

Factors Influencing Productivity in Remote Working: An Analysis of IT Sector Employees

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ABSTRACT

This study investigates the crucial aspects that affect productivity in remote work environments, with a specific focus on the influence of the work environment, peer support, work satisfaction, and organizational support. This research illuminates the factors that either enhance or impede productivity in the context of remote work, which is becoming more prevalent in today's society. Using a quantitative methodology, The research sample consists of 150 employees who are involved in remote work, representing diverse IT sectors and roles. The findings suggested that the work environment had no significant impact on the productivity of remote working. However, characteristics such as peer support, work satisfaction, and organizational support were found to have a more significant influence. The study revealed that peer support had a notable and favorable effect on productivity, highlighting the importance of supportive networks in enhancing productivity in remote work settings. Remote work productivity is positively associated with work satisfaction, indicating that better levels of job satisfaction among remote workers are connected to increased production. The impact of organizational support on productivity was shown to be significant, underscoring the crucial role of firms in providing support to their remote workforce.

Keywords: Remote Work, Work Environment, Peer Support, Work Satisfaction, Organizational Support, Productivity.

I. INTRODUCTION

The results of the study indicate that job happiness and productivity may both benefit from remote employment. It also draws attention to possible drawbacks, such as fewer chances for promotion. When developing remote work policies, it is imperative to take individual preferences and the particular environment into account. This research, especially in light of a controlled experiment conducted inside a Chinese company, offers insightful information about the impacts of remote work on workers and companies. It has been mentioned and acknowledged in a number of conversations about the advantages and difficulties of working remotely (Bloom et al., 2015). This study emphasizes how critical it is to address teleworkers' feelings of professional isolation. It implies that initiatives to lessen professional isolation by promoting in-person contacts may improve job performance and lower inclinations to leave one's position. Furthermore, it's possible that the detrimental impacts of professional isolation cannot be fully mitigated by having access to technology that facilitates collaboration. The research findings offer significant perspectives for establishments aiming to efficiently assist and oversee remote workers while reducing the possible adverse effects of work-related seclusion (Golden & Veiga, 2008). A thorough summary of the psychological effects and personal ramifications of telecommuting is given by the meta-analysis. It highlights both the benefits and drawbacks of working remotely, highlighting the necessity of having a comprehensive grasp of the

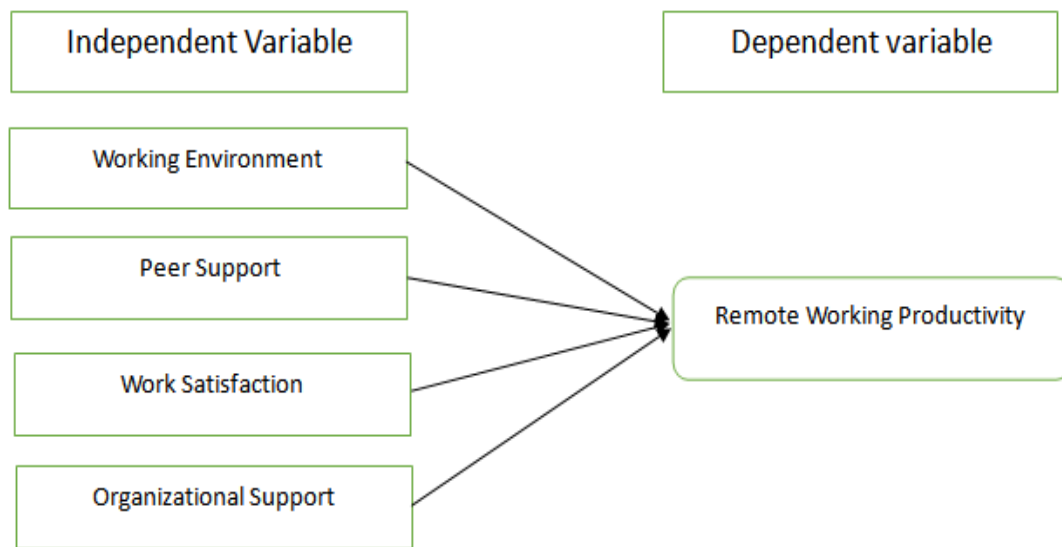
variables affecting telecommuting results. Note that the original publication has precise information, methods, and nuanced findings; for a deeper understanding, please refer to it. This summary just offers a broad perspective (Gajendran, R. S., & Harrison, D.A, 2007). The paper's conclusion acknowledges the difficulty in determining whether telecommuting is beneficial and the necessity of a detailed comprehension of its effects. The authors stress how crucial it is to take into account a variety of variables as well as individual variances when assessing how telecommuting affects different outcomes. This summary offers a broad overview; for specifics, methods, and nuanced findings, one should consult the original work for a more thorough understanding (Allen et al.,2015). The significance of comprehending the relative effects of various communication media on group cohesion is emphasised in the paper's conclusion. It sheds light on the ways in which social presence, media richness, task engagement, and group consensus all interact to influence group communication dynamics. This summary offers a broad overview; for particulars, methods, and more nuanced findings, it is advised to consult the original work for a more thorough understanding (Yoo, Y., & Alavi, M. 2004).

The main conclusions and takeaways from the review are summed up in the paper's conclusion. It highlights how important it is to have a more complex view of telework in light of the changing technology landscape and the dynamic nature of work. This summary offers a broad overview; for specifics, methods, and nuanced findings, one should consult the original work for a more thorough understanding (Bailey et al., 2002). The important conclusions of the systematic study are outlined in the conclusion, which highlights the need for a more thorough comprehension of remote e-leadership. The authors offer an analysis of the state of the literature as it stands today and recommend directions for further study to deepen our understanding of leadership in the setting of electronic communication and distant labour. This summary offers a broad overview; for specifics,

methods, and nuanced findings, one should consult the original work for a more thorough understanding (Charalampous et al., 2019). The paper's conclusion summarises the main conclusions and emphasises the significance of taking into account a variety of elements while attempting to understand and support the adjustment to virtual employment. In the context of virtual work, it offers insights into the intricate interactions between person, job, organisational, and technology elements. This summary offers a broad overview; for specifics, methods, and nuanced findings, one should consult the original work for a more thorough understanding (Raghuram et al., 2003). The study's conclusion summarises the results and emphasises how diverse teleworking was during the COVID-19 pandemic. It sheds light on the difficulties that people and organisations encounter as well as any potential long-term effects on sustainability and work practices. This summary offers a broad overview; for specifics, methods, and nuanced findings, one should consult the original work for a more thorough understanding (Belzunegui-Eraso, A., & Erro-Garces, A. 2020). The key conclusions on the viability of remote work across various occupations are summarised in the paper's conclusion. It offers perceptions on the nature of occupations that impact the capacity to work remotely, with possible ramifications for policy and workforce management. This summary offers a broad overview; for specifics, methods, and more nuanced findings, one should consult the original working paper for a more thorough understanding (Dingel, J. I., & Neiman, B. 2020).

Objectives of the study:

- To investigate the impact of work environment on remote working productivity.
- To examine the impact of peer support on remote working productivity.
- To analyse the impact of work satisfaction on remote working productivity.
- To assess the impact of organisational support on remote working productivity.



II. REVIEW OF LITERATURE:

The surroundings of a place of employment, including those inside and outside of a desk and cubicle, can be referred to as the office environment (Osman et al., 2020). The importance of the workplace is described by Gonzalez (1999) as "a significant determiner of employee performance and helps employees focus on their assignment in a proper manner." Naharuddin and Sadegi (2013) also came to the conclusion that an employee's performance and productivity are significantly influenced by their workplace. Workers who become ill during a pandemic could have to share a workstation with their family members, which could have an impact on their functioning efficiency. According to earlier research, an employee's motivation level and ensuing performance are primarily influenced by the quality of their work environment (Chandrasekar, 2011; Awan & Tahir, 2015; Hamid & Hassan, 2015).

According to research conducted in 2019 by the National Association of Colleges and Employers, peer support is a critical component in increasing group productivity. To accomplish the intended outcome at work, employees must cooperate and communicate with team members, especially managers (Osman et al., 2020). Thus, seclusion from the workplace is a critical component of working from home during the epidemic. Even while social isolation has been linked to substantial drawbacks of remote work in previous study (Bentley et al., 2016), there is little doubt that its prevalence has increased over time. Individuals have been socially isolated as a result of the pandemic, which could be connected to a decline in productivity and job satisfaction

(Toscano et al., 2020). Compared to the social interactions people typically have at work and in their personal lives, such catching up with friends or striking up a conversation at the office, using digital technology for communication may only partially alleviate the isolation that employees face. Peer support and employee productivity have been linked positively and significantly in the past (Osman et al., 2020; Sudiardhita et al., 2018; Naharuddin & Sadegi, 2013)

The term "work satisfaction" describes an individual's sense of fulfilment at work, which serves as inspiration to work (Shiyani, 2021). In the business world, an organization's ability to function depends on its employees' job happiness (Kaushik & Guleria, 2020). A contented employee is a strong basis for an organization's success since they will work hard to attain the goals of the business. Conversely, disgruntled workers will result in a low morale and low level of productivity at work (Darachart, 2019). It is often acknowledged that higher education institution staff productivity increases positively with job satisfaction. According to research, job satisfaction has a substantial and favourable impact on the productivity of employees,

The provision of information, direction, and organisational action to assist staff members in carrying out work-related tasks can be characterised as organisational support (Chadwick & Collins, 2015). Technical assistance, human resource assistance, and other forms of organisational help are available to WFH personnel. funding, instruction, and so forth. Prior studies have demonstrated that increasing staff productivity and performance is positively impacted by organisational assistance (Osman et

al., 2020; Awan & Tahir, 2015). Given that research indicates that organisational support affects work efficiency

Hypothesis

H1: A well-organized and comfortable home office setting has a positive impact on remote workers' productivity levels.

H2: Remote workers who receive continuous and effective peer support perform better.

H3: There is a significant positive correlation between job satisfaction levels and productivity among remote workers

H4: Remote workers with good organizational support are more productive.

Research Methodology

By means of a cross-sectional survey, this investigation employs a quantitative research design. The research shall be carried out via an internet-based survey that shall be disseminated to respondents presently employed in remote work. The sample for this research comprises 150 employees who are engaged in remote employment, spanning various IT sectors and positions. A technique of convenient sampling will

be utilized in order to guarantee the inclusion of representatives from various IT corporations. The sample size of one hundred will be ascertained through an analysis of statistical power. The principal tool utilized for gathering data will be a meticulously designed questionnaire consisting of sections that are in accordance with the research objectives. In the context of remote work productivity, the online survey will comprise Likert Scale inquiries to assess respondents' perceptions of the work environment, peer support, job satisfaction, and organizational support. The relationships between the dependent variable (remote work productivity) and the independent variables (work environment, peer support, work satisfaction, and organizational support) will be investigated using inferential statistics, specifically regression analysis. The questionnaire will be reviewed by subject matter experts in order to ascertain its validity. Pilot tests will be performed in an effort to improve the instrument. Cronbach's alpha will be utilized to ascertain the internal consistency of the Likert scale items in order to evaluate their reliability.

Cronbach Alpha

Variables	Numbers of Items	Cronbach Alpha
Work Environment	4	.895
Peer Support	4	.904
Work Satisfaction	4	.908
Organization Support	4	.919
Remote Working Productivity	4	.936

(Table -1: Reliability Analysis of Variables)

The data offered shows the findings of an investigation or poll that evaluated the dependability and internal consistency of various factors in a setting relevant to the workplace. The factors, each measured by four items, are Work Environment, Peer Support, Work Satisfaction, Organisation Support, and Remote Working Productivity. The dependability of the scales is measured by the Cronbach Alpha coefficients, which range from .895 to .936. The coefficients indicate that there is a high degree of internal consistency for every variable, meaning that each

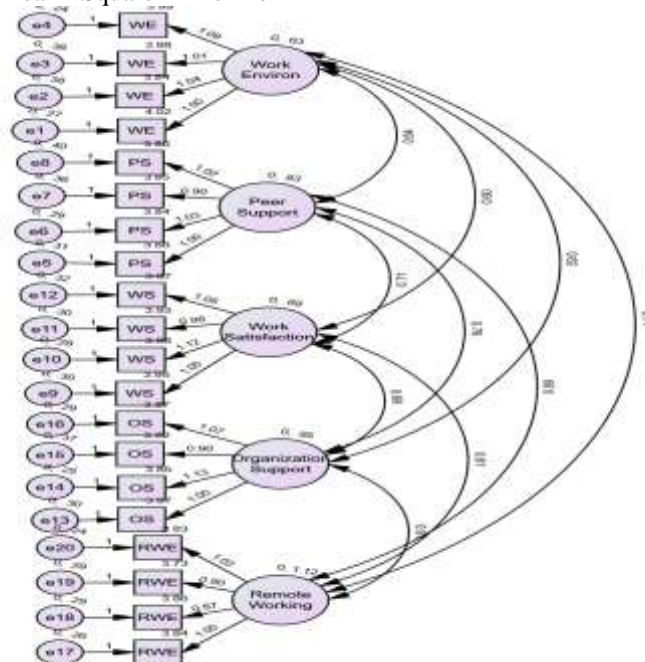
construct's items are closely related to one another and consistently measure the desired qualities. With a Cronbach Alpha of .936, the Remote Working Productivity variable in particular shows the highest dependability, indicating strong internal consistency in assessing productivity in remote work environments. Overall, the results indicate that the survey tool employed to evaluate these workplace factors is dependable and yields consistent outcomes for various components of the workplace.

Confirmatory Factor Analysis

Fit Indices	Recommended	Observed
CMIN	Greater than 5 Terrible, Greater than 3 Acceptable, Greater than 1 Excellent	2.029
CFI	Less than 0.90 Terrible, Less than 0.95 Acceptable, Greater than 0.95 Excellent	.950
TLI	Greater than 0.9	.935
PNFI	Greater than 0.5	.692
RMSEA	Greater than 0.08 Terrible, Greater than 0.06 Acceptable, Greater than 0.05 Excellent	.079

The given fit indices assess a structural equation model's goodness-of-fit and provide information about how well the suggested model fits the data. Both the Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI) are commonly used metrics for evaluating model fit, with 0.95 or greater being suggested as the threshold for exceptional fit. As the TLI is 0.935 and the CFI is 0.950 in this instance, the model fits the data reasonably well by these measures. With a score of 2.029, the Chi-Square (CMIN) statistic indicates a good fit and is much below the suggested acceptability standards (higher than 5 for horrible, better than 3 for acceptable, and greater than 1 for excellent). The Root Mean Square Error of

Approximation (RMSEA) is 0.079, which is within an acceptable range but marginally beyond the acceptable level (higher than 0.06 for acceptable). The Parsimony Normed Fit Index (PNFI), however, is 0.692, which is less than the suggested cut off of 0.5 and suggests that there might be problems with the parsimony of the model. In conclusion, the PNFI indicates that the model's parsimony may require attention, even though the model's overall fit is deemed acceptable. Additionally, the RMSEA value nearing the acceptability threshold should be interpreted cautiously.



Discussion:

The given fit indices provide a thorough assessment of the goodness-of-fit of a structural equation model, illuminating how well it matches the available data. Tucker-Lewis Index (TLI) and Comparative match Index (CFI), two widely used

metrics, both show a reasonably excellent match when they exceed the suggested threshold of 0.95. With a score of 2.029, the Chi-Square (CMIN) statistic is far below the suggested criteria, indicating a generally good fit of the model. Nevertheless, notice is made of the Parsimony

Normed Fit Index (PNFI), which, at 0.692, is below the suggested cut off of 0.5, suggesting possible problems with the parsimony of the model. Despite the fact that the Root Mean Square Error of Approximation (RMSEA) at 0.079 is only slightly above the allowable level, interpretive care

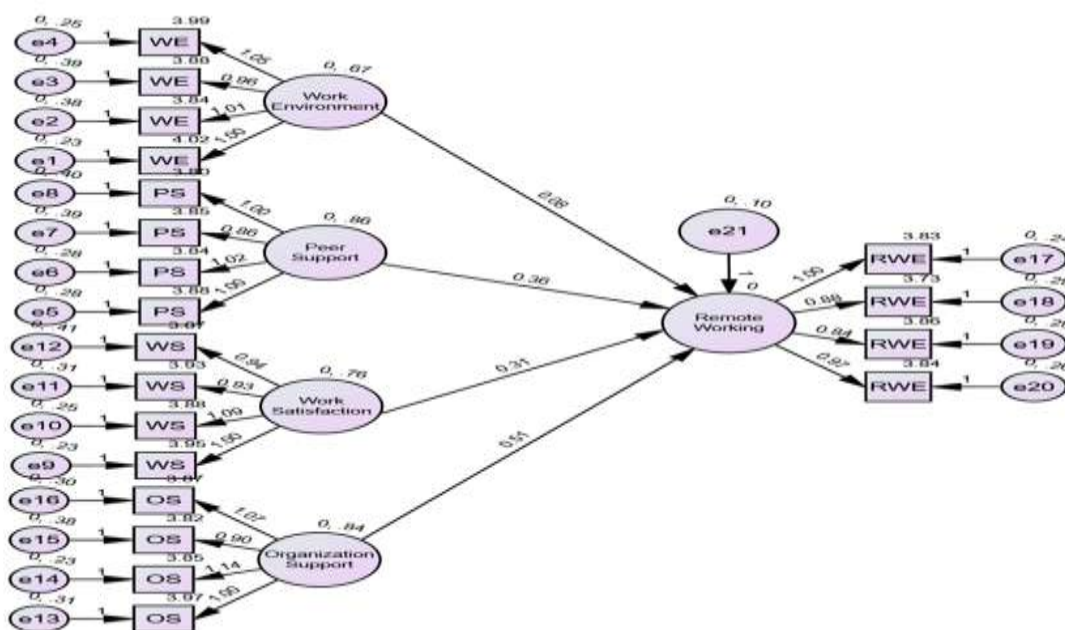
is suggested. Overall, the model fit is found to be satisfactory; however, the slightly raised RMSEA calls for careful consideration in the fit assessment, and the reduced PNFI indicates that model parsimony has to be closely examined.

Structure Equation Model

Fit Indices	Recommended	Observed
CMIN	Greater than 5 Terrible, Greater than 3 Acceptable, Greater than 1 Excellent	3.772
CFI	Less than 0.90 Terrible, Less than 0.95 Acceptable, Greater than 0.95 Excellent	.961
TLI	Greater than 0.9	.997
PNFI	Greater than 0.5	.575
RMSEA	Greater than 0.08 Terrible, Greater than 0.06 Acceptable, Greater than 0.05 Excellent	.071

The given fit indices provide a thorough assessment of the goodness-of-fit of a structural equation model. The Chi-Square (CMIN) statistic, which has a value of 3.772, is in the range of acceptable to below acceptable, meaning that the fit is not outstanding. With values of 0.961 and 0.997, respectively, the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) indicate an excellent fit, both of which are above the suggested threshold of 0.95. At 0.575, the Parsimony Normed Fit Index (PNFI) is less than the suggested cut off of 0.5,

indicating possible problems with the parsimony of the model. The Root Mean Square Error of Approximation (RMSEA), at 0.071, is just above the optimal threshold of 0.06 but still falls within an acceptable range. In conclusion, the model shows a generally good fit, which is particularly clear from the strong TLI and CFI values. The low PNFI, however, signals that model parsimony needs to be addressed, and the somewhat high RMSEA indicates that the model fit should be interpreted cautiously.



Discussion:

The suite of fit indices presented provides a comprehensive evaluation of a structural equation model's adequacy. While the Chi-Square (CMIN) statistic at 3.772 falls within the acceptable range, it suggests that the fit is not exceptional. Conversely, the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) both exceed the recommended threshold of 0.95, indicating an excellent fit with values of 0.961 and 0.997, respectively. These strong TLI and CFI values point to a strong overall model-observation agreement. The Parsimony Normed Fit Index

(PNFI) at 0.575, which is below the recommended cut off of 0.5 and indicates possible problems with the parsimony of the model, is highlighted nonetheless. Although it is just above the ideal threshold of 0.06, the Root Mean Square Error of Approximation (RMSEA) at 0.071 is still within an acceptable range. In conclusion, the low PNFI indicates that model parsimony needs to be paid attention to, even though the model shows an overall strong fit, as evidenced by the high CFI and TLI values. The somewhat higher RMSEA emphasises how crucial it is to proceed with caution when judging the model fit.

Hypothesis Testing

Hypothesis	P-Value	Result
H1: Work Environment → Remote Working Productivity	0,80	Not Significant
H2: Peer Support → Remote Working Productivity	0.00	Significant
H3: Work Satisfaction → Remote Working Productivity	0.00	Significant
H4: Organization Support → Remote Working Productivity	0.00	Significant

Hypothesis 1 (Work Environment & Remote Working Productivity): It is not supported by the p-value of 0.80, which indicates that there is no significant impact of the work environment on productivity in the context of remote working.

Hypothesis 2 (Peer Support & Remote Working Productivity): The obtained p-value of 0.00 provides statistical significance, suggesting that peer support significantly influences the productivity of remote workers. This suggests that whether working remotely or in a network, having supportive coworkers can increase productivity.

Hypothesis 3 (Work Satisfaction & Remote Working Productivity): Similarly supported, as indicated by the p-value of 0.00, which suggests that work satisfaction has a positive impact on productivity in the context of remote working. This indicates that among remote workers, greater levels of job satisfaction are associated with greater productivity.

Hypothesis 4 (Organizational Support & Remote Working Productivity): The organizational support has a significant impact on remote working

productivity is supported, as indicated by the p-value of 0.00. This suggests that the level of support offered by the organization, encompassing communication, resources, and emotional assistance, plays a crucial role in augmenting the efficiency of remote workers.

III. DISCUSSION

The findings emphasize the complexities of the factors that influence remote working productivity. While the work environment appears to be less important, factors such as peer support, job satisfaction, and organizational support all play important roles in determining remote workers' efficiency and productivity. These insights can help organizations and individuals optimize remote work arrangements.

IV. CONCLUSION

The findings, taken as a whole, shed light on the complex dynamics that are involved in the productivity of remote labour. The work environment may not be a significant factor in determining the productivity of remote workers; nonetheless, factors such as peer support, job

satisfaction, and organizational support are extremely important in determining the level of productivity that remote workers achieve. Consequently, in order to achieve the highest possible level of productivity in remote work, it is necessary to place a strong emphasis on the development of supportive networks, the enhancement of job satisfaction, and the establishment of powerful organizational support structures. When it comes to navigating the ever-changing world of remote work, these insights are absolutely necessary for both individuals and companies.

V. LIMITATION

The results' generalizability to other populations may be limited by the particular demographic, industry, or geographic location of the study's participants. Work environment, peer support, work satisfaction, and organizational support are a few examples of characteristics that may be measured using self-reported data, which may contain biases or errors. Conditions for working remotely are always changing, especially in reaction to societal shifts and advances in technology. The results of this study may not accurately reflect remote work situations in the future because it only looks at one point in time.

Scope for Future Research

To improve the generalizability of the findings, future study should consider including participants from a wider array of sectors, cultures, and geographic regions. Longitudinal studies can offer valuable insights into how these factors affect productivity over time, especially in relation to changing work practices and technologies. Examine additional facets of the work environment, such as the digital infrastructure, ergonomic tools, and flexibility in work hours, in order to comprehend their influence on productivity in remote work. An area of future research that could be of great significance is the examination of how developing technologies such as artificial intelligence, virtual reality for remote collaboration, and automation tools affect the productivity of remote working. Integrating qualitative methodologies, such as conducting interviews or organizing focus groups, could yield more profound insights into the experiences and perspectives of remote workers, so enhancing the quantitative data.

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