



## Work Demands, Resources, and Employee Performance in Remote IT Work: Mediating Role of Work Stress

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### Abstract

**Purpose:** This study aims to investigate how key individual work-related determinants—namely workload, work–life balance, job satisfaction, and social support—affect the productivity of young IT professionals engaged in remote work, with particular attention to the mediating role of work-related stress.

**Design/methodology/approach:** A quantitative research design with a cross-sectional survey method was adopted. Data were collected from 371 respondents using purposive sampling techniques. Both direct and mediating effects among the constructs were examined using structural equation modeling through SmartPLS 4.0.

**Findings:** The empirical results reveal that workload, work–life balance, and job satisfaction significantly influence employee productivity. Additionally, work stress partially mediates the relationships between these work-related factors and performance outcomes.

**Implications:** To effectively engage younger professionals, organizations should adopt adaptive work arrangements such as hybrid models, promote employee well-being through structured stress reduction programs, and establish clear frameworks to address burnout, distractions, social isolation, and collaborative challenges inherent in remote work environments.

**Originality/value:** By synthesizing insights from human resource management and organizational psychology, this study develops an integrated conceptual framework and contributes to the growing body of literature on remote work, particularly focusing on young employees in the IT industry.

**Keywords:** Employee productivity; Information technology industry; Remote working; Young workforce

**JEL Classification:** J28, J86, M54

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## Introduction

Over the last few decades, the meaning of employee productivity has expanded considerably, influenced by demographic transitions in the workforce, rapid technological innovation, and evolving organizational cultures (Cascio & Montealegre, 2016). Earlier conceptualizations largely equated productivity with observable output and physical attendance, particularly within industrial and labor-intensive environments (Al Horr et al., 2016). However, the rise of knowledge-driven economies has redefined productivity as a multidimensional construct encompassing work quality, efficiency, creativity, and employee well-being (Bhattarai et al., 2023; Kowalski & Loretto, 2017). In contemporary organizations, productivity is no longer measured solely by quantity of output but also by value creation and sustainable performance.

This transformation has been closely linked to digitalization and globalization, which have reshaped organizational structures and enabled geographically dispersed work arrangements (Wallace, 2004). Although remote work has existed since the 1970s, its adoption accelerated significantly in recent decades due to advances in communication technologies (Khasawneh, 2021). The COVID-19 pandemic further intensified this shift, dramatically increasing remote work participation worldwide. For example, remote work capability in the United States rose from 43% to 71%, while in Europe it increased from 12% to nearly 50% during the pandemic period (Hayes et al., 2021; Battisti et al., 2022). Scholars argue that this shift represents not merely a temporary adjustment but a structural change in workplace dynamics likely to persist in the long term (Amankwah-Amoah et al., 2021).

Younger workforce cohorts, particularly Millennials and Generation Z, have been central to the normalization of remote work. Often described as technologically fluent, adaptable, and autonomy-oriented, these groups display a strong preference for flexible working arrangements (Choudhary et al., 2024). Evidence from developed economies such as the United States, the United Kingdom, and Germany indicates that nearly all young professionals express a desire to continue remote work (Herold, 2019). Similar trends are observed in developing contexts, including India, Brazil, and South Africa, where a substantial proportion of younger employees prefer remote or hybrid arrangements over traditional office-based systems (Rani & Furrer, 2021). Generational research further suggests that younger employees prioritize flexibility, mental well-being, work–life balance, and meaningful job satisfaction, aligning closely with remote work models (Bajrami, 2024; Brown, 2023; Fleeton, 2024). However, effective implementation requires robust digital infrastructure, data security measures, and policies that address legal, logistical, and occupational health concerns in home-based work environments (Faruque et al., 2024).

In Nepal, the strategic emphasis on digital transformation is evident in the government's declaration of 2024–2034 as the “Decade of Information Technology,” reflecting rapid expansion in the IT sector and growing employment opportunities for young professionals (Kharel et al., 2024). Demographic data indicate that a large proportion of Nepalese IT professionals fall within the 20–29 age group, highlighting the generational concentration within the sector (Poudyal, 2012). Despite its increasing acceptance, remote work remains a debated practice. Some studies report productivity gains due to reduced commuting time and uninterrupted work periods, while others highlight diminished

collaboration, weakened supervision, and blurred work–life boundaries that may reduce performance (Hoogeveen, 2024; Kizenga, 2022).

Academic interest in remote work has intensified, particularly following the pandemic (Al-Habaibeh et al., 2021). Existing research largely examines broad organizational outcomes, such as overall performance, employee satisfaction, and work–life balance, without isolating specific individual-level determinants (Šmite et al., 2023; Eddleston & Mulki, 2017). Nevertheless, empirical evidence consistently identifies workload, work–life balance, job satisfaction, and social support as critical predictors of productivity among younger employees (Ljungkvist & Moore, 2023; Mohezar et al., 2021; Stokes, 2019). Yet, limited studies have investigated how these factors interact within remote IT contexts, particularly in developing economies. Addressing this gap, the present study examines the influence of these four work-related variables on the productivity of young IT professionals in Nepal.

An additional concern in remote environments is the rising prevalence of work stress and burnout. Reports indicate that a substantial proportion of remote employees experience symptoms of burnout, emphasizing the urgency for organizations to implement targeted well-being interventions (Singh, 2024). Recent studies also highlight increasing stress levels among young IT professionals (Anderson, 2023; Sormunen, 2024). While stress is widely acknowledged as detrimental to performance, insufficient attention has been given to understanding its mediating role in linking work conditions to productivity outcomes. Therefore, this study incorporates work stress as a mediating mechanism to explain how workload, work–life balance, job satisfaction, and social support collectively shape employee performance.

By integrating perspectives from human resource management and organizational psychology, this research proposes a comprehensive framework to better understand productivity in remote IT settings. The findings aim to assist organizations and policymakers in designing evidence-based remote work strategies that enhance performance while safeguarding employee well-being.

The remainder of this paper is structured as follows: the next section outlines the conceptual framework and research hypotheses, followed by the methodology and empirical findings. The study concludes with theoretical contributions, practical implications, limitations, and directions for future research.

## **Literature Review**

### ***Evolution, Sectoral Adoption, and Policy Landscape of Remote Work***

Remote work, also referred to as telework, work-from-home (WFH), or distance working, enables employees to perform job responsibilities outside traditional office premises through the use of information and communication technologies (Olson, 1983). Although often perceived as a contemporary phenomenon, its conceptual roots can be traced to early communication innovations such as the telegraph and typewriter during the Industrial Revolution (Thornburg, 2002). The modern discourse on telecommuting gained momentum in the late twentieth century with advancements in personal computing and the introduction of Jack Nilles’s telecommuting framework, which formally articulated the feasibility of location-independent work (Stiles, 2019).

The extent to which remote work can be implemented varies significantly across industries. Empirical evidence suggests limited feasibility in agriculture, manufacturing,

and retail, whereas sectors such as finance and education demonstrate moderate adaptability. The information technology (IT) sector exhibits the highest compatibility, with a substantial proportion of tasks capable of being performed remotely due to its reliance on digital infrastructure and virtual collaboration tools (Althoff et al., 2022). Consequently, the IT industry has integrated remote work more seamlessly compared to other sectors. Scholarly investigations highlight both advantages and limitations of remote work arrangements. Research indicates that remote work can positively influence productivity, job satisfaction, engagement, retention, and overall organizational outcomes (Prasad & Mangipudi, 2021). A landmark experimental study by Bloom et al. (2015) at Ctrip reported notable improvements in employee performance, reduced absenteeism, and lower turnover rates among remote workers. Similarly, small enterprises in the United States have reported gains in work–life balance and reductions in commuting-related stress (Kahn, 2022). However, the evidence remains mixed. Some studies report negligible productivity improvements (Felstead & Reuschke, 2021), while others caution that social isolation, inadequate collaboration, and home-related distractions may offset performance gains (Galanti et al., 2021).

Corporate responses to remote work also reflect this ambivalence. While many organizations have embraced hybrid models, others, particularly within large multinational corporations—have scaled back remote options due to concerns about coordination, project delays, and rising operational costs (Viardot et al., 2023). Employers frequently express apprehension regarding supervision, teamwork, and alignment with strategic objectives, even though employees often report enhanced flexibility and efficiency (Herskowitz, 2022; Kahn, 2022). Performance indicators such as task completion rates and response times suggest that autonomy and reduced commuting can enhance efficiency under supportive conditions (Allen et al., 2015).

In developing economies such as Nepal, remote work adoption is closely linked to broader digital transformation efforts. Over the past two decades, Nepal has prioritized the IT sector as a strategic pillar for economic development. Initiatives such as the Digital Nepal Framework aim to foster digital integration across finance, education, and healthcare (Sarker et al., 2021). Growth in internet penetration, policy incentives, and fiscal support mechanisms have strengthened the sector, despite earlier infrastructural challenges (Das et al., 2018). The COVID-19 pandemic further accelerated digital adaptation, prompting many IT firms to adopt hybrid or fully remote models and increasing demand for flexible work arrangements among Millennials and Generation Z (Schwartz, 2021).

Generational dynamics further shape remote work outcomes. Younger employees often value autonomy, flexibility, and work–life integration, and many report higher perceived productivity in remote settings compared to older cohorts (Even & Christiansen, 2023). Nevertheless, the absence of structured supervision and prolonged isolation may create challenges such as reduced discipline, diminished collaboration, and heightened stress levels (Lehto, 2023; Memon et al., 2022). These contrasting findings underscore the importance of organizational support systems, digital infrastructure quality, and home working conditions in sustaining long-term productivity.

At the policy level, international organizations have established frameworks to regulate remote work practices. The International Labour Organization (ILO) emphasizes principles such as work–life balance, the right to disconnect, and flexible arrangements

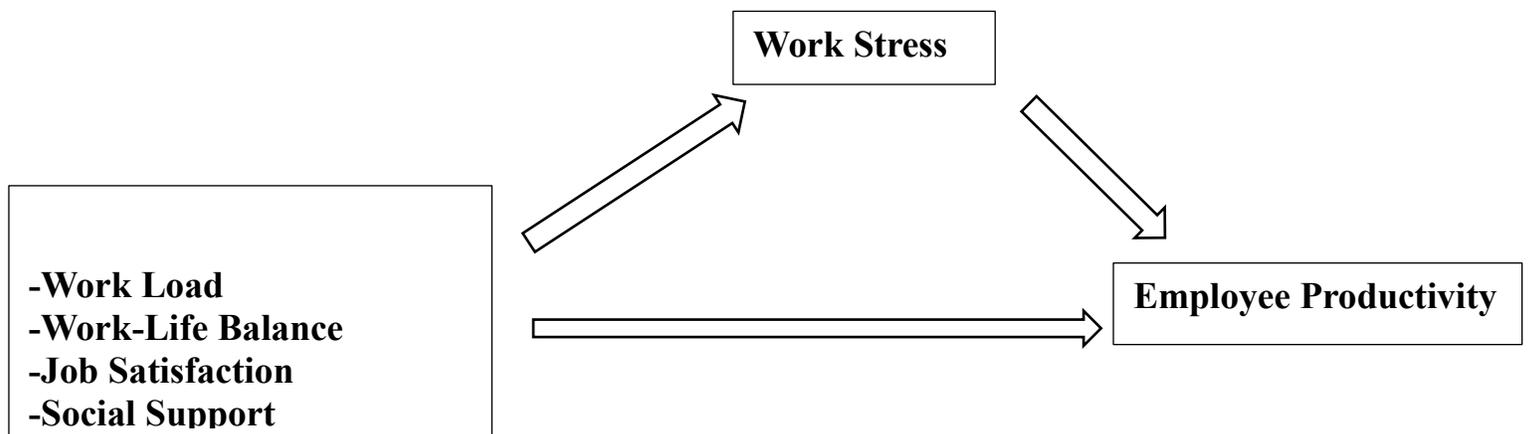
to safeguard employee well-being (Vyas, 2022). Similarly, the European Union (EU) has developed telework guidelines to ensure equal treatment, occupational safety, and health protections for remote employees (Ratti & García-Muñoz, 2024). Leading technology firms such as Google and Microsoft have institutionalized hybrid strategies, promoting trust-based cultures supported by digital collaboration platforms (Teevan et al., 2020). In contrast, Nepal currently lacks a comprehensive national remote work policy. Nonetheless, the Information Technology Policy 2020 promotes the development of a knowledge-based economy, indirectly supporting flexible work practices within the IT sector (Bhattarai, 2021). This evolving policy landscape, combined with rapid generational and technological shifts, underscores the need for context-specific research examining remote work effectiveness in emerging digital economies.

### Research Model

Grounded in the preceding literature and supported by established theoretical perspectives—namely Expectation Confirmation Theory, Work–Family Border Theory, Social Exchange Theory, and the Job Demands–Resources (JD-R) model—the conceptual framework of this study is formulated (Demerouti & Bakker, 2023; Tsen et al., 2023). The framework integrates individual, psychological, and organizational dimensions to comprehensively explain the well-being and productivity of young IT professionals operating in remote work environments.

Figure 1

Conceptual Framework of the Study



**Work Load and Employee Productivity:** Workload refers to the volume and complexity of tasks assigned to employees within a given timeframe (Irawanto et al., 2021). Excessive workload is consistently associated with stress, fatigue, and burnout, which ultimately reduce performance levels (McMenamin, 2007; Gibbs et al., 2021). Conversely, a balanced workload enhances focus, engagement, and overall productivity. In remote settings, workload dynamics become more nuanced. While autonomy and flexibility may enable employees to manage tasks more efficiently and sustain performance (Wang et al., 2021), constant connectivity and expectations of availability can intensify perceived

workload and negatively affect well-being (Bartram et al., 2023; Nowrouzi-Kia et al., 2024). Consistent with Social Exchange Theory, when organizations ensure reasonable task demands, employees reciprocate with greater commitment and improved productivity (Aqilah et al., 2023).

*H1: Workload significantly influences employee productivity during remote working.*

**Work-life Balance and Employee Productivity:** Work–life balance (WLB) reflects an individual’s ability to effectively fulfill both professional and personal roles with minimal conflict (Clark, 2000). Work–Family Border Theory posits that work and family domains are interrelated, and imbalance in one sphere affects the other. Empirical studies demonstrate that employees who achieve a healthy balance report higher motivation, lower stress, and stronger job satisfaction, which collectively enhance productivity (Chung & Van der Lippe, 2020; Contreras et al., 2020). Remote work can facilitate better time management and reduce commuting burdens, thereby strengthening work–life integration (Allassaf et al., 2023). However, productivity gains depend on employees’ ability to establish clear boundaries between work and personal life.

*H2: Work-life balance significantly influences employee productivity during remote working.*

**Job Satisfaction and Employee Productivity:** Job satisfaction represents employees’ overall sense of fulfillment and positive evaluation of their work experience (Lund et al., 2020). Extensive research indicates that satisfied employees demonstrate stronger engagement, lower absenteeism, and higher productivity (Belzunegui & Erro-Garcés, 2020; Bhattarai et al., 2023; Zopiatis et al., 2015). Remote work arrangements often enhance satisfaction by promoting autonomy, flexibility, and perceived trust (McConnell & Metz, 2024). Expectation Disconfirmation Theory further explains that satisfaction arises when work experiences meet or exceed employee expectations (Lankton et al., 2014). Thus, when remote work aligns with employees’ anticipated benefits, productivity is likely to improve.

*H3: Job Satisfaction significantly influences employee productivity during remote working.*

**Social Support and Employee Productivity:** Workplace social support refers to emotional and instrumental assistance received from supervisors, colleagues, and the organization (Irawanto et al., 2021). Strong support systems are positively linked to engagement and performance (Eurofound, 2020). In remote environments, however, reduced face-to-face interaction may weaken social connectedness, leading to isolation and diminished productivity (Slavković et al., 2021). Organizational initiatives such as virtual meetings, collaborative platforms, and regular check-ins can strengthen support mechanisms and sustain performance. In line with Social Exchange Theory, employees who perceive organizational support tend to reciprocate with higher commitment and improved productivity (Joseph, 2024).

*H4: Social Support significantly influences employee productivity during remote working*

**Mediating Role of Work Stress:** Work stress refers to psychological strain arising from job-related demands and pressures (Irawanto et al., 2021). According to the Job Demands–Resources (JD-R) model, stress functions as a mechanism through which job

demands and resources influence performance outcomes (Demerouti & Bakker, 2023). High demands such as excessive workload or work–family conflict elevate stress levels, which in turn reduce productivity (Chao et al., 2015; Kowalski et al., 2022). In remote IT settings, stress may be intensified by blurred boundaries, extended work hours, and reduced social interaction, leading to burnout and lower engagement *H5a: Work stress mediates the relationship between workload and employees' performance during remote working.*

*H5b: Work stress mediates the relationship between job satisfaction and employees' performance during remote working.*

*H5c: Work stress mediates the relationship between work-life balance and employees' performance during remote working.*

*H5d: Work stress mediates the relationship between social support and employees' performance during remote working.*

## **Research Methods**

This study adopted a quantitative, cross-sectional research design to examine the proposed hypotheses using primary data. Data were collected through an online survey administered via Kobo Toolbox, employing a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Given the absence of a clear sampling frame for young IT professionals, purposive sampling was applied. Participants were selected based on specific criteria: they were required to be aged between 23 and 35 years, hold at least a bachelor's degree, work full-time in technical IT roles (such as software development, coding, or programming), and possess a minimum of six months of experience in remote or hybrid work settings. Ethical standards were maintained by ensuring confidentiality and voluntary participation.

Following Kline's (2005) recommendation that structural equation modeling requires a sample size exceeding 200, 450 questionnaires were distributed. A total of 391 responses were received, and after excluding 20 ineligible cases, 371 valid responses were retained, yielding a response rate above 60%, which is considered satisfactory for survey research (Babbie, 2020).

All measurement items were adapted from established studies and validated instruments. The constructs included workload (4 items), work–life balance (4 items), job satisfaction (4 items), social support (4 items), work stress (5 items), and employee productivity (5 items), with sources primarily drawn from Kurdy et al. (2023), Grant et al. (2019), Kowalski et al. (2022), and Irawanto et al. (2021). A pilot test involving 30 respondents was conducted to assess reliability and clarity, confirming the adequacy of the instrument without requiring modifications. Additionally, demographic variables such as gender, age, education, position, and years of experience were collected to contextualize the findings.

## Results

### *Preliminary Screening Test*

Before the main analysis, preliminary tests were conducted to ensure data suitability and minimize potential bias. The Kaiser–Meyer–Olkin (KMO) measure and Bartlett’s Test of Sphericity confirmed the appropriateness of factor analysis, with a strong KMO value of 0.918 and a statistically significant Bartlett’s test ( $p < 0.001$ ), indicating adequate sampling and sufficient correlations among items. To assess common method bias arising from the use of self-reported data, Harman’s single-factor test was performed. The first factor accounted for 38.5% of the total variance, remaining below the critical threshold and suggesting that common method bias was not a major concern. Non-response bias was evaluated using wave analysis, comparing early and late respondents through paired sample tests. The results showed no significant differences at the 0.05 level, indicating that non-response bias was unlikely to affect the findings.

### *Descriptive Statistics and Normality Test*

Table 2 summarizes the descriptive statistics and normality assessment of the study variables. The mean scores ranged between 3.52 and 3.68, reflecting moderately favorable perceptions across all constructs. Standard deviation values varied from 0.72 to 0.91, indicating an acceptable spread of responses. Although normality is not a strict requirement for PLS-SEM, skewness and kurtosis were examined to ensure data robustness. The skewness values ranged from  $-0.84$  to  $-1.18$ , while kurtosis values fell between 0.88 and 2.41. These figures are within the acceptable thresholds recommended by Curran et al. (1996), confirming that the data approximates a normal distribution and is suitable for further statistical analysis.

Table 2

### *Descriptive Statistics and Normality Test*

<b>Constructs</b>	<b>Mean</b>	<b>SD</b>	<b>Skewness</b>	<b>Kurtosis</b>
Workload	3.61	0.88	-1.05	1.76
Work–Life Balance	3.58	0.91	-0.98	1.42
Job Satisfaction	3.67	0.79	-1.12	2.08
Social Support	3.52	0.72	-0.84	0.88
Employee Productivity	3.68	0.83	-1.18	2.41
Work Stress	3.55	0.87	-0.93	1.36

### *Measurement Model Assessment*

The study evaluated the measurement model to ensure the reliability and validity of all constructs before proceeding to structural analysis. Internal consistency was confirmed using Cronbach’s alpha and composite reliability (CR), with all values exceeding the recommended threshold of 0.70 (Hair et al., 2014), indicating reliable scales. Convergent

validity was assessed through factor loadings and average variance extracted (AVE), with all standardized loadings above 0.70 and AVE values exceeding 0.50, confirming that the constructs adequately capture the underlying concepts (Fornell & Larcker, 1981; Purwanto & Sudargini, 2021).

Discriminant validity was evaluated using multiple criteria, including the Fornell-Larcker method, Heterotrait-Monotrait ratio (HTMT), and cross-loadings. The square roots of AVE for all constructs were higher than their inter-construct correlations, satisfying the Fornell-Larcker criterion. HTMT values were below 0.85, indicating adequate discriminant validity (Henseler et al., 2015; Kline, 2011). Additionally, each item demonstrated higher loadings within its intended construct than with other constructs, further supporting discriminant validity.

Thus, all reliability and validity criteria were met, confirming that the measurement model is robust and suitable for subsequent structural model assessment.

Table 3

*Evaluation of Inner Model*

Constructs	Items	Factor Loading	AVE	CR	Cronbach's Alpha
Workload	WL_1	0.832	0.682	0.895	0.845
	WL_2	0.848			
	WL_3	0.829			
	WL_4	0.801			
Work-Life Balance	WLB_1	0.841	0.711	0.908	0.864
	WLB_2	0.823			
	WLB_3	0.856			
	WLB_4	0.862			
Job Satisfaction	JS_1	0.861	0.639	0.899	0.857
	JS_2	0.762			
	JS_3	0.771			
	JS_4	0.83			
	JS_5	0.825			
Social Support	SS_1	0.839	0.648	0.882	0.819
	SS_2	0.768			
	SS_3	0.81			
	SS_4	0.803			
Work Stress	WS_1	0.708	0.617	0.888	0.843
	WS_2	0.831			
	WS_3	0.777			
	WS_4	0.81			
	WS_5	0.79			

	EP_1	0.858			
Employee Productivity	EP_2	0.828			
	EP_3	0.809	0.689	0.918	0.888
	EP_4	0.829			
	EP_5	0.827			

Table 4

*Discriminant Validity - Fornell and Larcker Criterion*

	EP	JS	SS	WLB	WL	WS
<b>EP</b>	0.828					
<b>JS</b>	0.667	0.796				
<b>SS</b>	0.583	0.544	0.804			
<b>WLB</b>	0.683	0.624	0.544	0.841		
<b>WL</b>	0.678	0.58	0.685	0.589	0.83	
<b>WS</b>	0.604	0.558	0.42	0.573	0.525	0.783

Note: Researcher's Calculation from Field Survey (2025)

Table 5

*Discriminant Validity - HTMT*

	EP	JS	SS	WLB	WL	WS
<b>EP</b>						
<b>JS</b>	0.765					
<b>SS</b>	0.683	0.648				
<b>WLB</b>	0.78	0.728	0.645			
<b>WL</b>	0.78	0.681	0.82	0.689		
<b>WS</b>	0.697	0.655	0.503	0.675	0.619	

Note: Researcher's Calculation from Field Survey (2025)

**Structural Model**

After validating the measurement model, the structural model was analyzed using a bootstrapping technique with 10,000 resamples to test the study hypotheses. Initial assessments included collinearity,  $R^2$ , effect size ( $F^2$ ), predictive relevance (PLS-Predict and  $Q^2$ ), and overall model fit.

Collinearity was first examined using VIF values, where all latent constructs recorded VIFs below 3, indicating no multicollinearity issues (Hair et al., 2021). The model's explanatory power was assessed using  $R^2$ , with Employee Productivity showing moderate predictive power ( $R^2 = 0.643$ ) and Work Stress showing slightly moderate predictive

power ( $R^2 = 0.419$ ) (Liu et al., 2021). Effect sizes ( $F^2$ ) for all exogenous variables exceeded 0.02, confirming their significant impact (Hair et al., 2013).

Predictive relevance was measured through  $Q^2$  values, with EP = 0.59 and WS = 0.39, both above zero, indicating satisfactory predictive relevance (Henseler et al., 2015). Model fit was confirmed with SRMR = 0.052 and NFI = 0.831, satisfying recommended thresholds and indicating a well-specified model (Sathyanarayana & Mohanasundaram, 2024).

Table 6

*Predictive Relevancy (R-Square, F-Square, and Q-Square)*

Predictors	Outcome Variable	R-Square	F- Square	Q-Square
JS	EP	0.643	0.07	EP = 0.59
SS			0.023	WS = 0.39
WLB			0.09	
WL			0.08	
WS			0.04	<b>Model Fit</b> (SRMR: 0.054; NFI: <span style="border: 1px solid black; padding: 2px;">0.831</span> )
JS	WS	0.419	0.063	
SS			0.034	
WLB			0.08	
WL			0.038	

Note. Researcher's Calculation from Field Survey (2025)

### ***Hypothesis Testing***

The hypotheses were evaluated using the beta coefficients ( $\beta$ ), standard errors (SE), and t-values. Hypotheses were considered supported when  $p < 0.05$  and  $t > 1.645$ . As shown in Figure 3 and Tables 7 and 8, the analysis confirmed the relationships among the study variables, highlighting both the direct and indirect effects on employee productivity. These results were then used to examine the four direct effects and the mediating (indirect) effects within the structural model.

Figure 2

Graphical Representation of Direct and Indirect Relationships

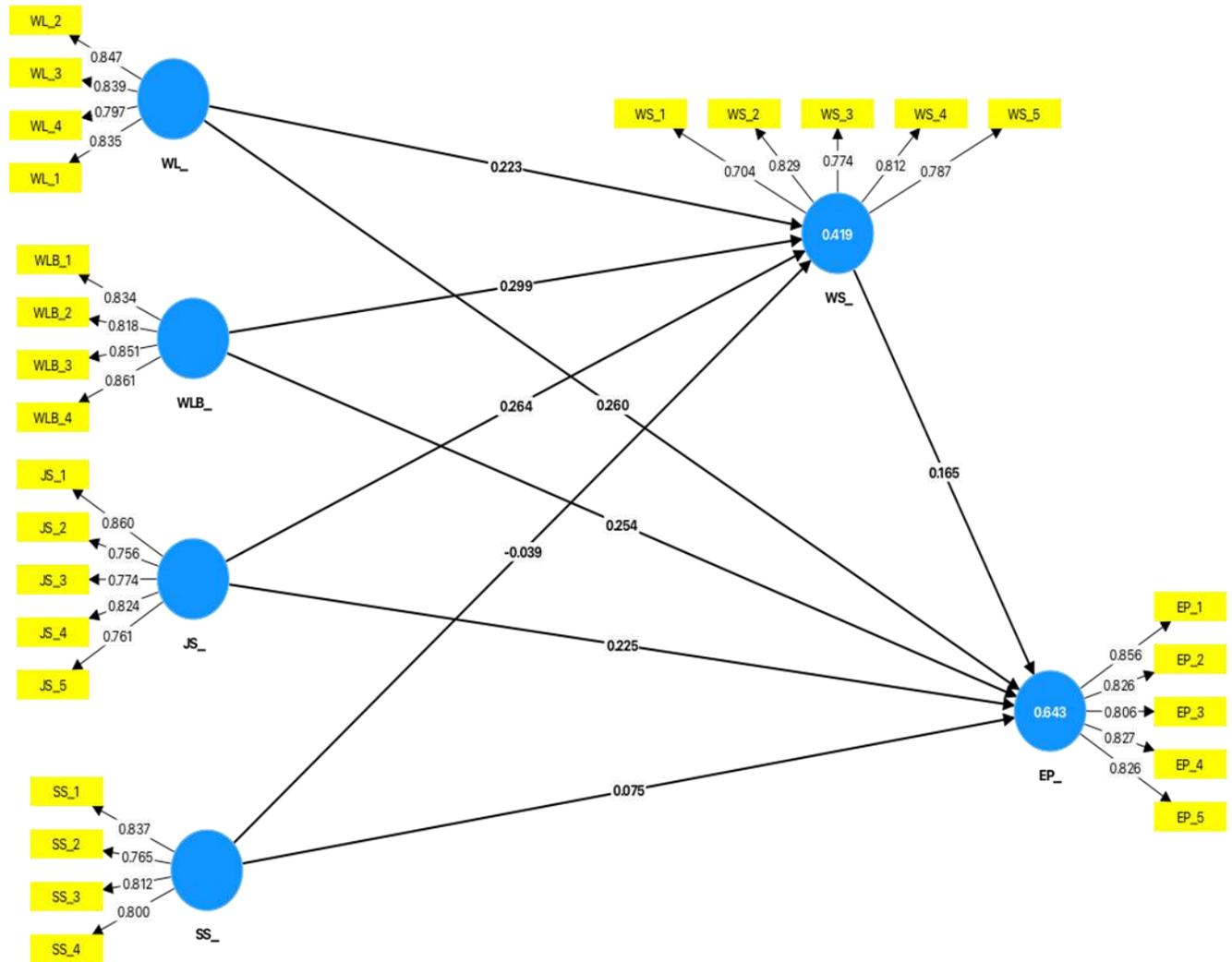


Table 7

Evaluation of the Structural Model of the Study

Structural Path	Beta ( $\beta$ )	Sample Mean	t-value	P-value	Empirical Decision
H1: WL-> EP	0.26	0.263	2.84	0.005	Supported
H2: WLB-> EP	0.254	0.256	2.306	0.021	Supported
H3: JS -> EP	0.225	0.224	3.266	0.001	Supported
H4: SS -> EP	0.075	0.076	1.266	0.205	Not supported
H5a: WL -> WS-> EP	0.037	0.035	2.137	0.033	Supported
H5b: WLB-> WS -> EP	0.049	0.047	2.243	0.025	Supported

H5c: JS -> WS -> EP	0.044	0.041	2.212	0.027	Supported
H5d: SS-> WS -> EP	-0.006	-0.006	0.547	0.585	Not supported

As shown in Table 8, workload (WL) has the strongest positive effect on employee productivity (EP) ( $\beta = 0.26$ ,  $t = 2.84$ ,  $p = 0.005$ ), supporting H1. Job satisfaction (JS) ( $\beta = 0.225$ ,  $t = 3.266$ ,  $p = 0.01$ ) and work-life balance (WLB) ( $\beta = 0.254$ ,  $t = 2.306$ ,  $p = 0.021$ ) also significantly influence EP, confirming H2 and H3. In contrast, social support (SS) did not have a significant effect ( $\beta = 0.075$ ,  $t = 1.266$ ,  $p = 0.205$ ), so H4 was not supported.

The study further examined the mediating role of work stress (WS). WS significantly mediated the effects of WL ( $\beta = 0.037$ ,  $t = 2.137$ ,  $p = 0.033$ ), JS ( $\beta = 0.037$ ,  $t = 2.137$ ,  $p = 0.033$ ), and WLB ( $\beta = 0.049$ ,  $t = 2.243$ ,  $p = 0.025$ ) on EP, supporting H5a, H5b, and H5c. However, WS did not mediate the relationship between SS and EP ( $\beta = -0.006$ ,  $t = 0.547$ ,  $p = 0.585$ ), so H5d was not supported. Thus, WL, WLB, and JS emerged as key determinants of productivity among young IT professionals, with WS partially mediating their effects.

## Discussion

The study findings reveal that workload, work-life balance, and job satisfaction significantly influence employee productivity. Workload management is critical, as excessive demands can increase stress and reduce productivity, while balanced workloads promote engagement and efficiency, consistent with time allocation and social exchange theories (Franken et al., 2021; Gong et al., 2010; Basit & Hassan, 2017). Similarly, employees with a healthy work-life balance demonstrate higher productivity, supporting social exchange perspectives that reduced stress encourages reciprocation through enhanced performance (Rahim et al., 2020; Komodromou, 2013). Job satisfaction also positively affects productivity, aligning with expectation disconfirmation theory, as satisfied employees are more motivated, committed, and effective (Mohammed, 2024; Fen, 2024).

In contrast, social support did not show a direct impact on productivity in the remote work context, likely due to physical isolation and limited interaction. While support may improve well-being, its effect on performance appears indirect, operating through job satisfaction and stress management (Babin & Boles, 1996).

Work stress was found to mediate the relationships between workload, work-life balance, job satisfaction, and productivity, consistent with Job Demand–Resources (JD-R) theory. High job demands increase stress, which can lower performance unless balanced by adequate resources (Demerouti & Bakker, 2023). Positive work-life balance and job satisfaction help employees manage stress, which in turn enhances productivity (Beauregard & Henry, 2009; Wood et al., 2020). However, work stress did not mediate the relationship between social support and productivity, highlighting that in remote work settings, social support must be effectively leveraged to reduce stress and drive performance.

## **Conclusion and Implications**

This study aimed to explore the factors affecting the productivity of young IT professionals in remote work environments, with work stress acting as a mediating variable. The findings reveal that workload, work-life balance, and job satisfaction are key determinants of employee productivity, highlighting that performance is influenced not just by task completion but also by fulfilling and balanced work experiences. Work stress was found to play a critical mediating role, demonstrating that unmanaged stress can significantly hinder productivity, consistent with the Job Demand–Resources (JD-R) model. In contrast, social support did not show a significant effect, suggesting that physical isolation and burnout may reduce its impact in virtual work settings. These results underscore the challenges of remote work and emphasize the need for organizations to proactively support employees through autonomy, flexible arrangements, and workload management, fostering engagement and efficiency.

The study extends understanding of remote work and productivity, highlighting how work stress mediates performance outcomes in virtual environments, especially among younger IT professionals. The findings support established frameworks such as Social Exchange Theory (SET), Expectation Disconfirmation Theory (EDT), and JD-R theory, while suggesting adaptation of these theories for remote work contexts. The limited role of social support calls for a reevaluation of its effectiveness in digital work environments.

Work stress emerges as a crucial factor, acting as both a buffer and a mediator that shapes productivity outcomes. Organizations are encouraged to implement flexible policies, including hybrid models, autonomy, and balanced workloads, to enhance employee engagement and performance.

This study has several limitations. Data were collected via self-reported scales, which may introduce bias despite testing for common method variance. The research was confined to young IT professionals in Kathmandu Valley, limiting generalizability across industries, generations, and cultural contexts. A cross-sectional design was employed, whereas longitudinal studies could better establish causal relationships.

Future research could explore additional variables such as digital literacy, psychological ownership, job crafting, or employee engagement to deepen the understanding of productivity in remote work. Expanding the study across different industries, countries, and age cohorts would also enhance the robustness and applicability of the findings.

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## **Conflict of Interest**

The Authors declare that there is no conflict of interest.

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