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# The Influence Of *Remote Work* On *Innovation Work Behavior* With *Work Life Behavior* And *Technostress* As Moderating Variables

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***Abstract*** *. Currently, the advent of presence technology has significantly transformed human lifestyle patterns. Technological advancements have brought about changes and innovations in work systems, leading to the creation of new tools that simplify user experiences in social media. The aim of of this research is to examine and analyze the influence of remote work on innovative work behavior, with work-life balance and technostress as intervening variables. This research method uses research quantitative using a sampling technique, namely purposive sampling. Meanwhile, samples studied as many as 209 respondents which consists of employees and freelancers from technology-based companies in Surakarta. Who participated in filling out 36 online survey questions via Google form. The methodology in the current research combined the use of the Smart-PLS analysis tool version 3.0 software application with the structural equation model (SEM). The results of this research: Innovative work behavior has a substantial and beneficial effect on the remote work variable. Work-life balance suffers greatly from the remote work variable. Technostress has a substantial impact on the remote work variable. The work-life balance variable substantially and favorably influences innovative work behavior. Innovation work behavior has a profoundly beneficial effect on the technostress variable. Through work-life balance, mediation confirms that remote work has an enormous and beneficial effect on innovative work behavior, as supported by the statistical t-value. Through technostress, mediation exhibits that remote work has a favorable and noteworthy impact on innovative work behavior.*

***Keywords*** *: Remote Work; Work-Life Balance; Innovation Work Behavior; Technostress.*

## INTRODUCTION

The increasingly rapid development of technology has brought humans into the era of industrial revolution 5.0 which encourages humans to integrate various technologies such as Artificial Intelligence (AI), Internet of Things (IoT), robotics engineering and several others. The presence of this technology makes humans bound and implement it in all aspects of activities in life, including in companies. These technological changes have brought changes and innovations to the company's work system, resulting in the creation of several new policies, including the implementation of remote work in the work system which is expected to make employee performance more flexible and efficient.

Remote work is defined as a particular type of work that allows doing work flexibly which is not tied to space and time, but is more tied to targets, responsibilities and focuses on outputs and outcomes that employees must achieve (Soga et al., 2022). The application of remote work was first carried out in the United States in the 1970s, which was intended for several jobs with certain criteria only. Remote work has become massively implemented

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throughout the world since the outbreak of the coronavirus (Wigert & Agrawal, 2022). This is based on a survey conducted by Gallup from early 2020 to June 2022, where there was an increase in the percentage of employees who chose to work remotely by more than 56% in the United States, England and France (Nink, 2020).

In Indonesia, it was recorded that there were 46% of Indonesian workers who did remote work at home as a result of the corona virus pandemic as of 2020. In 2021, the survey results showed an increase to 50% per 2021. The survey conducted by ConnectSolutions 2022 showed that 77% of workers do remote work. The existing remote work brings a new work culture innovation (innovation work behavior) where there are still several adjustments in its implementation. This can be indicated that Indonesia has indirectly implemented a new culture or way of working in work with the aim of ensuring that individual and company performance continues and develops.

The existing remote work policy is considered to be one solution to overcome paralysis in various life-supporting sectors caused by the coronavirus pandemic. From the company's perspective, remote work helps them to maintain the human resources they already have because it can minimize losses due to recruiting new employees with lower competency than the human resources they have (Kurdy, 2023).

After the Coronavirus pandemic has passed, remote work has become an option for some millennials in carrying out and choosing work. This is because they can work for more than one company and generate a large income. Until now, there are still companies that are hesitant to implement remote work as a whole because there is a tendency for a number of employees to be unable to balance a transparent divide between work time and their lives (Deole et al., 2023).

There is still a gap in research results regarding the implementation of remote work. Some workers say that remote work can reduce stress caused by traffic jams and the office atmosphere and can also improve the quality of *work-life balance* (katadata.co.id, 2022). However, some workers feel that remote work has a negative impact on their personal lives. Working remotely and the heavy use of technology gives rise to social isolation and *technostress* which results in workers having difficulty in maintaining a healthy work-life balance (Singh et al., 2022).

Work-life balance is generally described as a condition or feeling of satisfaction that arises from a balance between work time and time spent on personal life. This is also related to a person's capacity and ability to deal with conflicts that arise both in work and personal life. High work activity, heavy workload, and the level of stress endured by employees, as well as

several other things that affect a person's quality of life and performance can also be triggers and indicators of *work-life balance* (Kurdy, 2023).

The complex use of digital technology platforms triggers various changes such as the nature, patterns, culture, policies and duration of work which increase challenges for individual abilities and competencies. This also requires an employee to have high understanding and adaptation abilities, which if there are obstacles to implementation will cause *technostress* (Singh et al., 2022). Technostress can be defined as a state of stress experienced by a person which is triggered by limitations in mastery, acceptance of high demands for technology including limited access to that technology. This situation is exacerbated by the high demand for people to master new skills to meet their new, more complex and dynamic standards and performance.

## METHOD

The research employed a quantitative study design, focusing on the employee population of digital companies in the Surakarta. The sample consisted of 209 employees and freelancers from these companies, selected using purposive sampling methods. The participants completed a 36-question online survey via Google Form. The research approach utilized Structural Equation Modeling (SEM) with the Smart-PLS analysis tool version 3.0 software application program to analyze the data and examine the relationships between remote work variables, *innovative work behavior*, work-life balance, and *technostress*..

## RESULTS AND DISCUSSION

### Research result

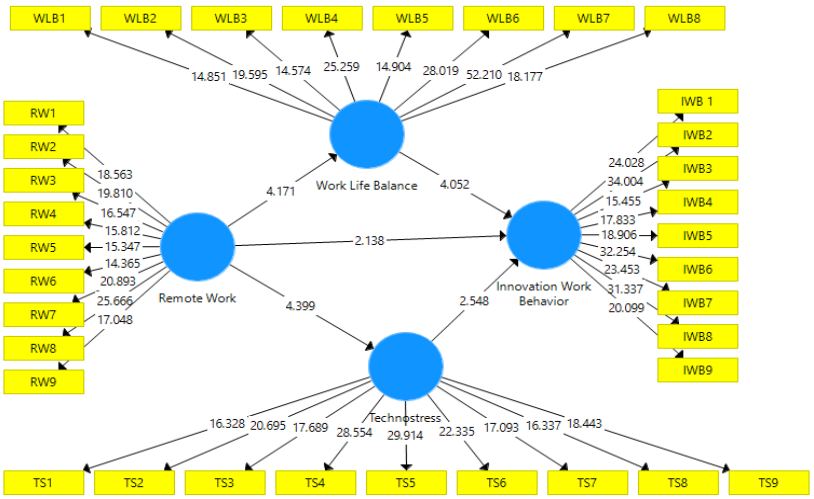


Figure 1. *Inner Model*

The strength of estimates connecting latent variables or constructs is displayed in the inner model. The findings of the *goodness of fit*, *path coefficient*, and *hypothesis tests* will all be explained by this study. When evaluating the structural model with PLS, among others:

Model Feasibility Analysis ( *Goodness of Fit* ) . This test aims to ascertain whether the developed model is appropriate for research or not by examining the findings of the conducted study, particular:

**Table 1:** R Square Results

| Model | R Square | R Square Adjusted |
|---|---|---|
| Innovation work behavior | 0.273 | 0.263 |
| Technostress | 0.103 | 0.099 |
| Work Life Balance | 0.084 | 0.080 |

Source: Primary Analysis Data, 2023

The R-Square table depicted above elucidates the impact of remote work variables on *innovative work behavior*, work-life balance, and *technostress* Analysis of the data presented in the table, it is evident that employee's capacity for innovation at work is significantly impacted by remote work, as evidenced by the influence of 0.263, or 26.3%, on *innovative work behavior*. The impact of remote work on work-life balance is 9.9%, or 0.099, which indicates that it has less of an effect on worker's capacity to establish a healthy balance between their personal and work lives. The study found that remote work has a moderate impact on employee's experience of *technostress*, which is defined as excessive use of new technology and work activities that spill over into personal time. The impact of remote work on *technostress* is 0.099 or 9.9% and 0.080 or 8.0%, respectively.

*The goodness of fit assessment* was conducted using *Q-square* calculation:

*Q square* $= 1 – [(1-R^2_1) \text{ x } (1-R^2_2)]$

$= 1-[(1-0.263) \text{ x } (1-0.099) \text{ x } (1-0.080)]$

$= 1 – (0.737 \text{ x } 0.901 \text{ x } 0.920)$

$= 1 – 0.389$

$= 0.611$

The *goodness of fit assessment* was conducted using the *Q-square* calculation, which revealed a *Q-square* value of 0.611. This indicates that the independent variable's level of model diversity in explaining the dependent variable is 0.611 or 61.1%, with the remaining 38.9% still being impacted by external factors. Based on these results, it is possible to conclude that the study model has a *good goodness of fit*.

**Table 2:** Results of Normed Fit Index Model (NFI) Analysis

| | Saturated Model | Estimated Model |
|---|---|---|
| SRMR | 0.064 | 0.114 |

| | | |
|---|---|---|
| d_ULS | 2,611 | 8,196 |
| d_G | 1,103 | 1,187 |
| Chi-Square | 1228,672 | 1275,221 |
| NFI | 0.756 | 0.747 |

Source: Primary Analysis Data, 2023

The model fit indicators demonstrate that a NFI > 0.1 or higher suggests a significantly improved model. The NFI, ranging between 0 and 1, with values closer to 1 indicating a better fit, typically above 0.9 represents an acceptable fit. Therefore, based on these results, the study's model can be considered to have a good goodness of fit.

**Hypothesis Test Analysis.**

The analysis of this data is based on it, and the study hypothesis can be directed through a review of the results. A summary of the hypothesis testing can be seen by examining the t statistics and P values. P Values <0.05 show that this hypothesis is accepted. This study affects each variable directly as well as indirectly because it involves moderating, dependent, and independent variables. The findings of the analysis of the direct influence hypothesis are shown in the SmartPLS bootstrapping route coefficient table. The test results are shown in the *bootstrapping test* table as follows:

**Direct Effect Testing**

The level of significance to which the independent variable influences the dependent variable is ascertained through the application of the path coefficient test. From largest to smallest, the magnitude of the influences can be explained using the path coefficient table and the inner model scheme displayed in Figure 1.

**Table 3:** Results of Direct Influence Testing ( *Path Coefficients* )

| Model | Original Sample (O) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|
| Remote Work -> Innovation Work Behavior | 0.144 | 2,138 | **0.033** |
| Remote Work -> Technostress | 0.321 | 4,399 | **0,000** |
| Remote Work -> Work Life Balance | 0.290 | 4,171 | **0,000** |
| Technostress -> Innovation Work Behavior | 0.197 | 2,548 | **0.011** |
| Work Life Balance -> Innovation Work Behavior | 0.319 | 4,052 | **0,000** |

Source: Primary data processed, 2023

Based on the table, it is visible that with a value of 4.399, the influence of remote work on *technostress* has the largest impact. With a value of 4.171, the remote work variable has the second-biggest impact on work-life balance. The work-life balance variable's 4.052 influence on *innovative work behavior* is the third-biggest factor. The *technostress* variable has the fourth-largest impact on the innovation work balance of 2.548. The remote work variable has

the fifth-largest impact on the innovation work balance of 2.138. The model as a whole in this variable has a positive Path Coefficien*t-value*, according to the description's findings. This is evident from the fact that a higher *Path Coefficient value* indicates a stronger influence or correlation between the independent and dependent variables.

To determine the significance of Table 3, the *p-value* from the analysis results is examined, with a t-table value of 1.96. If the *p-value* is less than 0.05, the results are considered statistically significant. The t-table value of 1.96 corresponds to a 95% confidence level, and it is used to determine the critical value for the t-distribution. If the absolute value of the t-statistic from the analysis is greater than 1.96, the results are considered statistically significant at the 0.05 level. Ghozali (2012)

**Model 1**

The statistical analysis shows that the alternative postulate (Ha) can be accepted and the null supposition (Ho) can be rejected, with a *t-value* of 2.138 in this case 2.138 > 1.96 and a *p-value* of 0.033 < 0.05. This implies that *innovative work behavior* is decisively impacted by remote work.

Retrieved from the table of the statistical *t-value* which is in this research obtained result of *t-value* is bigger than the t table-value (4.171 > 1.96) and also obtained result of *p-value* is 0.000 which mean less than 0.05. through the analyze, it can be concluded that remote work has a decisive impact on work-life balance. And if it is explained more from the statistical test result it can be interpreted that Ho or the null supposition can be rejected and Ha or the alternative supposition can be accepted.

Retrieved from the table of the statistical *t-value* explained more from the statistical test result it can be interpreted that Ho or the null hypothesis can be rejected and Ha or the alternative hypotesis can be accepted. this can occur if the *t-value* is greater than 1.96 and the *p-value* is less than 0.05. In data processing result, the *t-value* is 4.399 and *p-value* is 0.000. absolutely, remote work has an influence on *technostress*.

**Model 2**

As evidenced by a statistic test, work-life balance has a decisive impact on *innovative work behavior*. retrieved from the table obtained a *t-value* of 4.052 which means higher than 1.96 and it indicates the null hypothesis is rejected and the alternative hypothesis accepted from the *p-value* 0.000 < 0.05.

Technostress has affected innovation work behavior. retrieved from the statistical analysis obtained data *t-value* of 2.548 with *p-value* 0.011. Which fulfills the conditions for the rejection of null hypothesis and the acceptance of alternative hypothesis.

**Indirect Effect Testing**

The analysis primarily focuses on explaining the indirect results of significant influences using mediation. The statistical analysis results obtained:

**Table 4:** Results of *Indirect Effect Analysis*

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| Remote work -> *technostress* -> Innovation work behavior | 0.063 | 0.065 | 0.031 | 2,008 | 0.045 |
| Remote work -> *work-life balance* -> Innovation work behavior | 0.092 | 0.097 | 0.032 | 2,933 | 0.004 |

Source: Primary Analysis Data, 2023

The findings presented in Table 4 above indicate that work-life balance positively and significantly mediates the affiliation between remote work and innovation work behavior. Specifically, work-life balance has a statistical *t-value* of 2.933 > t table 1.96 or p value 0.004 < 0.05, a positive direction of 0.092, and a coefficient of 0.004 for remote work towards innovation work behavior.

The statistical analysis reveals that the variable of *technostress* has a significant positive impact on *innovative work behavior*, as indicated by a *t-value* of 2.008 > 1.96 and a *p-value* of 0.045 < 0.05. This suggests that *technostress* can mediate positively and significantly between *innovative work behavior* and remote work. In other words, the findings demonstrate that the influence of *technostress* on *innovative work behavior* is statistically significant, implying a potential mediating role of *technostress* in the relationship between *innovative work behavior* and remote work.

Innovation in work behavior is influenced by remote work. The findings indicate that *innovative work behavior* is positively and significantly impacted by remote work. This aligns with the hypothesis test results, which indicate that it exceeds the t table (1.96), specifically 2.138 with a large effect of 0.144 and P Values < 0.05 of 0.033. Thus, it can be said that *innovative work behavior* is positively and significantly impacted by remote work. This is due to the fact that creative work practices increase with remote work. The results of this research support the research of Shaw and Gupta (2004), Golden (2006), Gajendran and Harrison (2007), Standen and Daniels (2017) and Ferreira et al (2021).

Work-life balance is decisively impacted by remote work. this is evidenced by a series of statistical tests to get a *t-value* of 4.171 with a coefficient of 0.290 and *p-value* of 0.000. Which is based on the provisions, hypothesis testing obtained this conclusion These findings demonstrate that employees' work-life balance is positively influenced by remote work,

indicating that their human resources are well-prepared to undertake new tasks. The results of this research support the research of Shaw and Gupta (2004), Golden (2006), Gajendran and Harrison (2007), Standen and Daniels (2017) and Ferreira et al (2021).

Technostress is affected by remote work. The findings suggest that remote work has a positive and significant impact on reducing *technostress*. The statistical analysis results indicate a *t-value* of 4.399, a coefficient of 0.321, and a *p-value* of 0.000, which are consistent with the hypothesis test. These results demonstrate that remote work can positively mediate the relationship between *technostress* and *innovative work behavior*. This is supported by previous research that remote work can be beneficial for reducing *technostress,* particularly when employees have previous remote work experience and are equipped with the necessary support mechanism. The results of this research support the research. The results of this research support the research of Shaw and Gupta (2004), Golden (2006), Gajendran and Harrison (2007), Standen and Daniels (2017) and Ferreira et al (2021).

Work-life balance affects innovation work behavior. The findings demonstrate that *innovative work behavior* is positively and significantly impacted by work-life balance. This matches the hypothesis test results, which indicate that it is higher than the t table (1.96), specifically 4.052 with a large effect of 0.319 and P Values < 0.05 of 0.000. Thus, it can be said that *innovative work behavior* is positively and significantly impacted by work-life balance.. The results of this research support the research of (Ferreira et al., 2021), (Irawanto et al., 2021), (Singh et al., 2022), (Soga et al., 2022), and (Michel & Lissillour, 2023).

*Technostress* influences *innovation work behavior*. The findings indicate that *technostress* positively and significantly influences *innovative work behavior*. This result supports the hypothesis test, which indicates a *t-value* greater than 1.96., specifically 2.548 with a significant effect of 0.197 and P Values < 0.05 of 0.011. Thus, it can be said that *technostress* significantly and favorably influences *innovative work behavior*. The results of this research support the research of The results of this research support the research of (Ferreira et al., 2021), (Irawanto et al., 2021), (Singh et al., 2022), (Soga et al., 2022), and (Michel & Lissillour, 2023).

Remote work has a positively and significantly impact on innovation work behavior through work-life balance, as evidenced by a *t-value* of 2.933 higher than the t table (1.96) and a *p-value* of 0.004 < 0.05. This suggests that remote work influences innovation work behavior by positively affecting work-life balance. The findings also suggest that there is a mediating effect of work-life balance on *innovative work behavior* when employees work remotely. This mediation analysis is necessary because the independent variable (*remote work*) has the ability

to directly and significantly affect the dependent variable (*innovative work behavior*), indicating partial mediation. The results of this research support the research of (Ferreira et al., 2021), (Irawanto et al., 2021), (Singh et al., 2022), (Soga et al., 2022), and (Michel & Lissillour, 2023).

*Remote work* on *Innovation work behavior* through *technostress.* Based on the statistical *t-value* of 2.008 or > 1.96 and a P value of 0.045 or < 0.05, the hypothesis test results indicate that *remote work* influences innovation work behavior through technostress. In other words, the impact of *remote work* on innovation work behavior is significant and positive. tech-mediated stress. Based on the findings, mediator analysis has found that remote work can affect *innovative work behavior* through technostress. This relationship requires the involvement of a mediator (partial mediation) because the independent variable has the ability to directly and significantly affect the dependent variable. The results of this research support the research of (Ferreira et al., 2021), (Irawanto et al., 2021), (Singh et al., 2022), (Soga et al., 2022), and (Michel & Lissillour, 2023).

## CONCLUSION

The conclusions on this statistical research analysis results show that, as indicated by *t-value*s greater than 1.96 and *p-value*s less than 0.05, working remotely significantly and favorably affects both technostress and work-life balance. The results also demonstrate to a substantial and acceptable influence of technostress and work-life balance on *innovative work behavior*. The results of the mediation analysis show that work-life balance—a key component of innovation work behavior—is positively and significantly impacted by remote work. Technostress can additionally impact as a mediator in the relationship between *innovative work behavior* practices and remote work, according to the findings of the mediation analysis. These results are in accordance with earlier studies that demonstrated the beneficial effects of remote work on *innovative work behavior*, technostress and work-life balance.

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