
TELECOMMUTING INTENSITY IN THE CONTEXT OF COVID-19 PANDEMIC: JOB PERFORMANCE AND WORK-LIFE BALANCE

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Abstract. The COVID-19 pandemic caused a prolonged and intensified telecommuting arrangement that raised a number of unprecedented concerns regarding its implications on employees' job performance (JP) and work-life balance (WLB). This study primarily aimed at determining the relationship between telecommuting intensity and employees' JP and WLB. Further, it sought to know if there was a significant difference in employees' productivity when working at the office and at home. Lastly, it assessed whether previous frameworks on JP and WLB were still valid during the COVID-19 crisis.

A total of 396 telecommuting employees from three BPO companies in the Philippines were gathered using stratified random sampling. Pearson correlation, *T*-test, and confirmatory factor analysis (CFA) were executed for this study. The result of this study provides evidence that intensified telecommuting has a negative relationship with employees' WLB. It means that longer time spent in telecommuting decreases the work-life balance of employees. On the other hand, telecommuting intensity is not significantly correlated with employees' JP, supporting the second finding that there is no significant difference in the percentage of work done and the amount of time spent to finish a job at home and at the office. Lastly, CFA generated that the frameworks on JP and WLB were still applicable in the context of COVID-19. This study provides managers with findings to more carefully design telecommuting programmes with emphasis on supporting the factors that contribute to employees' work-life balance.

Keywords: *Business Process Outsourcing (BPO), COVID-19, Job Performance, Productivity, Telecommuting, Telecommuting intensity, Work-life balance.*

JEL Classification: M10

INTRODUCTION

On 11 March 2020, the World Health Organization (WHO) declared the novel coronavirus outbreak as a pandemic, prompting governments around the world to prepare for a public health emergency (International Labour Organization, 2020). Many countries have implemented stringent measures such as nationwide lockdowns in response to widespread virus transmission. Aside from the pressing concerns about health and safety, the unprecedented impact of the pandemic also created serious concerns in the labour market. While many employees around the globe faced immediate or imminent job loss due to the pandemic, others were forced to

telecommute (Akkermans & Richardson, 2020). During the COVID-19 pandemic, teleworking has been proven as an important tool to ensure business continuity (ILO, 2020a). Nevertheless, evidence of its impact on employees' performance and work-life balance during COVID-19 remains limited (Morikawa, 2020).

Telecommuting has several advantages; however, previous studies suggest that prolonged teleworking could be detrimental to the social and emotional well-being of a person. For instance, a study by Golden (2012) found that the number of hours spent telecommuting affected employees. Those who telecommute longer may become less productive, feel socially isolated from their co-workers and organisation, and struggle with a blurred work-home role. The divided findings on the impact of telecommuting on employees indicate that it requires more attention and that its effects are not yet entirely clear, especially in the Asian context (Vega *et al.*, 2014).

This study does not analyse the direct relationship between COVID-19 and telecommuting; rather it focuses on telecommuting for a prolonged period due to the imposition of community lockdowns during the COVID-19 crisis. Particularly, the study analyses the extent to which the total number of hours per day and days per week a person works from home is correlated with employees' JP and WLB. The objectives of this study are 1) to determine the relationship between telecommuting intensity and employees' JP and WLB; 2) to know if there is a significant difference in employees' productivity when working at the office and at home; and 3) to verify the applicability of the constructs used on JP and WLB during the COVID-19 crisis.

The result of this study can help policymakers and companies better understand the implication of telecommuting intensity on individuals during this pandemic. It will also allow organisations to re-evaluate and/or improve their existing telecommuting policies to further support employees and assist business continuity during a crisis situation.

1. LITERATURE REVIEW

Telecommuting is a type of work arrangement that enables employees to remotely do their work outside the traditional office or workplace setup (Shawn, 2017). On the other hand, telecommuting intensity is defined as the amount of time that employees spend working away from the central work location (Spilker, 2014, p. 1).

Recent studies show that the amenability to telecommute is dependent on the country's economic development (ILO, 2020a; Hatayama *et al.*, 2020). Access to the internet and having a personal computer are important factors of telecommuting (Hatayama *et al.*, 2020; ILO, 2020b). Likewise, the potential of a country to mobilise its workforce to work from home relies, at a minimum, on its investments in improving its telecommunications infrastructure as well as in ensuring that home-based employees are provided the same rights and remuneration as if they are working at the office (Hatayama *et al.*, 2020).

Based on a Bloomberg report, several US companies that outsource services in the Philippines face numerous challenges in light of the unprecedented impact of the pandemic. This is especially true for contact centres, whose nature of jobs needs major adjustments in response to stringent COVID-19 measures. The mentioned

companies experience challenges related to data privacy and protection. As the nature of their services has something to do with confidential and sensitive data such as credit card information, jobs are not allowed to be done in a work-from-home setup. In addition, Philippine households are not apt for contact centre work due to unreliable internet connections and unstable electricity supplies at home. Further, employees have to be more resourceful and independent without their managers around unlike when they are at the office where managers can readily give support. Likewise, a feeling of isolation is a big adjustment for night shift employees who are working at home while the rest of the family members are asleep. Working alone is different compared to an office setup with hundreds of colleagues nearby (Einhorn & Alegado, 2020) for reasons such as a lack of support system and physical interactions.

2. THEORETICAL FRAMEWORK

This study adopts the heuristic conceptual framework of individual work performance developed by Linda Koopmans in 2015. Work performance is defined as those “behaviours or actions that are relevant to the goals of the organisation” (Koopmans, 2015). It focuses on behaviours or actions rather than on the results of the behaviour.

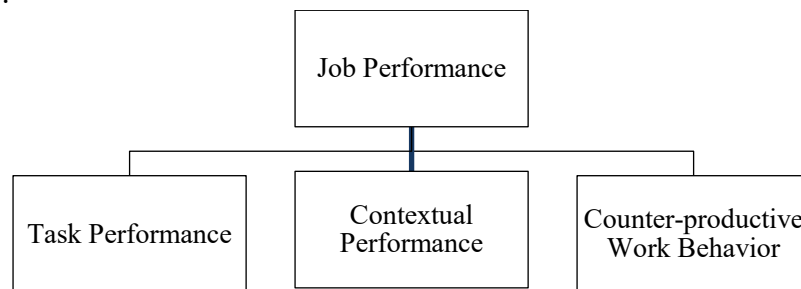


Fig. 1. Individual Work Performance Questionnaire. TNO Innovation for Life – VU University Medical Centre (Koopmans, 2015).

Task performance is defined as the ability of a person to perform the core and technical tasks central to the job. It is described by behaviours encompassing the quantity and quality of the job completed and one’s skills and knowledge about the job (Koopmans, 2015). Contextual performance refers to behaviours that support one’s social, organisational, and psychological environment that facilitates a person’s performance at work such as cooperation, communication, demonstration of effort, as well as peer and team performance (Koopmans, 2015). Lastly, counter-productive work behaviours are actions that harm the well-being of the organisation, which include off-task behaviour, absenteeism, theft, and substance abuse (Koopmans, 2015).

This study also adopts the structural model developed by Kumarasamy *et al.* (2015) on the determinants of work-life balance (WLB) among employees.

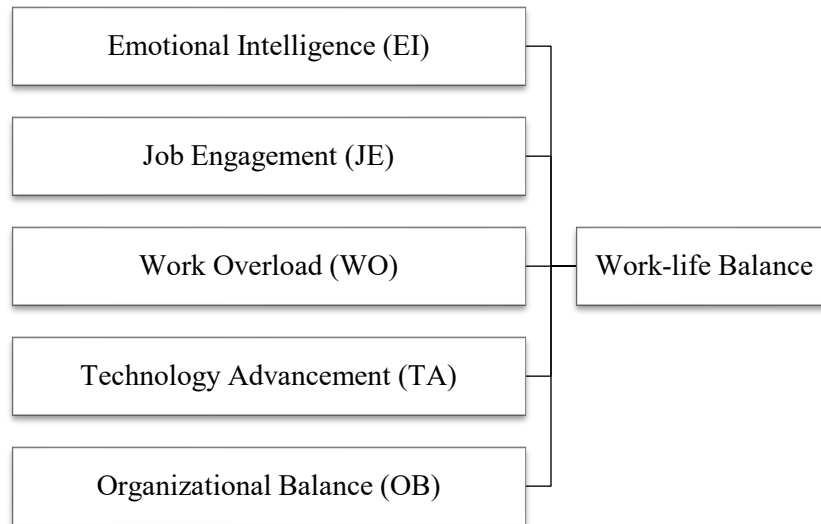


Fig. 2. Individual, Organizational and Environmental Factors Affecting Work-Life Balance (Kumarasamy *et al.*, 2015).

The structural model on WLB demonstrates various factors affecting one's WLB, which consists of individual factors (i.e., emotional intelligence and job engagement), organisational factors (i.e., corporate support and workload), and environmental factors (i.e., technology) (Kumarasamy *et al.*, 2015). It has been noted that although WO and TA are essential, excessive workload and uncontrolled use of technology can be harmful to employees' work-life balance (Kumarasamy *et al.*, 2015). Hence, work overload and technological advancements have a significant negative relationship with work-life balance.

3. CONCEPTUAL FRAMEWORK

The conceptual framework of this study is presented in Fig. 3 showing the interplay involving the respondents of this study who are corporate telecommuters in the BPO sector and how the independent variable, which is telecommuting intensity (hours worked/day and days worked/week from home), relates with the components that affect the dependent variables (JP and WLB). The conceptual framework has been developed by adopting the two theoretical frameworks previously introduced by Linda Koopmans (2015) and Kumarasamy *et al.* (2015) as presented above. In order to analyse whether the existing frameworks are still valid and applicable during the COVID-19 pandemic, an exploratory factor analysis has been executed to discover the underlying theoretical structure of the phenomena. It has been used to identify the structure of the relationship between the variables (JP and WLB) and the respondents during the COVID-19 pandemic.

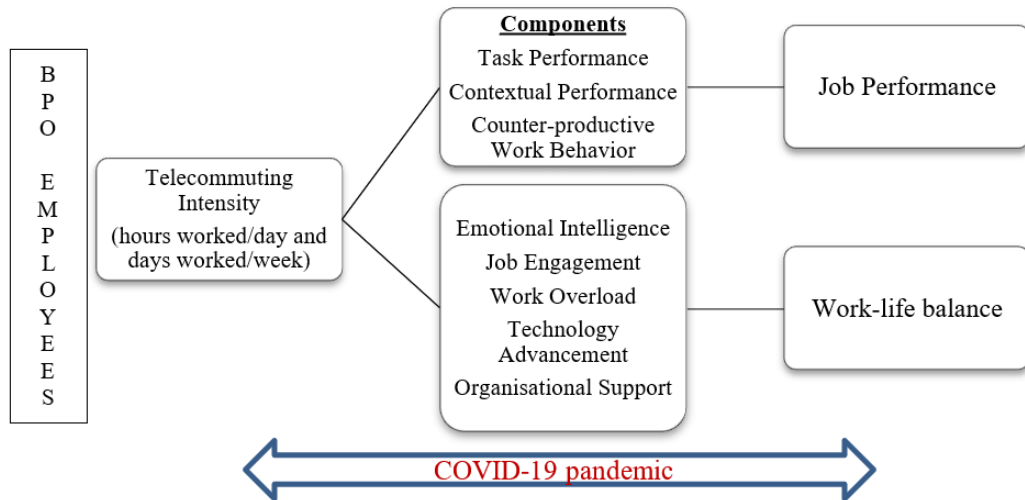


Fig. 3. Conceptual framework on the relationship between telecommuting intensity and employees' job performance and work-life balance during the COVID-19 pandemic.

4. METHODOLOGY

The respondents fall under the category of a corporate telecommuter, or a person who can work from home and still have an on-site presence and relationship with office co-workers for at least three months. Other types of telecommuters, i.e., freelancers, independent contractors, and self-employed telecommuters, are not within the scope of this study. From a total population of 21 997 BPO employees at the selected companies, a sample size of 393 employees has been computed at 95 % confidence level and 5 % margin of error. 396 respondents are the actual number of respondents gathered for this study. Fourteen respondents who answered the electronic survey were removed from the analysis since they did not meet all the inclusion criteria for this study; namely: 1) working at one of the three selected BPO companies, 2) working from home for at least three months, and 3) being a corporate telecommuter.

$$\text{Total } N = 21997$$

$$n = \frac{N}{1 + Ne^2} \quad (1)$$

$$= 21997 / (1 + 21997 \cdot 0.0025) = 21997 / 55.99 = 392.87 \text{ (or 393),}$$

where n is sample size, N is population size, and e is margin of error.

To obtain the required number of samples for each company, it has been computed by dividing the total population with the number of telecommuters per company and multiplying it with the sample size; obtaining the following results: $CoA = 152$, $CoB = 23$, and $CoC = 393$.

Company A:

$$n = (CoA/N)(n) = (8526/21997)(393) = 0.387(393) = 152.33 \text{ (or 152),}$$

Company B:

$$n = (CoB/N)(n) = (1271/21997)(393) = 0.058 (393) = 22.70 \text{ (or 23),}$$

Company C:

$$n = (CoC/N)(n) = (12200/21997)(393) = 0.55(393) = 217.97 \text{ (or 218),}$$

where *CoA*, *CoB*, and *CoC* refer to the number of telecommuters per company, *N* is population size, and *n* is sample size.

The survey questionnaire used for this study contains the Individual Work Performance Questionnaire which was developed by Linda Koopmans (2015) to measure the individual work performance of employees as well as the questionnaire developed by Kumarasamy *et al.* (2015) to measure five dimensions of work-life balance. The survey was administered electronically using Google forms from June to August 2020. Web surveying ensures the omission of individuals not connected to the internet, since employees who work from home, by default, should have internet access.

5. RESULTS AND DISCUSSION

A majority of the respondents are female, comprising 57.6 % of the total sample size. In addition, 61.6 % of the respondents fall within the age group of 21–30 years, and 73 % of them are single or never married. A substantial proportion of the respondents are college graduates, accounting for 81.6 % of the sample size.

Table 1. Pearson *R* Correlation between Telecommuting Intensity and JP and WLB

Dimension/Variable	<i>P</i> -value	Pearson <i>R</i>	Interpretation
TP_total	0.22	−0.06	Not significant
CP_total	0.55	0.03	Not significant
CPWB_total	0.21	−0.06	Not significant
JP_total	0.47	−0.03	Not significant
EI_total	0.00	−0.153**	Significant, very weak negative correlation
JE_total	0.00	−0.19**	Significant, very weak negative correlation
WO_total	0.00	−0.31**	Significant, weak negative correlation
TA_total	0.00	−0.23**	Significant, weak negative correlation
OB Total	0.00	−0.13**	Significant, very weak negative correlation
WLB total	0.00	−0.31**	Significant, weak negative correlation

***p* < 0.05 level (2-tailed)

Results of this study have failed to provide enough evidence to say that there is a significant relationship between telecommuting intensity and job performance, with a *p*-value greater than 0.05. On the other hand, there is a negative relationship

between telecommuting intensity and work-life balance. This means that for every increase in telecommuting intensity, there is a decrease in one's work-life balance.

For the second objective, respondents have been asked to rate approximately what percentage of their daily workload (1–100 %) they are able to complete during a day at the office and at home based on their employers' expected target. They have also been asked to estimate the amount of time they spend to complete a task at the office and at home.

Table 2. Paired Sample Comparison for Working Location

Variable	Office		Home		t-test	p-value
	Mean	Std. Deviation	Mean	Std. Deviation		
% of workload completed	91.361	11.465	90.565	16.761	1.033	0.302
Hours to Complete	3.058	1.151	3.111	1.108	-1.499	0.135

T-test shows that employees' productivity during the COVID-19 pandemic has no significant difference when they work at the office and at home. More than half of the respondents (54.54 %) have said that there is no change in the amount of workload they accomplish per day at the office and while telecommuting, while 70.95 % have stated that they devote the same number of hours to complete a task at the office and while at home. However, as expected, mean scores of works completed at the office are relatively higher than at home. Time spent on each task at home is also relatively higher than at the office, but the difference is minimal. Nevertheless, T-test analysis shows that there is no significant difference in the employees' productivity at home and at the office.

For the third objective, the factor analysis shows that the structural model used for this study is effective in understanding the JP and WLB of employees during the COVID-19, whereby both the validity and convergent analysis show acceptable test results. The overall structural model has been tested using the results obtained from the model fit measures, which meet the criteria for an excellent model fit: CMIN/df = >1, RMSEA = < 0.06, GFI and NFI = > 0.90, CFI = > 0.95, and PClose > 0.05 (Gaskin *et al.*, 2019).

The CFA analysis has identified issues in the construct validity and reliability of items CPWB 2 and 3 under job performance and items EI8, EI9, and WO3 under work-life balance, which create problems within the construct. Hence, these items do not form part of the analysis.

Table 3 shows that the structural model of this study achieves the acceptable convergent validity. To establish convergent validity, the factor loading of the indicator as well as the CR and AVE values have to be considered. As a general rule of thumb, AVE value should exceed 0.50 (values above 0.70 are considered very good) and CR should be 0.70 and above to be considered adequate for convergent validity (Hamid *et al.*, 2017). Table 3 shows that the CR values are above 0.70 and

the AVE values are within 0.504. This means that the construct has adequate convergent validity.

Table 3. Validity Analysis and Correlations between Constructs

	Components	CR	AVE	MSV	MaxR (H)	CP	TP	CPWB			
JP	CAP	0.93	0.62	0.48	0.93	0.79					
	TP	0.93	0.72	0.48	0.93	0.69***	0.85				
	CWB	0.75	0.78	0.00	0.77	-0.03	0.06	0.71			
						JE	WO	EI	OB	TA	
WLB	JE	0.92	0.58	0.20	0.93	0.764					
	WO	0.83	0.50	0.47	0.85	0.22***	0.71				
	EI	0.87	0.51	0.20	0.89	0.45***	0.19**	0.71			
	TA	0.91	0.73	0.22	0.92	0.38***	0.47***	0.21***	0.85		
	OB	0.74	0.59	0.47	0.74	0.16**	0.68***	0.11†	0.44***	0.77	

† $p < 0.100$; * $p < 0.050$; ** $p < 0.010$; *** $p < 0.001$

Table 4. Heterotrait-Monotrait (HTMT) Analysis

	CP	TP	CPWB			
CP						
TP	0.702					
CPWB	0.033	0.08				
	JE	WO	EI	OB	TA	
JE						
WO	0.196					
EI	0.483	0.171				
OB	0.381	0.471	0.256			
TA	0.151	0.672	0.113	0.449		

† $p < 0.100$; * $p < 0.050$; ** $p < 0.010$; *** $p < 0.001$

To test the discriminant validity, the HTMT ratio test of correlation has been used. HTMT values close to 1 indicate a lack of discriminant validity. Table 4 shows the output from the HTMT analysis using Henseler *et al.* (2015) formula, which indicates that there are no warnings or validity problems for the model used in this study (≤ 0.702). Overall, the result of the HTMT analysis is acceptable, supporting the discriminant validity between the variables.

Standardised regression weights for JP and WLB have been likewise computed in order to show the factor loading of each component of the constructs. Generally, the higher the factor loading, the better it is, since it can be translated as reliability. Some researchers use a cut-off criterion of at least 0.40, while others use a more stringent cut-off of at least 0.70 or higher.

The result of the CFA suggests that the constructs used are valid and applicable in explaining the JP and WLB of employees during the COVID-19 crisis, except for two constructs under job performance and three constructs under work-life balance.

CONCLUSION

The findings of this study do not provide enough evidence supporting the perception within many organisations that the shift to remote work may deter employees' productivity. On the contrary, it supports recent researches showing that productivity was the same as or higher than it was before the pandemic, even while telecommuting. This goes to prove that most employees can actually be trusted to get their work done from home. However, remote work in the Philippines is mostly deterred by external factors such as unreliable internet connection and unstable electricity supply.

Moreover, results of this study encourage managers to further support the work-life balance of telecommuters, as they have shown evidence that telecommuting intensity has a significant negative relationship with one's work-life balance. It means that the longer an employee telecommutes, the lower his or her work-life balance. This is consistent with previous studies suggesting that prolonged hours and days of telework could lead to detrimental effects such as a feeling of isolation, blurred work-family roles resulting in conflict, and poor relationship with co-workers. Lastly, the results of factor analysis reveal that the structural model used for this study is an excellent model fit. It can be concluded that the instruments used are effective in explaining employees' job performance and work-life balance during the COVID-19 crisis.

RECOMMENDATIONS

Since this study has found no significant relationship between intensified telecommuting and job performance, it is recommended for companies to maintain a climate of co-responsibility and trust among employees to ensure the continuity of business productivity and reduce the impact of economic inactivity. Further, it is critical for companies to invest in their current ICT infrastructure, ensuring not only that customer satisfaction needs are met, but also that employees are encouraged to work enthusiastically towards the company's goals. This involves ensuring that employees are provided with basic hardware, software, and network resources required for the performance of their tasks. This study also recommends that companies further support the work-life balance of their employees who telecommute. This can be done by initiating activities that could address the challenges concerning the factors influencing ones' work-life balance enumerated in this study.

AREA FOR FUTURE STUDIES

Future studies can explore the causal relationship between telecommuting and the dependent variables to determine impact and not just correlation. Also, since the instruments used in this study are focused solely on previous factors affecting JP and WLB, it can also be helpful to conduct an exploratory factor analysis to create a new model considering new factors that can affect employees' JP and WLB that are highlighted during the COVID-19 pandemic, such as feeling of isolation, reduced mobility, intensified use of technology, lack of physical activity, and lack of physical interaction with supervisors/co-workers.

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