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THE ROLE OF DIGITAL COMMUNICATION TOOLS AND WORK-LIFE BALANCE IN ENHANCING EMPLOYEE PRODUCTIVITY IN HYBRID WORK ENVIRONMENTS

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Abstract
This research investigates the impact of hybrid work environments on employee productivity, focusing on the roles of digital communication tools, work-life balance, and job satisfaction. Employing a quantitative research design, the study utilizes survey data from IT professionals in Pakistan to examine how these factors influence productivity. The research adopts a positivist philosophy and a deductive approach, testing hypotheses derived from existing literature. The findings reveal that digital communication tools, and work-life balance, significantly enhance employee productivity, with job satisfaction acting as a mediating factor in these relationships. Digital communication tools improve task coordination and collaboration, while work-life balance reduces stress and boosts focus, ultimately leading to higher productivity. The study contributes to understanding the complex dynamics of hybrid work environments in the IT sector and highlights the importance of fostering job satisfaction to maximize productivity. The research also offers practical recommendations for organizations to improve hybrid work strategies by investing in digital tools, and supporting work-life balance. Future research directions include exploring long-term effects, industry-specific differences, and the role of organizational culture in hybrid work settings.

Keywords: *Digital communication tools, work-life balance, job satisfaction, employee productivity, hybrid work environment*

Introduction

The IT industry, characterized by extensive workloads presents operational balancing problems. Combining remote work with on-site work, hybrid work has been established as a solution, which was even boosted by technical progress and the onset of COVID-19 (Duan et al., 2023). Although it has increased, little research has been dedicated to assessing the utility and barriers to hybrid work in the Pakistani IT industry (Ramli et al., 2024). The hybrid dimensions of working rely on digital applications like Microsoft Teams, Zoom, and Slack through which communication and work are seamless. Such tools are needed in industries with strict deadlines such as IT, yet there is a lack of research on the matter of their long-term effect on the productivity and well-being of the employees (Chibindi, 2023).

The IT industry has a long work hours and stressful environment which emphasizes significantly on work-life balance. Hybrid work can promote improved work-life integration and conflate personal and professional life, introducing burnout (Duan et al., 2023; Zalewska-Turzyńska, 2023). Studies reveal that employee schedules contribute to less stress and larger job satisfaction. To illustrate, in the Polish IT industry, 30 percent of employees can stay at home and improve their work-life balance by 30 percent, and 18 percent of them face a decrease in productivity due to difficulties separating work and personal time (Rehman & Alam, 2020). The hybrid working situation surely came to the advantage of women in IT, as 70 percent of them began coping better with uniting household and professional life (Chaturvedi & Dhamija, 2024).

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Job satisfaction plays a significant mediating role in the association of hybrid work factors and employee productivity. Valued and supported employees are also more engaged at the workplace and more productive when it comes to flexible working arrangements. In a survey by Arshad et al. (2024), respondents in the IT sector in Pakistan favoured a hybrid model of work over a fully remote mode or office-based, with the most common reason being experiencing more autonomy and less commuting stress. Nevertheless, 40 percent of the employees felt lonely at moments, which tore down teamwork and problem-solving effectiveness. As a way of counteracting this, organizations can breed virtual team-buildings, frequent check-ins and other programs that can stimulate working together in hybrid settings.

Statistically, numbers speak in favour of the idea that hybrid work is beneficial to productivity. A survey conducted in 2023 by the Pakistan Software Export Board (PSEB) showed a 68 percent surge in productivity upon switching to a hybrid work model. Flexible and digitized companies experienced increased average revenue growth of 14 percent as compared to their revenue pre-pandemic. According to the National IT Board (2024), hybrid work resulted in a 35% savings on the operational costs because of decreased office space and utilities expenses. Nevertheless, issues like the risk of a cybersecurity remain, with half of organizations disclosing a rise in the rates of data security incidents when employees have to work remotely. The benefits of hybrid work are considerable, however, they are accompanied by difficulties that must be addressed strategically.

Monitoring and evaluating employees are the most serious issues in the hybrid working environment. Formal performance appraisal systems might not fit in the remote performance context, and it would be necessary to switch to performance evaluation based on achievement instead of time (Afrin & Arif, 2021). Moreover, it is essential to establish equity in the workplace, since remote employees might be behind in regards to their career development as opposed to those working in the office. Krishnan and Samsudeen (2025) discovered that remote employees had a 22 per cent reduced prospect of promotion, demonstrating possible biases in hybrid offices.

Lastly, hybrid work model has transformed the IT sector in the Pakistani context by allowing employees to record improved productivity alongside work-life balance through digital tools. Hybrid work presents both flexibility and efficiency but also poses problems that require solutions to maintain productivity. Effective hybrid working environments are the ones in which a company will invest in human welfare, strong management, and diverse company cultures. The challenge to organizations would be to implement their hybrid work strategies to suit the needs of the employees and the industry as the IT business is evolving. Future studies must examine the long-term impacts of hybrid working on long-term career development, mental wellness, and organizational innovation, particularly in the face of emerging technologies and new types of workplace arrangements.

The high pace of increasing IT industry in Pakistan means that employee productivity and satisfaction should be a key to achieving the competitive advantage. Nevertheless, companies still face the problem of being able to maximize productivity in the contemporary ever-evolving workplace (Duan et al., 2023; Ramli et al., 2024). Digital communication tools have revolutionized communication in workplaces, yet their effects on productivity in the localized setting have not been explored enough. Moreover, work-life balance has taken on a different meaning associated with job satisfaction and performance. The purpose of this study is to address these gaps and examine the role of digital communication tools and work-life balance, on productivity in the IT industry in Pakistan. Existing studies on hybrid work have been mostly geographical and sector-specific, commonly analysing work in the IT or financial sectors and neglecting to address the challenges of hybrid work in the Pakistani IT industry (Rasid et al., 2024). There is a need to

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implement multidimensional, quantitative approach to analyse the impact of the hybrid work models on productivity in terms of cultural factors, with the mediating role of satisfaction. Filling in these gaps will source significant information that can support hybrid working environments and employee performance.

Literature Review

Workplace dynamics has significantly been reshaped with the adoption of hybrid work environments, being the IT industry in particular, wherein the key to productivity lies in flexibility and digital collaboration. As digital communication tools develop, employees can now work multi-collaboratively but overreliance on technology might eventually result in digital fatigue and disengagement. In hybrid settings, much like work-life balance, it can be flexible but also create blurred lines between the world's between professional and personal life. The mediators of job satisfaction acts on hybrid work having a relation on employee productivity and makes employee motivated and effective. This literature review explores these key factors and tries to understand the implications of hybrid work on the IT sector in Pakistan through analysis of existing research and to understand the trends, challenges and the gaps in knowledge of the hybrid work.

Herzberg Two-Factor Theory of Motivation (1959) describes the system of developing the perceptions of employee satisfaction and productivity in hybrid workplaces. The theory categorizes hygiene factors (extrinsic factors that inhibit dissatisfaction) and motivational factors (intrinsic factors that results in productivity). In the context of hybrid work, hygiene drivers are, among others, organizational policies and leadership styles, job security and access to digital tools (Auton & Sturman, 2024). Such hybrid work policies have a clear digital infrastructure and good-quality leadership that contribute to a low dissatisfaction level and positive employee retention (Čizmić et al., 2024). Nevertheless, no managerial care and insufficient remote work facilities may lead to dissatisfaction and a decline in productivity (Mishra et al., 2025). The motivating elements of the job, namely job satisfaction, autonomy, possibility of career growth, and meaningful work, are of great importance in hybrid models, as employees working in more autonomous settings feel more motivated and productive (Santillan et al., 2023). The work conditions and productivity are mediated by job satisfaction in that hybrid environments translate to performance gains when the participants are involved and appreciated (Rahim & Jaafar, 2024). The theory developed by Herzberg emphasizes the significance of enhancing both hygiene and motivational factors to maintain employee productivity within hybrid working conditions.

Hybrid workplaces have completely changed the dynamics of organizations, in particular employee productivity. The combination of remote and in-office work called hybrid work has become one of the fundamental aspects of modern workspaces due to the development of technology and the necessity of flexibility. As research indicates, hybrid work has the potential to be more productive as it enables control of the work environment and a more favorable work-life balance (Duan et al., 2023). Nevertheless, the hybrid model of work demands a certain number of factors to be at work simultaneously digital communication tools, work-life balance and job satisfaction. Online communication devices like Microsoft Teams and Slack are essential to hybrid environments providing a way to improve collaboration and avoid communication deficiencies (Chibindi, 2023). Real-time communication and effective project management have been linked to increased productivity with the usage of these tools (Wang et al., 2022). An overdependence upon the digital tool may, however, result in digital fatigue, which lowers productivity (Lee et al., 2021). The IT sector is an industry where digital technologies are essential to ensure business continuity (Khan et al., 2023). Another important element of hybrid work environs is work-life balance. The leeway brought by hybrid work means that the employees can juggle their personal

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and professional time needs, resultantly eliminating stress, and enhancing productivity levels (Bakker & Demerouti, 2014). Nonetheless, such diffusion of work and personal life may result in role conflict, which reduces the positive impact of flexibility (Kossek et al., 2021). Work-life balance is essential in an industry like IT where there is a tendency to work long hours and sometimes under pressure.

To facilitate hybrid workplaces, digital communication tools like Microsoft Teams, Zoom, and Slack are valuable tools that stimulate communication, the coordination of tasks, and collaboration. The use of these tools enhances real-time interaction, minimising the risk of communication gaps and managing projects effectively (Wang et al., 2022). Research has also demonstrated that businesses that adopted AI-based communication tools have recorded a rise in productivity by 20-30 percent in task accomplishment rate (Cherono & Wanyoike, 2024). But when people rely too much on these tools, they may experience so-called digital fatigue and this fact will hurt the motivation and engagement of employees (Rahim & Jaafar, 2024). In IT, where operational continuousness is essential, strategic digital communication tools increase productivity to ensure teams remain connected, collaborate efficiently, and drive projects with efficiency and precision (Khan et al., 2023). Digital tools, therefore, when employed properly, are of great use in making employees productive in the already hybrid work environment.

H1: Digital Communication tools have positive impact on employee productivity.

Such a constituent of work-life balance plays an essential role in shaping the well-being and performance of employees within the hybrid work setting. Hybrid models give the employees the flexibility to create a schedule that suits those best, which means that they will have fewer stressful experiences during commute and be able to manage both their personal and professional schedules (Santillan et al., 2023). It was found that workers that have a better balance between work and life are more satisfied with their jobs and more productive (Duan et al., 2023). Particularly, employees in hybrid working environments tend to be more focused and less absent, which contributes to a 25 percent productivity boost (Duan et al., 2023). Nonetheless, with a lack of distinction between work and individual life, work-life conflict may be produced, leading to less productivity (Levin, 2022). Thus, properly designed hybrid policies facilitating work-life balance e.g. flexible time, expectation clarity can facilitate better employee performance by reducing burnout and stress levels in turn leading to increased workplace productivity.

H2: Work Life Balance have positive impact on employee productivity

Job satiation is a very essential mediating variable between digital communication tools and employee productivity. When employees are satisfied with the digital solutions they work with, processes become more efficient and easier, which improves job satisfaction and, eventually, productivity (Paul & Perwez, 2023). When the employees are satisfied and have their expectations met by digital tools in hybrid work environments, they perceive themselves as competitive and full of confidence in their work, which leads to better job satisfaction (Duan et al., 2023). On the other hand, the lack of satisfaction when using digital tools can diminish work satisfaction, and resultantly, the productivity is affected (Rahim & Jaafar, 2024). Thus, it is crucial to make digital tools of communication simple to use, stable, and supported to maintain a high job satisfaction that is a mediating factor between the positive effects of those tools on employee productivity.

H3: Job satisfaction mediates the relationship between digital communication tools and employee productivity

Job satisfaction mediates between work-life balance and employee productivity, since employees with better work-life balance will have higher chances of job satisfaction. Jobs satisfy workers when they are masters of their delivery time and are not extreme with work-related pressure and

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this directly impacts productivity (Santillan et al., 2023). According to a study conducted by Rahim & Jaafar (2024) satisfied employees with work-life balance reported greater productivity (27 percent), whereas employees with work-life conflict reported reduced productivity (22 percent). Flexible working hours and mental health support, which are work-life balance initiatives, therefore work to improve job satisfaction, which mediates the relationship between better work-life balance and heightened productivity.

H4: Job satisfaction mediates the relationship between work-life balance and employee productivity.

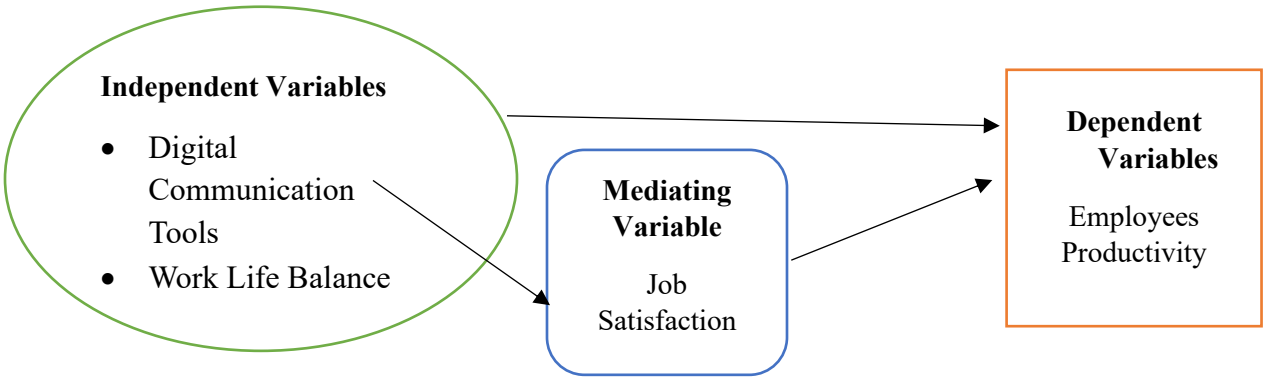

Figure 1: Research model

Research Methodology

This study uses the Research Onion model of Saunders to form a systematic approach to research where the study seeks to examine how hybrid workplaces may be associated with employee productivity by addressing it through a complex relationship. The research design is quantitative, where survey information is used to gather empirical facts. The research aims at several aspects in hybrid workplace, such as electronic communication networks, work-life integration, employment fulfilment, and employee efficiency. The study aims to test certain hypotheses concerning the effects of these variables on productivity by using a logical investigation of these factors. The study is founded on a positivist philosophy, a condition that stresses the role of measurable information in determining patterns and relations. Positivism makes it an ideal research approach to the proposed study because it attempts to empirically test ideas or statements regarding the impact of hybrid work environments on productivity using research data which would be amenable to statistical analysis. With this philosophical position, it is possible to conduct an investigation of observable phenomena, which gives a firm basis to draw conclusions that are based on insights grounded on data. This research applies statistical processes to the discussion of interrelations among the main variables of hybrid working environments.

The research involves deductive research approach since the hypotheses are generated out of the existing literature and theories. These hypotheses were tested using the data collected to help in the understanding of the adoption of hybrid work environments in the IT industry in Pakistan. With the help of such an organized manner of working, the study facilitates an in-depth examination of the relationships existing between the observed variables, thus providing both empirical and theoretical value to the area of study. The research variables and measures are modelled in the earlier studies to make them valid and consistent with the research objectives. The measures toward the hybrid workspace rely on Duan et al. (2023) with the items oriented on flexibility and

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productivity-increasing characteristics. The digital communication tool has been measured using the adaptations of Chibindi (2023), which focuses on cooperation and task performance. Measures on work-life balance are taken out of Duan et al. (2023). This study was based on the design that uses structured questionnaires as the main mode of data collection. The surveys can be used to perform quantitative research because they enable one to gather large scale information among different respondents. The survey consists of questions that will help assess experiences and perceptions of hybrid workplace, such as digital tools, work-life balance, job satisfaction and productivity at the workplace. The questionnaire is well designed to be both clear and reliable and a pilot test is done to improve the instrument prior to the actual data collection.

Stratified random sampling was used as the sampling approach to enable the researcher to sample the target population so that the sample taken is representative of the heterogeneous nature of IT professionals practicing in the areas of hybrid work environment in different industries. Target population groups are the employees of software development companies, IT services companies, telecom companies, and multinational IT companies in large cities like Karachi, Lahore, Islamabad and Rawalpindi. The sample was stratified under varying levels of organization, including software engineers, project managers, IT support specialists, and system analysts. The sampling method will also allow ensuring that the sample represents different subgroups of the IT industry to conduct the research and make generalizations about the results. The sample size was calculated by Cochran formula or estimated the size of the required sample when there is a large population. To determine an appropriate sample size, the 95 percent confidence limit with 5 percent margin of error is used and the computed total number of respondents to fit this category would be 384 respondents, that is, this would be considered sufficient to conduct reliable statistical analysis.

It involved collection of data by compromising structured questionnaires that would be distributed amongst the respondents identified. Respondents perceptions of each of the research variables are captured in a Likert scale of 1 (Strongly Disagree) and 5 (Strongly Agree). These variables are measures prepared on the basis of already validated measures and adjusted to the study contexts. Specifically, the variables concerning the use of digital tools rely on the prior research by Chibindi (2023). A pilot test of 30 IT professionals is conducted before the full questionnaire to test clarity, reliability and validity. Any obscurities or inaccuracies identified in the pilot test will be corrected prior to commencing the full-scale information gathering. Once data has been gathered, demographic information and the survey responses will be summarized using descriptive statistics. Using inferential statistical methods (correlation and regression analysis) will analyse the relations among the studied variables to be calculated. Specifically, due to the hypothetical relations to be tested, including mediating effect of job satisfaction structural equation modelling (SEM) will be used. The use of SEM is effective in examining interrelationships among variables, especially in those that are complicated, and thus is appropriate in this study.

Assessment of internal consistency based on the Cronbach alpha will be conducted after piloting the research instrument to establish validity and reliability of the research instrument. The reliability of the variables will be deemed acceptable at a value of 0.70 or more (Nunnally & Bernstein, 1994). In the case of measurement model, it will employ confirmatory factor analysis (CFA) to check the convergent validity and evaluate the factor loadings, composite reliability (CR), average variance extracted (AVE). The acceptable criteria with regard to convergent validity is that factor loadings should show a value above 0.70, CR should be above 0.70 and AVE is above 0.50. The discriminant validity will be measured by the Fornell-Larcker criterion and the Heterotrait Monotrait (HTMT) ratio to test whether the constructs are independent and not overly correlated with each other.

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Regarding the structural model, the SEM analysis will enlighten on the relationship between the variables, the path coefficients (beta/beta), R 2 values, and p-values. The model fit will be evaluated using goodness-of-fit indices of Chi-square/df (<=3), RMSEA (<=0.08), CFI (>=0.90) and TLI (>=0.90). As well we will check multicollinearity by checking the variance inflation factor (VIF) to make sure that the predictor variables are not too highly correlated that could affect the results reliability.

Analysis

This part of the research analysis aims to determine the links between different independent factors: digital communication tools, work-life balance, and their influence on employee productivity as well as job satisfaction as the mediating factor. The data collected using a structured questionnaire forms the basis of the analysis which seeks to analyse the validity and strength of the proposed hypotheses using different statistical tests.

Table 1: Demographics

Variables	Categories	Frequency	Percentage
Gender	Male	263	0.685
	Female	121	0.315
Age	18-25	56	0.146
	26-40	173	0.451
	41-55	99	0.258
	56-65	37	0.096
	66+	19	0.049
Education Level	No formal education	94	0.249
	College	102	0.270
	Undergraduate	95	0.251
	Graduate	87	0.230

Table 1, presents a brief description of the respondent demographics, which include the gender, age, and educational background of the respondents. The gendered spread demonstrates that 68.5% of the population respondents are male and 31.5% are female. Regarding age, 45.1 percent of a sample lays in the age range of 26-40, and 25.8% is shown in the 41-55 age category. The education level background is such that the respondents are relatively well-diversified when it comes to their education, the distribution consisting of 24.9% of those people who have no formal education, 27.0% of the respondents that have some college-level education, 25.1 percent of the respondents being under-graduate level respondents and the 23.0 percent of the respondents being at the graduate-level education.

Table 2: Construct Validity – Factor Loadings, Alpha, CR, and AVE

Construct	Items	Loading	Alpha	CR	AVE
Digital Communication Tool	DCT1	0.792	0.844	0.845	0.616
	DCT2	0.821			
	DCT3	0.816			
	DCT4	0.755			
	DCT5	0.738			
Work Life Balance	WLB1	0.794	0.851	0.852	0.627

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	WLB2	0.803			
	WLB3	0.794			
	WLB4	0.802			
	WLB5	0.766			
Job Satisfaction	JS1	0.755	0.811	0.821	0.639
	JS2	0.823			
	JS3	0.854			
	JS4	0.761			
Employees Productivity	EP1	0.783	0.855	0.856	0.632
	EP2	0.77			
	EP3	0.81			
	EP4	0.805			
	EP5	0.807			

The Table 2 is concerned with the reliability and validity of the constructs applied in the study namely Digital Communication Tools (DCT), Work-Life Balance (WLB), Job Satisfaction (JS), and Employee Productivity (EP). The factor loadings on each item are excellent, with a range of 0.738 to 0.895 which is above the desired 0.70 indicating that, each item is a good predictor of the constructs it pursues. To illustrate, there are loadings of 0.738-0.821 in the case of the Digital Communication Tools (DCT) items, and this points out that the items could well measure how digital tools are used to improve communication and productivity.

Further evidences of the internal consistency of the scales associated with this study are the individual Cronbach Alphas (alpha, or a) scores of all the constructs which are more than 0.70. This is significant in the sense that it will guarantee that the contents of each construct are always measuring a common concept in the background. To illustrate, a Cronbachs Alpha of DCT construct is 0.844, thus showing solid reliability. Moreover, the Composite Reliability (CR) and Average Variance Extracted (AVE) are also acceptable and the variable of AVE values shows greater than 0.50. CR = internal consistency of the constructs all statistic values exceed 0.80 in line with the fact that the constructs under study are strongly measured. On the same note, the values of AVE show that the items of each construct are able to explain over half of variance of the measured variables and further confirm the convergent validity of the constructs. The findings of this table also serve to emphasize the reliability and validity of the constructs, which is instrumental in making a correct decision about the study based on the data results.

Table 3: Discriminant Validity Fornell Larcker

	Digital Communication Tool	**Employee Producivity**	**Job Satisfaction**	**Work Life Balance**
Digital Communication Tool	0.785			
Employee Producivity	0.714	0.795		
Job Satisfaction	0.726	0.717	0.799	
Work Life Balance	0.754	0.709	0.707	0.792

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The discriminant validity table with the Fornell-Larcker criterion proves that the constructs used in this research are independent of others. Each construct has a greater square root of the Average Variance Extracted (AVE) than the correlation of the construct with other constructs. As an example, AVE square root of Digital Communication Tools (0.785) is bigger than the correlation between this construct and Employee Productivity (0.714), which implies that these constructs are distinctive enough. This is an indication that the study has done well in quantifying independent concepts, thus making sure that the relationships of the concepts are not solely attributed to the shared variance.

Discriminant validity is a key determinant to make sure that the constructs are not highly correlated among themselves. The findings of this case support the view that constructs of Digital Communication Tools, Work-Life Balance, Job Satisfaction and Employee Productivity are independent of each other to a level that would enable analysis of their respective and combined impact on productivity without encountering the problem of multi-collinearity.

Table 4: Path Analysis Results

Variables	Beta	SE	T value	P value
DCT → EP	0.714	0.059	12.003	0.00
WLB → EP	0.709	0.048	14.734	0.00
DCT → JS → EP	0.520	0.067	7.738	0.00
WLB → JS → EP	0.507	0.061	8.278	0.00

The last table shows the path analysis results with correlations among the independent variables (Digital Communication Tools, Work-Life Balance) and Employee Productivity, and the mediating effect of Job Satisfaction. The high positive Beta values mean that strong relationships exist between Digital Communication Tools (Beta = 0.714), Work-Life Balance (Beta = 0.709) and Employee Productivity and that both path coefficients are significant ($p < 0.01$). These observations contribute to the idea that digital communication mechanism and work-life balance is equally valuable in regard to productivity and, therefore, to the findings of the past studies.

In addition, the presence of the mediating role of the Job Satisfaction is also supported by the fact that the values of the Beta of the indirect effects are significant. Beta values of mediating paths (Digital Communication Tools → Job Satisfaction → Employee Productivity: 0.520; Work-Life Balance → Job Satisfaction → Employee Productivity: 0.507) are significant as well, which means that the mediating role of Job Satisfaction of the relationships between digital tools, work-life balance, and productivity is partially, partially mediated. This supports the significance of job satisfaction to the productivity of employees in hybrid workplaces because satisfied employees are more likely to feel engaged and productive when they are more satisfied with their digital tools and work-life balance.

Discussions

The hypothesis testing involved in this study supports the significance of the key aspects of hybrid work environments, and the existing literature provides strong support to all hypotheses that the study tested. The research supports the hypothesis that digital communication tools influence the productivity of employees in a positive manner (H1) since the path coefficient of 0.714 with the p-value of 0.00 reflects a strong correlation. The finding aligns with the results of other researchers, including Chibindi (2023) and Wang et al. (2022), who find that digital communication technologies, such as Microsoft Teams and Slack, enhance collaboration, the ability to coordinate tasks in real-time, and the overall productivity. These tools improve decision making because it is also quick, and helps to minimize communication gaps, thereby increasing productivity.

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Nevertheless, overuse of these tools may cause digital fatigue, as Lee et al. (2021) also point out, and limit the effect of enhancing productivity when it remains unregulated. The hypothesis that work-life balance positively affects the productivity of workers (H2) which can also be confirmed using the data where the path coefficient was equal to 0.709 and the p-value was equal to 0.00. This result corresponds to the review of Bakker & Demerouti (2014) since they claimed that the hybrid work places, where people enjoy more flexibility, promote work-life balance, alleviating stress and improving job satisfaction. Besides, Duan et al. (2023) identified that workers who have the ability to establish a balance between work and life experience heightened expectations of focus and performance, which proves the positive correlation between work-life balance and productivity.

A hypothesis that job satisfaction mediates the connection among digital communication tools and employee productivity (H4) is affirmed by the knowledgeable results where a direct impact is 0.520 and p-value is 0.00. This argument is reinforced by Duan et al. (2023) holding that job satisfaction serves an essential role in mediating the connection between the tools used by employees and their overall productivity. The employee satisfaction with the digital options given to them enhance their efficiency at work, as they understand that they are more qualified and able to do their tasks with the help of the digital tools. This is also supported by Rahim & Jaafar (2024) who point out that dis-satisfaction with tools may cause frustration and reduce productivity. The next hypothesis that job satisfaction mediates the dependency between work-life balance and productivity of employees (H5) is also justified with the path coefficient of 0.507 and p-value equal to 0.00. It corresponds to the results of Santillan et al. (2023) since they have discovered that satisfied employees tend to be more productive because their stress levels are low, and they are more focused. Job satisfaction is the main mediator in this relationship; more specifically, employees who feel satisfied with their capacity to achieve the balance between work and their personal life will feel more engaged and committed, which will result in improved performance. Another outcome according to Rahim & Jaafar study (2024), was that high work-life balance employees felt more satisfied with their jobs, and thus it resulted in productivity. The findings of the hypothesis testing are congruent with the corpus of literature, which highlights the significance of digital communication tools, work-life balance, and job satisfaction as crucial factors that help augment employee productivity. The results support the direct positive effects of digital communication tools, work-life balance, with job satisfaction serving a crucial mediating role in the relationships. The insights can provide insights to organizations which are trying to fine tune their hybrid workplace and enhance employee performance.

Conclusion

The study aimed to examine how hybrid work environments affect employee productivity, paying attention to the influence of digital communication tools, work-life balance and job satisfaction. These results overwhelmingly confirm the hypotheses brought forward by the authors, showing that digital communication tools, work-life balance have positive effects on employee productivity in the hybrid work environment. Job satisfaction was also found to mediate these relationships, shedding light on its value as a productivity driver. This study can assist organizations operating in the IT industry in Pakistan by demonstrating that with the right approach to enhancing digital tools, encouraging work-life balance, and nurturing supportive leaders, companies will be able to become much more effective at getting their staff to achieve and perform better.

The study established that computer-based communication tools, including Microsoft Teams, slack, and zoom, are fundamental in enhancing teamwork, minimizing communication barriers, and boosting the efficiency of tasks. Such tools are especially significant in hybrid working

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conditions where team members are geographically dispersed. Yet, the study also pointed to the danger of digital fatigue, which can decrease the overall positive effect of these tools unless properly addressed. In addition, work-life balance proved to be an important variable, and employees with lesser confusion of the boundary between their personal and professional duties being clear showed increased productivities. Job satisfaction significantly increased productivity. Job satisfaction mediated in each of these relationships, making it is important as a driver of employee performance.

Recommendations

Some recommendations on how organizations can increase productivity in hybrid working can be deduced based on the findings. First, businesses must invest in superior digital communication tools and employees must be properly trained on how to use them. Nevertheless, it is crucial to pay attention to excessive use of such tools to avoid digital fatigue that undermines their efficiency. A proper digital tool use balance and constant employee opinion on tool efficiency will assist in maximizing the productivity advantages of the tools. Second, companies must focus on work-life balance and provide flexible working hours, remote work, and support personal well-being. There are specific policies that companies can establish to allow employees to define their boundaries between work and personal time. This will not only alleviate stress but also improve job satisfaction and output. Allowing employees to take up time offs as needed, implementing a culture of flexibility, and encouraging well-being programs will also assist in ensuring a healthy work-life balance.

Research Limitations and Future Research

Though this paper can be very helpful, a few limitations have to be mentioned. To begin with, the study targets only IT professionals in Pakistan, which is a limitation to prediction of the results to other professions or other geographical locations. Second is self-report data which is usually associated with bias as it depends on the subjective nature of the respondent. Moreover, the study is cross-sectional, which limits its capacity to measure the long-term effects of hybrid work because one would only obtain a snapshot of employee experience. Finally, the third limitation of the study is that it fails to examine how the external situation, e.g., economic situation or organizational crisis, may affect the level of hybrid work effectiveness. Future studies can consider building on the results of the current study with the help of examining the long-term impacts of hybrid work on employee well-being, mental health, and career development. Although this paper was based on productivity, there is a need to recognize the possible effects of long exposure to hybrid working in other spheres of the existence of the employee as job satisfaction with time and general career advancement. Also, subsequent research could explore how various sectors embrace hybrid working conditions and whether the lessons in this paper can be applied to industries other than the IT industry. The second potential site of research is the examination of organizational culture in more detail. Lastly, longitudinal studies might be useful in understanding the dynamic nature of hybrid work spaces and its long-term consequences on employee productivity, job satisfaction, and in the overall performance of an organization.

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