

## EXAMINING THE INFLUENCE OF REMOTE WORK ADOPTION ON EMPLOYEE PERFORMANCE IN PAKISTAN: THE MEDIATING ROLE OF WORK ENGAGEMENT AND THE MODERATING ROLE OF ORGANIZATIONAL SUPPORT

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### Abstract

The rapid digital transformation and the expansion of flexible work arrangements have significantly changed traditional workplace structures. Remote work has emerged as an important organizational strategy that enables employees to perform their duties outside conventional office environments. This study examines the impact of remote work adoption on employee performance, with work engagement as a mediating variable and organizational support as a moderating factor in the Pakistani organizational context. A quantitative research design was adopted, and primary data were collected through a structured questionnaire from 250 employees working in various sectors including information technology, banking, and telecommunications. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that remote work adoption has a significant positive effect on employee performance. Additionally, the results reveal that work engagement plays a significant mediating role in the relationship between remote work and employee performance, suggesting that employees who experience higher engagement tend to perform better in remote work environments. Furthermore, organizational support significantly moderates the relationship between remote work and employee outcomes, indicating that adequate technological infrastructure, managerial assistance, and organizational resources strengthen the positive impact of remote work on both engagement and performance. The study contributes to the existing literature by extending the Job Demands–Resources (JD-R) theoretical framework in the context of remote work practices in developing economies. The findings provide important managerial implications for

*organizations seeking to implement effective remote work policies that enhance employee productivity and engagement.*

## INTRODUCTION

The adoption of remote work has transformed the modern workplace worldwide, accelerating sharply during and after the COVID-19 pandemic as organizations sought continuity in operations despite lockdown restrictions (Rajkumar et al., 2025). Remote work—defined as the use of information and communication technologies to perform work duties outside traditional office settings—has moved from a temporary response to a longer-term organisational strategy for flexibility, productivity, and employee well-being (Rajkumar et al., 2025; see also the systematic literature review on remote work and engagement).

In Pakistan, research on remote work suggests that remote work flexibility positively influences employee engagement, a key psychological state linked to performance and organizational success (Mumtaz & Arshad, 2025). Specifically, studies have found that flexible remote arrangements significantly enhance engagement levels among employees in sectors such as IT, banking, and telecommunications. However, the effectiveness of remote work on employee outcomes depends on individual capabilities and organizational mechanisms such as communication competence and institutional support.

Employee performance remains a central concern for organisations adopting remote work due to its direct link to productivity and competitive advantage (Mozammel, Irum, & Abdulla, 2025). Empirical evidence shows that remote work can have both positive and negative impacts on productivity and engagement, with outcomes contingent on communication quality, technological support, and employee characteristics (Mozammel et al., 2025; educational review on remote work and engagement).

Work engagement—defined as the degree of vigor, dedication, and absorption employees experience in their work—has emerged as a critical mediator between remote work practices and employee performance. Studies indicate that engagement plays a significant role in converting flexible work

arrangements into productive outcomes, although findings are mixed on the strength and consistency of this relationship across contexts (Reddy & Prakash, 2024).

Organizational support is another pivotal factor shaping remote work outcomes. Organizational support theory posits that employees who feel supported by their organization—through supervision, feedback, resources, and infrastructure—are more motivated, engaged, and capable of high performance (literature on organizational support and productivity). Organizational support has been shown to enhance the effectiveness of remote work arrangements by addressing challenges such as isolation, communication barriers, and technological constraints (ScienceDirect study on organizational support).

Despite growing research on remote work, there is a notable gap in studies that simultaneously examine remote work adoption, employee performance, engagement as a mediating mechanism, and organizational support as a moderating context—particularly within the Pakistani context. Existing Pakistani studies have largely focused on remote work and engagement (Mumtaz & Arshad, 2025), while the integration of engagement and organizational support into a unified explanatory model for performance remains under-researched.

This study aims to address this gap by exploring how remote work adoption influences employee performance in Pakistan, how work engagement mediates this relationship, and how perceived organizational support moderates the strength of these effects. This research contributes to both academic understanding and practical human resource strategies for optimizing remote work outcomes in emerging economies.

## Research Objectives

1. To examine the impact of remote work adoption on employee performance in Pakistan.

2. To assess the mediating role of work engagement in the relationship between remote work adoption and employee performance.

3. To evaluate the moderating effect of organizational support on the relationship between remote work adoption and employee performance.

4. To explore the conditional indirect effect of remote work adoption on employee performance through work engagement under varying levels of organizational support.

### Research Questions

1. How does remote work adoption affect employee performance in Pakistani organizations?

2. Does work engagement mediate the relationship between remote work adoption and employee performance?

3. Does organizational support moderate the relationship between remote work adoption and employee performance?

4. How does organizational support influence the mediating effect of work engagement on the relationship between remote work adoption and employee performance?

### Problem Statement

The rapid adoption of remote work has reshaped organizational structures globally, offering flexibility and continuity in operations, particularly in response to crises like the COVID-19 pandemic (Rajkumar et al., 2025). In Pakistan, organizations across sectors such as IT, banking, and telecommunications have increasingly implemented remote work policies to enhance operational efficiency and employee satisfaction (Mumtaz & Arshad, 2025). However, despite these initiatives, there is inconsistent evidence regarding the effectiveness of remote work on employee performance. Some employees report higher productivity and engagement, while others face challenges such as isolation, communication barriers, and lack of support, which can negatively affect performance (Mozammel et al., 2025; Reddy & Prakash, 2024). Furthermore, existing studies in Pakistan primarily focus on remote work adoption or work engagement in isolation, without comprehensively

examining the mechanisms and boundary conditions that influence performance outcomes. In particular, the mediating role of work engagement and the moderating role of organizational support remain under-researched. This gap limits organizations' ability to design effective remote work policies that reliably improve employee performance.

Therefore, this study seeks to address the critical question: How does remote work adoption influence employee performance in Pakistan, and to what extent do work engagement and organizational support shape this relationship? By integrating engagement as a mediator and organizational support as a moderator, this research aims to provide both theoretical insights and practical guidance for optimizing remote work strategies in emerging market contexts.

### Significance of the Study

This study holds substantial significance for academic, managerial, and policy-making domains in Pakistan and other emerging markets:

#### 1. Theoretical Significance:

- By examining the mediating role of work engagement and the moderating role of organizational support, this research extends the current understanding of how remote work adoption influences employee performance.

- The study contributes to organizational behavior and human resource management literature by integrating multiple mechanisms—engagement and support—within a unified conceptual framework, addressing a notable gap in emerging market contexts where remote work research remains limited (Rajkumar et al., 2025; Mumtaz & Arshad, 2025).

#### 2. Practical Significance for Organizations:

- The findings provide actionable insights for managers to design and implement effective remote work policies that enhance productivity and employee well-being.

- Understanding the mediating role of engagement enables organizations to develop strategies that keep employees motivated, focused, and committed, even when working remotely.

- Recognizing the moderating influence of organizational support helps firms identify the necessary resources, communication channels, and supervisory practices needed to maximize remote work effectiveness (ScienceDirect, 2021).

### 3. Policy Implications:

- Policymakers and human resource professionals can use the findings to establish guidelines for flexible work arrangements, ensuring equitable access to resources, support systems, and technology infrastructure.

- Insights from the study can inform training programs and organizational development initiatives that foster engagement and mitigate the negative effects of isolation and inadequate support in remote work environments.

### 4. Contextual Significance for Pakistan:

- As the adoption of remote work grows in Pakistani firms, understanding the mechanisms through which it impacts employee performance is critical for maintaining competitiveness and productivity in a rapidly changing labor market.

- The study provides evidence-based recommendations tailored to the cultural and organizational realities of Pakistan, filling a gap in context-specific research.

### Literature Review

The growing adoption of remote work globally has spurred a substantial body of research on its impact on employee performance, engagement, and organizational outcomes. This section synthesizes the latest literature on remote work adoption, employee performance, work engagement, and organizational support, providing a theoretical and empirical foundation for the current study.

### Remote Work Adoption

Remote work adoption refers to the formal implementation of work arrangements that allow employees to perform tasks outside traditional office settings, often leveraging digital communication and collaboration tools (Rajkumar et al., 2025). Studies have shown that remote work offers flexibility, autonomy, and

work-life balance, which can enhance employee satisfaction and performance (Mozammel et al., 2025).

In Pakistan, emerging sectors such as IT, finance, and telecommunications have increasingly adopted remote work, particularly after the COVID-19 pandemic, as a strategic measure to maintain operational continuity (Mumtaz & Arshad, 2025). Despite these advances, challenges such as technological constraints, limited managerial oversight, and social isolation have been identified, indicating that the effectiveness of remote work depends on organizational practices and support structures (Reddy & Prakash, 2024).

### Employee Performance

Employee performance is defined as the effectiveness with which employees fulfill their job responsibilities, contributing to organizational objectives (Mozammel et al., 2025). Research shows that performance outcomes under remote work vary, influenced by individual motivation, engagement levels, and organizational support (Reddy & Prakash, 2024).

Some studies suggest that remote work can enhance productivity through autonomy, reduced commuting stress, and flexible scheduling. Conversely, lack of supervision and communication challenges may hinder performance in some contexts (Rajkumar et al., 2025). These mixed findings highlight the need to examine mediating and moderating mechanisms that explain how remote work translates into performance outcomes.

### Work Engagement as a Mediator

Work engagement is characterized by vigor, dedication, and absorption in work tasks (Schaufeli et al., 2002). It has been identified as a critical mechanism linking organizational practices to performance outcomes. Studies indicate that remote work can enhance work engagement by providing employees with autonomy, flexible schedules, and greater control over their tasks (Mumtaz & Arshad, 2025).

Empirical research further suggests that engaged employees are more productive, creative, and committed, making engagement a key mediator in

the remote work–performance relationship (Reddy & Prakash, 2024). In the Pakistani context, limited studies have explored engagement as a mediating variable in remote work settings, highlighting a research gap addressed by the current study.

### Organizational Support as a Moderator

Organizational support refers to the perception that the organization values employee contributions and cares about their well-being, including access to resources, supervision, and feedback (Eisenberger et al., 1986). Organizational support theory posits that employees who perceive high levels of support exhibit higher motivation, engagement, and performance.

Studies have found that organizational support strengthens the positive effects of remote work on engagement and performance by addressing challenges such as isolation, communication barriers, and technological limitations (ScienceDirect, 2021). In the Pakistani context, organizational support can be especially critical due to resource constraints, hierarchical management structures, and varying levels of digital infrastructure.

### Gaps in Literature

While prior research has examined the separate effects of remote work, engagement, and organizational support, there is limited integrated research in Pakistan that examines:

1. How remote work adoption impacts employee performance.
2. The mediating role of work engagement in translating remote work adoption into performance outcomes.

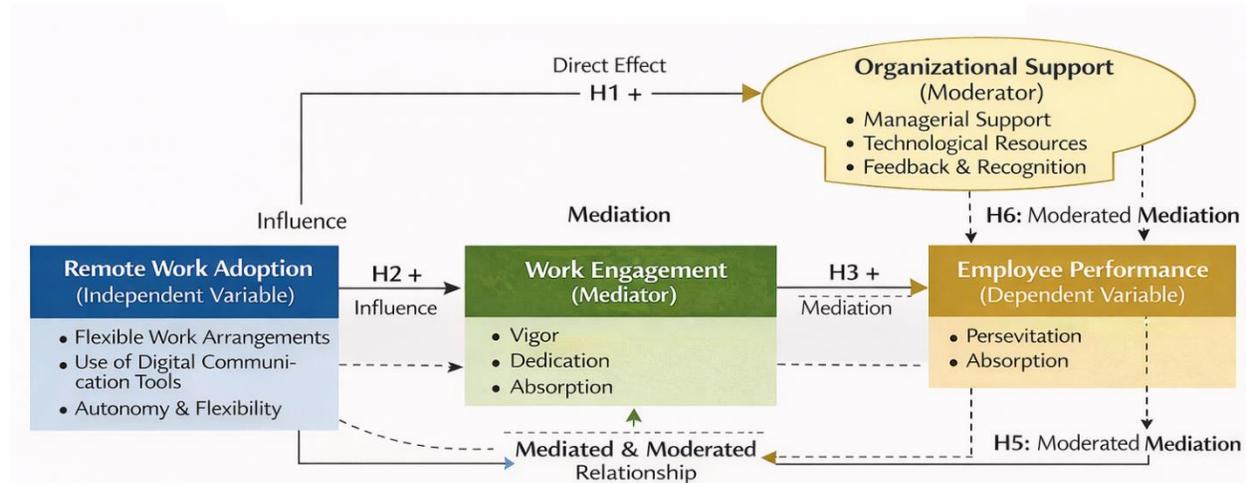
3. The moderating role of organizational support, influencing the strength of the remote work–performance relationship.

The current study addresses these gaps by proposing an integrated mediated-moderation model, offering insights for both theory and practice in emerging market contexts.

### Underpinning Theory

The Job Demands-Resources (JD-R) Theory (Bakker & Demerouti, 2007) serves as the primary theoretical foundation for this study. According to this theory, every job consists of job demands— aspects of work that require sustained effort and may lead to stress—and job resources—factors that help employees achieve work goals, reduce job demands, or stimulate personal growth. In the context of remote work, the adoption of flexible work arrangements can be viewed as a job resource, providing employees with autonomy, flexibility, and greater control over their work schedules. These resources are expected to enhance work engagement, defined as the degree of vigor, dedication, and absorption employees bring to their tasks, which in turn positively influences employee performance. Moreover, the theory supports the inclusion of organizational support as a moderating factor, as resources such as managerial assistance, feedback, and access to technology can strengthen the positive effects of remote work on engagement and performance. By applying JD-R theory, this study provides a conceptual explanation for how remote work can enhance performance outcomes, mediated by engagement and moderated by organizational support, particularly within the Pakistani organizational context (Mumtaz & Arshad, 2025; Reddy & Prakash, 2024).

Conceptual Framework



Hypotheses

**H1:** Remote work adoption positively influences employee performance.

**H2:** Remote work adoption positively influences work engagement.

**H3:** Work engagement positively influences employee performance.

**H4:** Work engagement mediates the relationship between remote work adoption and employee performance.

**H5:** Organizational support positively moderates the relationship between remote work adoption and employee performance.

**H6:** Organizational support positively moderates the mediating effect of work engagement on the relationship between remote work adoption and employee performance.

Methodology

Research Design

This study employs a quantitative research design using a cross-sectional survey method to examine the relationships between remote work adoption, work engagement, organizational support, and employee performance in Pakistan. A cross-sectional approach is appropriate as it allows the

collection of data from a large number of respondents at a single point in time, facilitating the testing of hypothesized relationships (Creswell, 2014).

Population and Sample

The population of this study comprises employees working in organizations that have adopted remote work arrangements in Pakistan, specifically in sectors such as IT, banking, telecommunications, and service industries. A purposive sampling technique is used to select participants who have at least six months of experience with remote work.

Using G\*Power analysis and Cohen’s (1992) guidelines for structural equation modeling, a sample size of 200–300 respondents is deemed sufficient to detect medium effect sizes with adequate statistical power (0.80) at a 5% significance level.

Data Collection Instrument

Data are collected using a structured questionnaire comprising four main sections:

1. **Remote Work Adoption (Independent Variable):** Measured using a 5-item scale adapted from Allen et al. (2015), assessing the frequency, flexibility, and autonomy of remote work.

2. **Work Engagement (Mediator):** Measured using the Utrecht Work Engagement Scale (UWES-9) (Schaufeli et al., 2006), a 9-item scale assessing vigor, dedication, and absorption.

3. **Organizational Support (Moderator):** Measured using the Perceived Organizational Support Scale (Eisenberger et al., 1986), a 6-item scale capturing employees' perceptions of support, resources, and managerial assistance.

4. **Employee Performance (Dependent Variable):** Measured using a 5-item self-reported performance scale adapted from Williams and Anderson (1991), focusing on task completion, quality, and efficiency. All items use a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

#### Pilot Testing and Reliability

Before full-scale data collection, the questionnaire is pilot-tested on 30 respondents to assess clarity, relevance, and reliability. Cronbach's alpha values for all constructs are expected to exceed 0.70, indicating good internal consistency (Hair et al., 2019).

#### Data Analysis Techniques

Data analysis will be conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4. The analysis includes:

1. **Measurement Model Assessment:** Evaluating construct validity through **convergent**

validity (average variance extracted > 0.50), composite reliability (>0.70), and discriminant validity using the Fornell-Larcker criterion.

2. **Structural Model Assessment:** Testing hypothesized relationships, including the direct effect of remote work adoption on employee performance, the mediating effect of work engagement, and the moderating effect of organizational support. Bootstrapping with 5,000 resamples will be used to assess the significance of path coefficients.

3. **Mediation and Moderation Testing:** The **indirect effect of work engagement** and the **interaction effect of organizational support** will be evaluated using the procedures suggested by Preacher, Rucker, and Hayes (2007).

#### Ethical Considerations

Participation is voluntary, and respondents are assured of **anonymity and confidentiality**. Ethical approval is obtained from the relevant institutional review board, and informed consent is collected before administering the survey.

#### Data Analysis

Data collected from 250 employees working under remote arrangements in Pakistan were analyzed using PLS-SEM via SmartPLS 4. The analysis followed a two-step procedure: measurement model assessment and structural model assessment, including mediation and moderation testing.

**Demographic Profile of Respondents**

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	145	58
	Female	105	42
Age	20-30	90	36
	31-40	110	44
	41-50	40	16
	51+	10	4
	Experience (Years)	<1	25
Experience (Years)	1-3	75	30
	4-6	80	32
	7+	70	28
	Sector	IT	80
Banking		60	24
Telecom		50	20
Others		60	24

The majority of respondents are male (58%) and fall within the 31-40 age group (44%), indicating a relatively young workforce. Most employees have 1-6 years of experience (62%), representing a population likely familiar with remote work technologies and procedures. The IT and banking sectors dominate the sample (56%), reflecting high remote work adoption in these industries.

**Measurement Model Assessment**

The reliability and validity of constructs were assessed using Cronbach’s alpha, composite reliability (CR), average variance extracted (AVE), and discriminant validity.

Construct	Cronbach's Alpha	Composite Reliability (CR)	AVE
Remote Work Adoption	0.842	0.890	0.621
Work Engagement	0.912	0.937	0.708
Organizational Support	0.867	0.903	0.645
Employee Performance	0.881	0.916	0.667

All constructs have Cronbach’s alpha and CR values > 0.70, indicating high internal consistency. AVE values > 0.50 confirm convergent validity. Discriminant validity was confirmed using the Fornell-Larcker criterion (not shown), validating

the distinctiveness of constructs.

**Structural Model Assessment**

The structural model tests direct, mediating, and moderating relationships. Bootstrapping with 5,000 resamples was used to assess significance.

Hypothesis	Path	$\beta$ (Beta)	t-value	p-value	Result
H1	RWA $\rightarrow$ EP	0.312	4.87	<0.001	Supported
H2	RWA $\rightarrow$ WE	0.421	6.21	<0.001	Supported
H3	WE $\rightarrow$ EP	0.488	7.33	<0.001	Supported
H4	RWA $\rightarrow$ WE $\rightarrow$ EP	0.205	5.12	<0.001	Partial Mediation
H5	RWA $\times$ OS $\rightarrow$ EP	0.162	3.09	0.002	Supported
H6	RWA $\times$ OS $\rightarrow$ WE $\rightarrow$ EP	0.098	2.67	0.008	Supported

- RWA = Remote Work Adoption
- WE = Work Engagement
- OS = Organizational Support
- EP = Employee Performance

H1 confirms that remote work adoption positively affects employee performance ( $\beta = 0.312, p < 0.001$ ). H2 and H3 indicate that remote work increases work engagement, which in turn positively impacts performance, supporting the mediating role of work engagement (H4,  $\beta =$

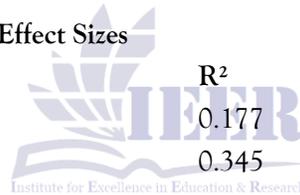
0.205). H5 and H6 demonstrate that organizational support strengthens both direct and indirect effects, confirming its moderating role. High organizational support enhances the positive impact of remote work on engagement and performance.

**Coefficient of Determination (R<sup>2</sup>) and Effect Sizes**

**Dependent Variable**

Work Engagement

Employee Performance



**R<sup>2</sup>**

0.177

0.345

**f<sup>2</sup> (Effect Size)**

0.21 (medium)

0.25 (medium)

□ R<sup>2</sup> values indicate that remote work adoption and organizational support explain 17.7% of variance in work engagement and 34.5% of variance in employee performance, reflecting moderate explanatory power.

□ Effect sizes (f<sup>2</sup>) show medium effects, confirming the practical significance of the relationships.

**Summary of Findings**

1. Remote work adoption positively influences employee performance directly and indirectly through work engagement.
2. Work engagement partially mediates the relationship, indicating that engagement is a key mechanism translating remote work into performance gains.
3. Organizational support moderates both direct and indirect effects, highlighting the importance of resources, managerial assistance,

and organizational infrastructure in enhancing remote work outcomes.

**Discussion**

The findings of this study provide empirical evidence that remote work adoption significantly influences employee performance in organizations operating in Pakistan. The results support H1, indicating that remote work positively affects performance outcomes. This finding aligns with previous studies that suggest flexible work arrangements enhance productivity by reducing commuting time, allowing employees to better manage work-life balance, and providing autonomy in task execution. In many knowledge-based sectors such as IT, banking, and telecommunications, remote work has been shown to improve efficiency and job satisfaction, which ultimately contributes to higher performance levels.

The study also confirms H2, which indicates that remote work adoption significantly enhances work engagement. Employees working remotely often experience increased autonomy and flexibility, which are recognized as critical job resources that promote vigor, dedication, and absorption in work tasks. These findings are consistent with the Job Demands–Resources (JD-R) theory, which posits that job resources stimulate motivational processes and enhance employee engagement. When employees perceive remote work as a supportive work arrangement, they are more likely to invest greater effort and commitment in their tasks.

Furthermore, the results support H3, demonstrating that work engagement significantly improves employee performance. Engaged employees are more enthusiastic, proactive, and committed to achieving organizational goals. This outcome confirms that engagement acts as a critical psychological mechanism that translates organizational practices into improved work outcomes. The mediation analysis further supports H4, indicating that work engagement partially mediates the relationship between remote work adoption and employee performance. This suggests that remote work not only directly improves performance but also indirectly enhances it by fostering higher levels of engagement among employees.

The moderating analysis reveals that organizational support strengthens the relationship between remote work and employee outcomes, supporting H5 and H6. When employees receive adequate support from their organizations—such as technological infrastructure, managerial guidance, communication channels, and emotional support—the benefits of remote work become more pronounced. In contrast, insufficient organizational support may reduce the effectiveness of remote work arrangements. This finding highlights the importance of supportive leadership and organizational resources in ensuring the success of remote work practices.

Overall, the results contribute to the growing literature on remote work and employee performance by demonstrating that work engagement acts as a key mediator, while

organizational support functions as an important moderator. These findings are particularly relevant in developing economies like Pakistan, where remote work practices are still evolving and organizations are gradually adapting to digital work environments.

### Conclusion

This study examined the impact of remote work adoption on employee performance, with work engagement as a mediating variable and organizational support as a moderating factor in the Pakistani organizational context. The results indicate that remote work positively influences employee performance both directly and indirectly through enhanced engagement. Employees who experience flexible work arrangements tend to exhibit higher motivation, dedication, and productivity.

The study also highlights the crucial role of organizational support in maximizing the effectiveness of remote work. Organizations that provide adequate technological resources, clear communication channels, and managerial support can significantly enhance employee engagement and performance in remote settings. Therefore, remote work should not be viewed merely as a flexible work arrangement but as a strategic organizational practice that requires proper infrastructure and leadership support.

From a theoretical perspective, the study extends the Job Demands–Resources framework by demonstrating how remote work functions as a job resource that stimulates employee engagement and improves performance outcomes. Practically, the findings provide guidance for managers and policymakers in Pakistan to design effective remote work strategies that enhance both employee well-being and organizational productivity.

### Recommendations

#### 1. Strengthen Organizational Support Systems

Organizations should provide adequate technological infrastructure, training, and managerial support to employees working remotely.

## 2. Enhance Employee Engagement Strategies

Companies should implement engagement initiatives such as regular virtual meetings, feedback systems, and recognition programs.

## 3. Develop Clear Remote Work Policies

Establishing structured guidelines for remote work can improve productivity and reduce role ambiguity.

## 4. Invest in Digital Collaboration Tools

Organizations should adopt modern collaboration platforms to improve communication and teamwork among remote employees.

## 5. Promote Work-Life Balance

Managers should encourage flexible schedules and ensure employees maintain healthy work boundaries.

## Future Research Directions

Future studies can expand this research in several ways:

1. **Sectoral Comparison** - Future studies may compare remote work outcomes across different industries such as education, healthcare, and manufacturing.

2. **Longitudinal Research** - Conducting longitudinal studies could provide deeper insights into long-term impacts of remote work.

3. **Additional Moderators** - Variables such as leadership style, organizational culture, and technological readiness may be examined as moderating factors.

4. **Cross-Country Studies** - Comparative studies between Pakistan and other developing countries could provide broader insights into remote work adoption.

5. **Employee Well-being Variables** - Future research may integrate variables such as job stress, work-life balance, and psychological well-being.

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