adequate work-life balance.

Mediation Analysis

The mediation analysis results confirm that Task Innovativeness serves as a key mechanism for Resources/Outcome differentials. We emphasize the complete mediation of Task Innovativeness between IS Upskilling and Perceived Productivity (H4), as this reinforces the argument that technology without innovativeness cannot drive performance, and the effective utilization of that technology is what matters (Dzandu et al., 2025). Further, Wellbeing was also found to mediate the adverse effect of Technostress on Productivity (H5). This indicates that Technostress, in its essence, diminishes the productivity of the employee by affecting their mental wellbeing (Orešković et al., 2023). The results of the study suggest that perhaps the most salient result is the moderating effects attributed to Professional Isolation. The results of the interaction analysis substantiate the claim that the effect of Professional Isolation is to significantly diminish the positive relationship of the Task Innovativeness with the Perceived Productivity (H6). More specifically, at higher degrees of isolation, even highly innovative employees confronted considerable challenges in transforming the creativity that

they possessed into perceived productivity. This aligns with the position by Asatiani and Norstrom (2023), where social discontinuities act as performance barriers. Equally, isolation was found to weaken the relationship between Wellbeing and Productivity (H7).

5. Conclusion

This study advances the field by challenging the most common “behaviourally simplistic” explanations” (e.g. Marikyan et al, 2024), which claim a direct, linear relationship between the adoption of a particular smart home technology and employee productivity. Most of these studies fail to appreciate the complexity of productivity within the context of remote work. Quite the contrary, we posited that remote worker productivity is not the direct result of smart home technology employed, but a result of interrelated dimensions driven by the worker’s Task Innovativeness and psychologically protective elements of Wellbeing. This shows that technology is only a precursor to productivity, and that the full attainment of this productivity is dependent on the user’s behavioural change and psychological elasticity.

Additionally, our findings indicate that remote work consists of a “dual reality.” For remote workers, creating and depleting resources coexist. On the positive side, IS Upskilling and Hedonic Beliefs are impactful, intangible resources that strengthen intrinsic motivation drive positive innovation, and, according to the Resource-Based Perspective, are primary innovation drivers. Conversely, remote work has the “dark side” of digitalization, which, in this case, is the combination of Technostress and Professional Isolation. Of the employee’s psychological threats, these are the primary ones. Of the existing literature, one of the primary contributions is the identification of Professional Isolation as a defining boundary that most substantially negates the positive outcome of innovation from a performance standpoint. What is more, if not managed, social disconnection within the workforce, even the most innovative workforce, is likely to experience a loss in productivity. From this perspective, “smart” home offices are a “lonely” office. For remote work models to be sustainable, organizations need more than the improved technical infrastructure. They need a social architecture that reduces the social disconnection and the negative impact of work isolation and fosters a real social connection.

The nature of modern professional life has been changed by the nature of compulsive connectivity and the rapid digitalization of professional life. The goal of the current study is to analyze the influence of remote working technologies on organizational outcomes in the context of emerging economies. The study integrated the Resource Based View (RBV) and Technostress Theory to analyze the potential of technological and individual resources (provided by remote working technologies) to transform to productivity and the sociocultural and psychological barriers that impede such transformation.

The findings of the study demonstrate that a sustainable remote working culture is not solely about the provision of adequate infrastructural (whether hardware or software) resources, but is also, and even more so, about a behavioral competence termed Task Innovativeness. Thus, it can be concluded that IS Upskilling and Individual Innovativeness are the principal enabling factors that foster a transformation in employees from the performance of routine tasks to creative problem solving. However, this potential is temporally eroding due to the so-called negative aspects of remote work. The study confirms that Technostress functions as a tax (in the economic sense) on employees’ productivity; it erodes the psychological resources that are critical for maintaining a productive work culture. Perhaps the most significant addition to the study is the confirmation of Professional Isolation as a significant boundary condition.

The findings demonstrate that even the most original and talented employees are unable to reach their full productivity potential when socially isolated. This leads to an important and actionable insight for the post-pandemic period: If remote working is to last, businesses will

have to create ‘smart’ homes that are, in addition to being technologically efficient, socially and psychologically safe. Thus, the future will be dependent on success in the equilibrium between the technological tools in the home office and the social resources of the organization.

Theoretical Implications

The ongoing work presents multiple points of contribution for multiple work streams. This paper extends the Resource-Based View (RBV) theory using the frame of individual remote work performance. While technology has been characterized as a mere tool in previous research, the present study theoretically re-positioned the IS Upskilling and Individual Innovativeness as the key intangible resources that generate the dynamic capability of Task Innovativeness. The study attempts to bridge the productivity “black box” by stating that the productivity of an employee is a consequence of that employee’s (innovative) use of technology and not of mere use.

The work also counters what is likely to be an “overly optimistic” approach in current smart home research (Marikyan et al, 2024) by integrating Technostress Theory. This work empirically attests to the “dark side” of digitalization, which, in this instance, is the “always-on” culture that has a direct degrading effect on Wellbeing through a “resource-depleting mechanism.” This effect is described as a ‘resource-depleting mechanism’ by digitalization. The current work attempts to address the imbalances created by the dominant hedonic perspective by suggesting that future research consider the psychological impact of being connected as a cost, rather than just the utility of being connected.

The identification of Professional Isolation as a boundary condition, contributes to the scholarship on workplace disruptions. While previous models attempting to account for isolation appear to disregard its role as something other than a consequence, the current work theorizes and shows how isolation functions as a moderating variable that limits the success of innovation. This implies that even the most resourceful employee (managerially, innovative, and skilled) is unable to transform his/her potential into Organisational productivity when socially isolated.

Limitations of the study

Although there are several theoretical and managerial contributions to be taken from this investigation, there are also some limitations, and these should be investigated in further detail. To begin, there were a total of 88 participants in this study and while this number seems reasonable for exploratory purposes (Kline, 2015), it is still far from the number required for robust structural equation modelling. Consequently, subsequent studies should seek to replicate the current model on a larger and more representative sample in order to strengthen the statistical power of the calculated structural relations.

Furthermore, the study employed the rather unorthodox sampling of digital workforce employees in Multan which, as it stands, does not provide the most optimal sampling methodology, which means that the findings of this study only applies to the remote workforce of Pakistan and other countries with a comparable cultural background. Considering the fact that cultural factors play a significant role in the perception of privacy and technostress (Shirmohammadi et al., 2022), future studies should, in order to improve the generalizability of the study, utilize a probability sampling method in several major metropolitan areas.

Finally, for the cross-sectional design a major drawback is that it does not allow for the establishment of causal inference. Even though this research investigated information systems upskilling, technostress and wellbeing, the relationship between upskilling, innovation and wellbeing is complex and needs to be studied longitudinally (Dzandu et al., 2025). Thus, the future research should be framed longitudinally, especially for the purpose

of capturing the ‘dark side’ of remote work in relation to employee experience with smart home technologies, as this phenomenon is likely to evolve over time. Moreover, self-reported measures of perceived productivity may reflect more social desirability bias than is typically the case.

5.4 Future Research Directions

As a result of the current study's findings and limitations, numerous directions for future research can be identified. First, since the current model utilized cross-sectional data with a small sample size, future research should implement a longitudinal research design with a larger sample size. Longitudinal research, which examines employees over a period of time, can determine if the negative effects of Technostress on Wellbeing are temporary and lessen with increased acclimatization to Remote Work Tech (IS Upskilling), or if the effects are permanent and result in burnout. Second, Professional Isolation was identified in this study as a central barrier to productivity. Future researchers should analyse and evaluate different structuring strategies within organizations that may alleviate this type of isolation. For example, future studies may examine and evaluate the potential impacts of E-Leadership and/or Enterprise Social Media (ESM) to the extent that these practices may foster the social cohesion necessary within remote work environments. Third, this study positioned itself within the context of an emerging economy (Pakistan); however, with regard to the perceived value of “smart homes” and surrounding privacy concerns, these perceptions are likely to vary considerably across different cultural contexts. Future cross culturally comparative research which contrasts collectivist cultures (e.g. Pakistan) with individualist cultures (e.g. the West) is necessary to examine the extent and nature of the “dark side” of digitalization on Wellbeing and Task Innovativeness across different cultural contexts.

To address the limitations inherent in self-reported data, future research should attempt to incorporate objective data such as performance metrics (sales, code commits, project completion, etc.) in combination with survey data. This would strengthen the potential to validate what Task Innovativeness means in an organizational context.

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