

Determinants of Work-from-Home Productivity among Higher Education Institution Employees during the Covid-19 Pandemic in Malaysia

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Abstract

This study focuses on evaluating direct relationships between workplace environment, peer support, employee motivation and organisational support, and employee productivity support within higher education institutions in Malaysia during the Covid-19 pandemic. The Structural Equation Model technique was utilised to assess the direct effects of workplace environment at home, peer support, employee motivation, and organisational support on employee productivity. The model was designed and later analysed using the Partial Least Square procedure on data collected from a survey that yielded 579 usable questionnaires. The results demonstrated that workplace environment, peer support, and employee motivation have a positive and significant influence on employee productivity, while organisational support has a negative and significant influence on employee productivity. The findings suggest that higher education institutions should give greater emphasis on strengthening the workplace environment at home, peer support, employee motivation, and organisational support to ensure employee productivity is high if a work-from-home policy is implemented.

Keywords: *Workplace Environment, Peer Support, Motivation, Organisational Support, Productivity, Higher Education Institutions*

Introduction

Many industries in Malaysia have been badly affected by the Covid-19 pandemic, not excluding tertiary education. Globally, class lectures and tutorials have had to be immediately converted online. This includes stopping progress of laboratory-based research activities and postponing registration of new students. Many academic conferences have had to be called off. The Covid-19 pandemic has created major obstacles in the Malaysian higher education sector. The Movement Control Order (MCO) was enforced by the Government of Malaysia from 18 March (Choong, 2020), which prohibited most economic activities excluding essential services. To date, higher education institutions are still not allowed to reopen even though the Government of Malaysia has relaxed the MCO by permitting many economic sectors to restart their businesses beginning 4 May, resulting in negative effects due to an unprecedented long period of closing. In an April 2020 publication, Hunter cited a study conducted by former Deputy Vice-Chancellor at Universiti Tun Abdul Razak, Professor Geoffrey Williams that revealed 55 per cent of private higher education in Malaysia was suffering from losses and about 44 per cent were in debt. To survive, most of these universities and colleges have had to rely on fresh funds or equity from their shareholders.

In Malaysia, public and private higher education institutions have very important roles to play in economic growth. Employees of higher education institutions will face problems caused by Covid-19. According to Nicholas Bloom (Gorlick, 2020), working from home meant continuing to work with the same output or efficiency at the time of the pandemic could lead to a drop in productivity and will be a threat to economic growth for many years to come. Ernst & Young News (EY India, 2020) reported in April 2020 that about 70 per cent of business organisations in India believe that a major worry about prolonged working from home is a drop in productivity. Tertiary education institutions must support their employees in order to ensure that tasks are completed. The leadership styles and attitude of the employees are very important factors that will lead to improved performance of the employees (Zahir, Loo, Raemah, & Norsiah, 2019). At the same time, the employer also needs to be more empathetic as some changes are inevitable, particularly those related to family responsibilities that must be met while working from home (Izwan, 2020). In view of that, this study aims to assess the influence of workplace environment at home, peer support, employee motivation and organisational support on employee productivity while they work from home during the MCO.

Literature Review

Underpinning Theory

Fredrick Herzberg developed a theory of "two factors" or "hygiene-motivation" to learn about the motivational behaviour of employees (Herzberg et al., 1959). The authors claim that two specific factors are of utmost importance to the workplace environment, i.e. hygiene and motivational factors. Herzberg (1966, 2003) had two sets of variables that affected job satisfaction and dissatisfaction of workers at work. Hygiene was seen as maintenance factors in the organization due to its relevancy even though not always motivate the employees. Furthermore, employees' lack of participation in the organisation creates dissatisfaction, which has an impact on their work (Nelson and Quick 2003). It has also been shown that the relationship between co-workers, supervisors, and opportunities for growth has a positive impact on job satisfaction (Ting, 1997) as they build an understanding of the features or elements found in the work environment. Herzberg (1966, 2003) referred to factors such as pay, marginal benefits, and relationships with colleagues, superiors and

managers, the physical environment, working conditions, job security, working conditions, and leadership as "hygiene" or extrinsic influences.

Employee Productivity

The majority of business organisations today face the demand to increase employee productivity, which has become a pressing issue for organisations. According to Gummesson, (1998); Sels et al. (2006), employee productivity is defined as an efficiency evaluation of an employee or a group of employees. To be precise, the company's profits will be directly affected by employee productivity. Productivity can be assessed based on employee output over a certain period. Productivity can be gauged by referring to the number of unit of a service or product under employee handling for a specific period (Piana, 2001). According to Cato and Gordon (2009) and Sharma and Sharma (2014), since it determines organisational success, employee productivity has become a crucial goal for businesses. Most studies have emphasised a few techniques to assess productivity although because various methods were used, it can be quite tough to differentiate the outcome (Nollman, 2013).

Workplace Environment

Overall, the working environment includes the total of powers, acts, and other significant variables that are present and/or possibly contend with, the actions and results of employees (Kohun, 2002). Opperman (2002) stated that the working environment is composed of three main sub-environments: the technological environment, the individual environment, and the organisational climate. The technological environment refers to devices, facilities, technological infrastructure, and other physical or technical features. The human atmosphere relates to colleagues, those to whom workers relate, team and job groups, topics of engagement, leadership, and management. This atmosphere is built in such a way as to promote indirect contact in the workplace so that the ability to share information and exchange ideas can be strengthened. Opperman further emphasises that atmosphere is an important factor in the nature of the job, including workers' degree of achievement. According to Awan and Tahir (2015) in their study on banks and insurance companies' employees in Pakistan, the working environment has a positive and significant influence on employee productivity. Darachart (2019), in his study on university employees, found that the working environment has a positive and significant influence on productivity. In view of the above, it is hypothesised that:

H1: There is a positive and significant relationship between workplace environment and employee productivity.

Peer Support

During the pandemic, most employees in Malaysia have been required to work from home. Organisations have had to allow workers to work remotely using any resources available in their respective homes. As such, employees can work at home with the support of computing technologies. Due to the lack of preparation in facing global issues, dealing with the integration of work and life demands cooperation from both employees and their organisations. According to Mas and Moretti (2009) and Herbst and Mas (2015), peer support plays an important role in workplace productivity. It is a management belief that peer support may influence the productivity of an employee to achieve an efficient outcome (Angrist, 2014). Studies have also found that peer support influences productivity towards academic success (Hoxby, 2000; Sacerdote, 2001), as well as environmental and energy management (Bollinger & Gillingham, 2012). Peer support seems to be an important attribute to improve group productivity (National Association of Colleges and Employers,

2019). In a normal workplace, employees can interact with co-workers. Thus, peer effect is likely to increase or decrease the productivity of some workers (Bandiera et al., 2010). It is important to make sure that employees can always collaborate and communicate with their team members, especially managers, to obtain guidance in achieving the desired result. Since the literature shows that peer support may have an impact on work productivity, it is thus hypothesised that:

H2: There is a positive and significant relationship between peer support and employee productivity.

Motivation

Many previous studies have investigated the impact of working from home on the productivity of employees. However, most of these studies usually use a qualitative analysis method such as surveys and interviews, and the studied participants do not work from home for a continued period of time (Bao et al. 2020). However, when working at home, employees may lose focus on work, choose to relax with the family, or focus on the quarantine period and social distancing to prevent the spread of Covid-19. Decreased work motivation is also caused by disturbances such as invitation to communicate through social media, social interaction with colleagues without discussing work, or enjoying means of entertainment such as watching movies, karaoke or playing with children. These activities may directly cause them to become reluctant to do the work given and often postpone their work (Duta et al., 2020).

According to Irum Shshzadi and Ayesha Javed (2014), employee motivation reflects the level of energy, commitment, and creativity that a company's workers bring to their jobs.

H3: There is a positive and significant relationship between motivation and employee productivity.

Organisational Support

Organisational support refers to the assistance provided by the organisation in response to employee-specific needs. It can also be identified as instrumental support that can be described as providing knowledge, guidance, and action taken by the organisation (i.e. training and education) in helping employees perform activities related to their work (Chadwick & Collins, 2015). The need to provide greater organisational support for academics has been highlighted in previous research (Kinman, 2014; Nikunen, 2012). Nikunen (2012) highlights the different forms of organisational support that academic institutions can provide, including line managers, supervisors, mentoring, and networks. Kinman (2014) highlights the need for institutions to consider the support they provide to academics and suggests that institutions need to address academics' long working hours and work-life balance to better support their wellbeing. Eisenberger et al. (1986) proposed an organisational support theory, which states that employees will perform better when they sense organisational care, support and attachment. Previous empirical studies support that organisational support is related to job performance. The study of Manyasi et al. (2011) indicated that organisational support positively affects improving employee performance. The role of organisational support through organisational equity, leader behaviour in supporting subordinates, and participation in decision-making dimensions can improve employee performance (Azzam, 2015). The literature review highlights that organisational support can affect work productivity, so it can be hypothesised that:

H4: There is a positive and significant relationship between organisational support and employee productivity.

Figure 1

Specified Model

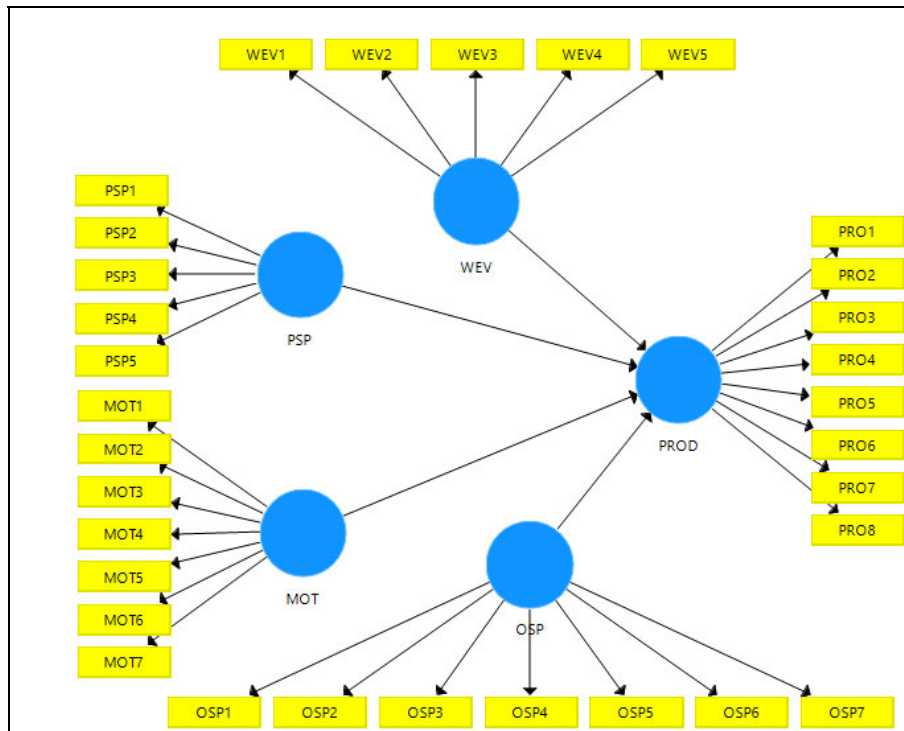
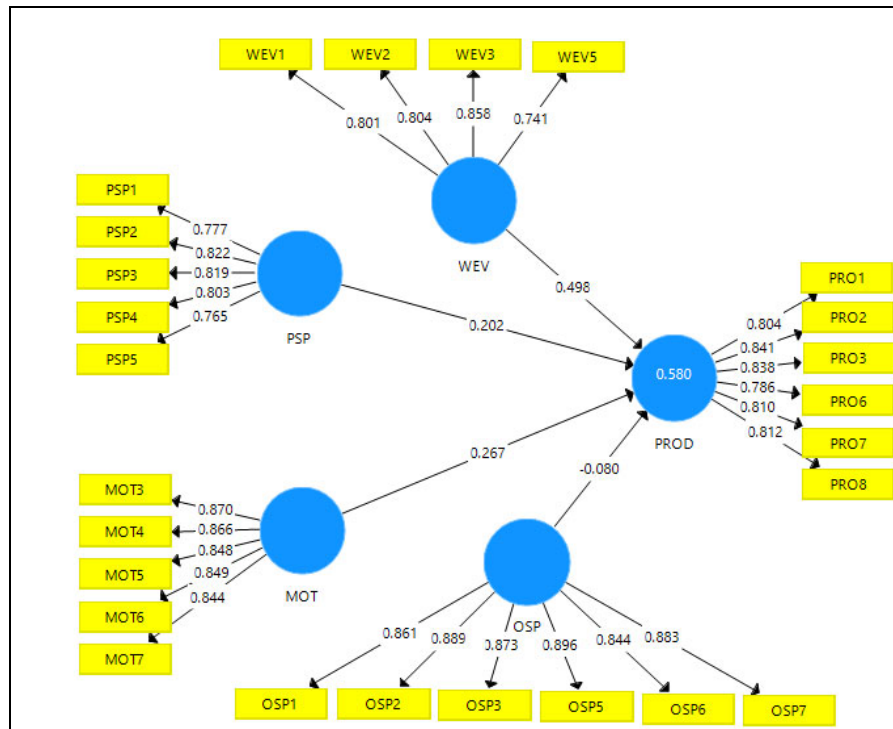


Figure 2

Re-specified Model



Methodology

Employees who work in public and private higher education institutions were selected for this study. This study focuses on their productivity working from home in the Malaysian education sector during the Covid-19 pandemic. The survey was conducted over a period of three months. As a method of data collection, questionnaires were emailed to selected respondents working in Malaysian higher education institutions. This study used a survey questionnaire that was devised by a broad evaluation of past studies to obtain suitable measurements that have been utilised and possess reliability and validity strength. A total of 32 observed variables constitute the measurement of the independent variable of eight items for productivity (Bhatti & Qureshi, 2007), five items for workplace environment (Briner, 2010), five items for peer support (Stewart et al., 2007), seven items for motivation (Deci & Ryan, 2010), and seven items for organisation support (Eisenberger et al., 1986). A five-point Likert scale was utilised, with responses ranging from strongly disagree to strongly agree, to make most of the response rate and quality and thus reduce the "level of frustration" of the respondents (Babakus & Mangold 1992; Sachdev & Verma, 2004). Out of 935 questionnaires distributed, 617 were returned. This constitutes a 65.98% response rate, which is adequate for carrying out data analysis using the SEM technique. After screening and removing the outliers, 579 questionnaires were found to be usable for data analysis. In this study, Smartpls3 was adopted to perform multivariate data analysis and testing of the proposed hypotheses. To evaluate the model measurement and structural model procedures, the PLS-SEM technique was used due to its assessment ability (Hair et al., 2010). This study adopted the PLS-SEM technique for model measurement assessment utilising the PLS-SEM algorithm and the structural model was then assessed via the bootstrapping technique.

Findings

Common Method Bias

Common method bias is one of the key issues in the conduct of management research. It will arise when the variation is due to the system of measurement instead of the designs of the measurements to be reflected in the analysis. Harman's single factor test was used to determine the bias of the measurement items in this study. After a factor analysis of the main components was carried out, the outcome of the main factor showed that 29.93% supported the lack of common method bias, because the main factor did not constitute the majority of the variance described. This is in line with the findings of Podsakoff & Organ (1986), which indicated that if the stated variance of the main component does not exceed 50%, there is no question of common method bias.

Respondents' Profiles

Data analysis based on the 579 usable questionnaires showed that the employees' gender constitutes 267 (46.11%) male and 312 (53.89%) female. Age of employees under 30 years old are 53 (9.15%), 30-40 years old are 169 (29.19%), 40-50 years old are 206 (35.58%), 50-60 years old are 114 (19.96%), and over 60 years old are 37 (6.39%). Classification by number of years employed are: 20 (3.45%) under one year, 92 (15.89%) 1-5 years, 109 (18.83%) 5-10 years, 120 (20.73%) 10-15 years, 113 (19.52%) 15-20 years, and 125 (21.59%) more than 20 years. Classification based on their qualifications constitutes seven (1.21%) with secondary school education, 18 (3.11%) with diplomas, 147 (25.39%) with bachelor's degrees, 272 (46.98%) with master's degrees, and 135 (23.32%) with doctorates.

Measurement Model

This research used the PLS-SEM algorithm to test the structural model and determine the validity and reliability of the construction measurement. According to Hair et al. (2017), reliability and validity are the two key criteria used in PLS-SEM for the study of outer model goodness. First, the specified model was introduced (Figure 1) and after the initial analysis was conducted, it was found that the requirement for Average Variance Extracted (AVE) was not met as item loading for several constructs were low. As a result, items WEV4, MOT1, MOT2, OSP4, PRO4, and PRO5 were deleted. After the deletion of lower loading items, the re-specified model was introduced. As shown in Table 1, the composite reliability ranged from 0.878 to 0.951 for first-order constructions and thus met the criterion of 0.70 and above (Hair et al., 2017). Besides, the result showed that the AVE ranged from 0.636 to 0.765, all of which were higher than 0.50, thereby demonstrating the existence of convergent validity for all latent structures (Hair et al., 2013). To support the presence of discriminatory validity in this study, cross-loading of the item was evaluated. The results indicated that all loadings for the items were larger than their respective cross-loadings. Heterotrait-Monotrait (HTMT) ratios were determined to further confirm the existence of a discriminant when all ratios of five variables were less than 0.9 (Table 2) (Henseler et al., 2015). The HTMT inference was also performed by running the full bootstrapping. Therefore, this research demonstrated the reliability and validity of the latent variables (Hair et al. 2014).

Table 1

Construct Reliability & Validity

	CA	rho_A	CR	AVE
MOT	0.908	0.911	0.932	0.732
OSP	0.939	0.945	0.951	0.765
PROD	0.899	0.901	0.922	0.665
PSP	0.858	0.872	0.897	0.636
WEV	0.814	0.815	0.878	0.643

Table 2

Heterotrait-Monotrait (HTMT) Ratios

	MOT	OSP	PROD	PSP
MOT				
OSP	0.471			
PROD	0.609	0.385		
PSP	0.559	0.568	0.629	
WEV	0.512	0.499	0.805	0.647

This study assessed the structural model by evaluating the path coefficient and R^2 value (Hair et al., 2013). The 500 sub-samples bootstrapping by adopting partial least square technique was utilised to confirm the path coefficient significance level in this study. Table 3 demonstrates the result of the hypotheses test, path coefficients, and t-values. In Table 3, Hypothesis 1 predicts a positive relationship between work environment and productivity and the results show there is a positive and significant influence of work environment on productivity ($\beta = 0.498$, $t = 12.322$); as a result, H_1 is supported. The results for Hypotheses 2 also show a significant and positive relationship between peer support and productivity ($\beta = 0.202$, $t = 4.692$), thus supporting H_2 . Hypotheses 3 results also show that there is a positive and significant relationship present between motivation and productivity (β

= 0.2676, t = 6.476); therefore, H_3 is supported. Lastly, Hypotheses 4 results reveal there is a negative and significant relationship between organisation support and productivity ($\beta = -0.080$, t = 2.279), and thus, H_4 is supported. This study also assessed the R^2 value of the endogenous construct of intention. The R^2 yielded moderate values, which signify the results' meaningfulness for interpretation.

Table 3

Hypotheses testing & results

Hypothesised Relationship	Beta	T Statistics	P Values	Conclusion
H_1 : WEV -> PROD	0.498	12.322	0.000	<i>Supported</i>
H_2 : PSP -> PROD	0.202	4.692	0.000	<i>Supported</i>
H_3 : MOT -> PROD	0.267	6.476	0.000	<i>Supported</i>
H_4 : OSP -> PROD	-0.080	2.279	0.023	<i>Supported</i>

Discussion

This study aims to establish an understanding of the direct effect of workplace environment, peer support, motivation, and organisational support on work-from-home employee productivity within Malaysian higher education institutions during the Covid-19 pandemic. Past studies had been carried out on workplace environment, peer support, motivation, organisational support, and employee productivity. Initial findings from these studies were used as the basis to form the model in this study, and it has demonstrated that workplace environment, peer support, motivation, and organisational support have positive and significant influence on employee productivity. The proposed research model of this study is to empirically assess the direct effect of workplace environment, peer support, motivation, and organisational support on employee productivity. To accomplish this objective, the PLS technique of data analysis was utilised.

The above results clearly show that workplace environment has the strongest impact on work-from-home employee productivity during the Covid-19 pandemic with a path coefficient of 0.498. This confirms the importance of the workplace environment element in determining work-from-home employee productivity. The findings of this study are consistent with those from studies conducted by Darachart (2019) and Chandrasekar (2011). The item measurement that states employee happiness with the arrangement of their workplace at home showed the highest loading compared to other loadings of the measurement. Higher education institutions must be proactive and demonstrate a strong willingness to ensure their employees have an appropriate and conducive workplace environment before allowing them to work from home. The finding has shown that a proper workplace environment at the employees' homes will lead to greater employee productivity, which will eventually bring better financial returns to the higher education institutions, in comparison to employees working in improper and uncomfortable work environments.

The second strongest factor that has an impact on work-from-home employee productivity is motivation, with a path coefficient of 0.267. This evidence shows that the level of employee motivation when working from home is one of the important determinants to ensure they will maintain high work productivity. Employees need to be motivated since they work alone, far from their office and colleagues. The higher education institutions must be able to take steps to ensure academics and non-academics who work from home are highly motivated while performing their jobs at home. Superiors and peers can help ensure those who are working from home are always highly motivated at all times. The management

should ensure that workers recognise how their individual actions and commitment play a significant part in the overall goals and development of the organisation. Employees would be proud and interested in their work if they are aware how their actions can influence the organisation; irrespective of how large or small their contribution may be. Often a simple word such as "thank you" or "great job" is enough. These meaningful words demonstrate an appreciation of their commitment, and can develop loyalty and inspiration to work harder. The result has shown that the higher the level of motivation, the more productive they will be.

The third strongest factor that affects work-from-home employee productivity is peer support, with a path coefficient of 0.202. The work-from-home arrangement very much needs peer support to ensure that the work done by employees will be smooth and meet the objectives of an assigned task. Even though those who work from home are unable to see their colleagues physically, they can still communicate with each other with the assistance of technology such as e-mail, online chat, and many more online applications. Effective communication and remote support from other employees can boost the morale of work-from-home employees in performing their tasks. Since there will be challenges in working from home, employees should find ways to stay in contact with their team and ensure that this becomes part of the norm as they start to work from home. This will definitely lead to higher productivity of their work as expected by their employers.

However, organisational support as the fourth factor that affects work-from-home employee productivity has yielded very interesting results. The results of statistical analysis have shown that organisational support has a negative and significant relationship with work-from-home employee productivity, with a path coefficient of -0.080. This indicates that the higher the organisational support, the lower the employee productivity will be. One of the reasons that may cause such a relationship is that when work-from-home employees perceive that there is strong organisational support from their higher education institutions, they believe there is also high monitoring and control on the work that is done from home. Therefore, it will lead to lower productivity due to their uneasiness of being monitored and controlled by their organisations. Therefore, it is very important for the higher education institutions to ensure that the support they lend to their employees during a work-from-home arrangement does not create the perception that the organisation is actually closely monitoring and controlling how the work is carried out. If such a perception can be reduced or eliminated, then productivity will tend to increase.

Conclusion

This study focuses the direct effects of workplace environment, peer support, motivation, and organisational support on work-from-home employee productivity within the Malaysian higher education sector during the Covid-19 pandemic. The statistical results have demonstrated that the direct effects of workplace environment, peer support, motivation, and organisational support on employee productivity were statistically positive and significant. Higher education institutions need to apply an approach with which workplace environment, peer support, motivation, and organisational support can be boosted, which will eventually strengthen employee productivity if or when they allow their employees to work from home. For future studies, it is recommended that other variables such as communication, teamwork, and family support are included as factors in developing the research model to further study employee productivity during a work-from-home arrangement.

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