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The Impact of Covid-19 Work Related Factors on Employees' Productivity

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Abstract

For the past few years, many businesses have been suffering from sales decline as they struggled to manage their employees during the Covid-19 outbreak. As a result, many companies today have policies to deal with the epidemic, such as the implementation of hybrid work arrangements to manage employee contact. Operating performance remains crucial for businesses to survive and flourish. Working from home requires self-discipline as there are less interactions with superiors, which can negatively affect employee productivity. Therefore, effective management is critical to maintain or improve employees' productivity level. The effect of remote work arrangements on the productivity of the general workforce have not been fully explored particularly in Malaysia. Literature review on work productivity during Covid-19 reveals that studies have mainly focussed employees in health and education sectors. The review of Malaysia indicates on that work from home productivity studies have mostly centred on a specific workplace or industry. Notably, there are no existing studies regarding the work from home productivity of the general workforce comprising of employees from both the manufacturing and service sectors in Malaysia. Therefore, this study aims to fill the research gap by focussing on the general workforce in Malaysia who are mostly employed either in the service or manufacturing sector. It is important for business organizations to understand the relevant Covid-19 work-related factors that impact the productivity of their staff. The factors are perceived organizational support, leadership, teamwork and technology support. For this study, data was collected via online survey. In total, 150 useable responses were obtained and analysed using SPSS. The results show that perceived organizational support and technology support significantly impact work productivity. However, leadership and teamwork did not have significant effect on employees' productivity. These findings

provide a useful guidance to managers to focus on providing organizational and technological support in order to improve work productivity for employees involved in hybrid working mode.

Keywords: Perceived organizational support, Technological support, Leadership, Teamwork, Productivity.

Introduction

Hybrid work arrangements have become a common practice today. It refers to the combination of employees working from home and in the office (Gratton, 2021). Work-from-home (WFH) became the main working mode for many employees during the height of the Covid-19 pandemic. At home, the employee just have to switch on the computer to finish their office work which seems to be a more relaxing and ideal environment. WFH gradually shifted to the hybrid mode particularly as the world started transitioning to the epidemic phase. Covid-19 has affected the world for over three years now. Even though working arrangements have changed in response to Covid-19, operating performance remains important for business firms to survive and thrive during the difficult economic period. Whatever the working mode, employee productivity is the continuous achievement factor. When a lot of effort is made by the employee, it is likely to be reflected in the individual's work performance and vice-versa.

In doing remote work during Covid-19, work performance fully depends on the employee's productivity. Since there are reduced interactions between the employees and their superiors in the WFH and hybrid work modes, working remotely requires self-discipline from the individual employees. It is inevitable that some employees would slack off when they WFH. Such sloppy behaviour directly impacts the process of working which leads to poor work performance (Kniffin et al., 2021). This is supported by Morikawa's (2022) research findings that WFH results in lower productivity for a large majority of employees. Nevertheless, organizations still have to find suitable ways to manage their employees who do remote work, including how to motivate them to improve or minimally sustain their work performance (Bartik et al., 2020). Similarly, Thambusamy and Bekirogullari (2020) also stressed that leaders in business firms would require strategies to be in place to ensure that employees' level of productivity are maintained or improved if possible when they work remotely.

How remote work arrangements affect the general workforce have not been fully explored (Kniffin et al., 2021) particularly in Malaysia. A review of the literature on work productivity during the pandemic reveals that most studies have focussed on employees in the health and education sectors (e.g. Spoorthy et al., 2020; Osman et al., 2021; Khan et al., 2021). Abiddin's (2022) literature review of Malaysia indicates that WFH productivity studies have mostly centred on a specific workplace (e.g. university, government department) or industry (e.g. construction, real estate). It can be observed that there are no existing studies regarding the WFH productivity of the general workforce comprising of employees from both the manufacturing and service sectors in Malaysia. Therefore, this study seeks to fill the

research gap by focussing on the general workforce in Malaysia who are mostly employed either in the service or manufacturing sector (Department of Statistics Malaysia, 2023).

Due to the necessity to effectively manage employees who work remotely to achieve better performance, it is important for business organizations to understand the relevant Covid-19 work-related factors that affect the work productivity of their staff. Furthermore, the management needs to understand these influential factors from the employees' perspective to identify which are the most effective to motivate their workers into putting more effort to attain better productivity when they WFH.

Covid-19 has posed many work challenges to organizations and their employees. Employees who WFH need support from the management. Perceived support from the organization helps to increase the employees' orientation towards the workplace and the work itself, positive behavioral outcomes such as increase performance and improve organizational citizenship behavior; and better employees' well-being (Eisenberger et al., 2020). Perceived organizational support (POS) refers to the extent of employees' perception that the organization value their contributions and care about their wellbeing (Eisenberger et al., 2016). When employees realize that they are supported and valued by their organization, they tend to work more efficiently for the value and success of the organization. Alshaabani et al. (2021) agree that POS is the organization's contribution to gain mutual benefits with their staff because employees are likely to act better to pay back the positive effects and support by the organization. The study by Chen et al. (2021) indicated that POS significantly increases employee engagement at their workplace during the Covid-19. However, it does not examine the effect on work productivity and individual wellbeing.

Leadership is important during the period of crises and exceptional situations, to demonstrate in the manners of democratic, participatory, and participatory administrative leadership style, in addition to the leadership's flexibility to boost up the acceptable level of employee performance during the pandemic period. According to Rathore et al. (2017), leadership is defined as the cooperation between the group members. It makes everyone do their best. In contrast, Asrar-ul-Haq and Kuchinke (2016) referred to leadership as the power to influence an individual or group's activity to achieve the goal. Lor and Hassan (2017) also defined leadership as the process of moving a group of people in a specific and planned direction by motivating them to work by choice. Leadership is the ability to influence others, motivate others to achieve their goals, and lead the group members as he deems appropriate (Harwiki, 2016). It is the engine that can improve the performance of employees through the enjoyment of leadership characteristics, whether innate or acquired.

Teamwork is critical during a crisis period. The term teamwork refers to the interaction and interdependent framework of behavioral processes between the members that convert the team inputs (such as organizational funding, members' characteristics or team member's composition) into results such as team performance or teams' satisfaction (McEwan et al., 2017). Even though teamwork has solid literatures, yet more research in diverse fields are still in need, and with the use of new technology and software necessitated by Covid-19, further improvement on the study of teamwork related to technology is still imperative (Salas,

et al., 2018). Using the underpinning organizational support theory (OST), having teamwork within an organization help to improve employees' well-being by creating a more supportive and pleasant workplace (Ogbonnaya et al., 2018), potentially leading to improved work productivity.

Based the discussions above, this research, therefore seeks to examine the impact of the four work factors related to Covid-19 on employees' work productivity in Malaysia. The factors are perceived organizational support, leadership, teamwork and technology support. Findings of this research can contribute as useful guidance to organizations as they shed light on the effectiveness of using these factors to improve employees' remote work productivity.

Literature Review

Perceived Organisational Support and Work Productivity

Drawing from the organizational support theory (OST) which was embarked on by Eisenberger, Huntington, Hutchinson, and Sowa in 1986, OST focuses on a general perception by employees on how much organizations manage their contributions and cares about their well-being in order to fulfil socio-emotional needs and assess the advantages of increased work effort (Ortiz et al., n.d.). Following this OST theory, employees tend to assign human-like characteristics to the organization, thereby encouraging the development of POS. The effects of organizational support on job performance is be measured by employees' affective commitment to the organization, explored reward outcome expectations, and the relationship between perceived support and job satisfaction. These effects should be greater for employees who have high need for praise and authorization or who are highly motivated to obtain it (Eisenberger et al., 1986).

OST was originally argued to be more focused on the support from supervisors-subordinates reciprocal relationship which treats both parties from employees' perspective (Shanock & Eisenberger, 2006). However, Fear et al. (2017) found that such relationships may not be true if the supervisors felt pressured to achieve the organization's goals and expectations. Thus, they may be more tough and demanding towards their subordinates instead of being supportive of them.

Assaari and Desa (2021) discussed that during a pandemic, employees must balance work stress with family members while working from home (WFH). Long-term exposure to stress leads to low productivity and directly will affect employees' inability to manage work stress and family conflict. In this case, POS may assist employees in reducing work stress and increase work productivity. As a result, they saw organizational support has a positive effect to employee's job performance. Similarly, Alshaabani and colleagues (2021) in their research in Hungary which shows that POS influences employee engagement. Employee engagement will gradually increase as POS improves, and vice versa.

Hence, while some studies have explored the positive impact of POS on employee engagement and job performance, more research is needed to examine the specific relationship between POS and work productivity during Covid-19, especially with the increasing trend of remote work. Therefore it is proposed that:

H1: There is significant relationship between perceived organizational support (POS) and work productivity.

E-leadership and Work Productivity

In the social exchange theory, the e-leadership style adopted is justified by the costs and benefits derived from it. Renu (2014) concluded that e-leadership has the benefit of not requiring geographical boundaries to operate. In a group discussion, the leader can use various communication methods as in virtual where body language can play a part in making communication effective through video calls for conferences.

Another study conducted by Abdullah and Mikkilineni (2021) analyses the perception of management students towards e-leadership. Based on the study, e-leaders can detect low employee morale and even though there is an absence of face-to-face interaction, employees learn faster via e-leadership practices. Similarly, the findings of Contreras and colleagues (2020) show that as the working mode changes, employees will use more teleworking compared to pre-Covid-19 period. E-leadership has challenged technical competencies to facilitate work monitoring, coordination, and alignment through novel technology-supported structures and to reduce barriers. Despite the obstacles, e-leadership can assist leaders and employees who work from home in improving work engagement.

While e-leadership has been recognized as a significant factor in improving employee performance, there is a need for more research to investigate how e-leadership can specifically contribute to work productivity during a pandemic when employees are working remotely and facing new challenges (Thambusamy & Bekirogullari, 2020). From the discussions, it is suggested that:

H2: There is significant relationship between leadership and work productivity.

Teamwork and Work Productivity

A research from Ogbonnaya, Tillman and Gonzalez (2018), discusses the importance of teamwork and training for employee well-being and patient satisfaction before Covid-19 and the relationship between teamwork and work performance. Strong leadership and a built-on trust environment among team members appear to be crucial factors that can help increase employee performance.

During Covid-19 pandemic, most organizations use virtual team to communicate. One research by Kilcullen et al. (2021) discusses the virtual team's rapid development during Covid-19. Virtual teams are rapidly increasing because employees in a team require communication and flexibility when working. Communications mean that team members need a platform to discuss their work, such as through electronic discussions, email messaging with other team members.

It is not just private organizations that use virtual teams; public organizations also are encouraged to use them. Elyousfi and colleagues (2021) investigated public organizations, e-leadership and virtual teams. As public firms frequently leverage new tech and become global and virtual, effectively leading virtual teams could always be a challenge. This study posits that team dynamics, followed by e-leadership, pose the greatest challenge in public

organizations. As a result, team collaboration, actions, and trust continue to be significant predictors of virtual teams' member performance within the public sector. To conclude, teamwork is one of the factors that affects work performance and there is a need for more research to investigate how teamwork can specifically contribute to work productivity if future challenges recur similar to the pandemic which requires employees to work independently in remote locations (Salas et al., 2018). Thus, it is hypothesized that:

H3: There is significant relationship between teamwork and work productivity.

Technology Support and Work Productivity

According to the transaction theory of stress and coping (TTSC), the primary research factor that will affect work performance is work-related stress. The goal of this study, conducted by Tarafdar and colleagues (2011), is to ascertain how technological stress affects performance and satisfaction. The effects of technostress create two factors in the scope of end-user computer technology: level of satisfaction with the ICT they use and work engagement while using it. Its results emphasize the negative effects of technostress on managers' capacity to use ICT effectively, as well as proof of mechanisms to minimize these effects.

Due to the Covid 19 pandemic, ICT requirement is increasing because of the changing environment, especially WFH. In addition, technostress has increased the level of stress for employees. The study by Camacho and Barrios (2022) discusses how lockdown period and three technological stressors such as work overload, work-family conflict, and privacy invasion impacted teleworkers' work-related health in terms of telework satisfaction and perceptions of job performance. Employees experience strain because of technostress, which tends to increase their heavy workloads over time.

The phenomenon of technostress during the Covid-19 pandemic as a result of WFH in Indonesia was part of the focus of one of study by Farmania, Elsyah and Fortunisa (2022). According to this study, the phenomena of technostress may have a favorable impact on productivity among workers who are under pressure from outside variables like the unanticipated Covid-19 pandemic. This environment can have an impact on employee behavior in addition to the complexity of technology and information systems. The environment can have an impact on employee behavior in addition to the complexity of technology and information systems. There is insufficient knowledge of the impact of technostress on work productivity during a pandemic, especially when employees are working remotely and experiencing various technological stressors. While some studies have explored the negative impact of technostress on managers' ability to use ICT effectively and thus affecting work productivity, more research is needed to understand how technostress can specifically affect work productivity particularly in a remote work context (Nisafani et al., 2020). Therefore, we propose the following:

H4: There is significant relationship between technology support and work productivity.

The independent variables in this study include Perceived Organization Support (POS), Leadership, Teamwork, and Technology Support while the dependent variable is Employee Productivity. The research conceptual framework is given below:

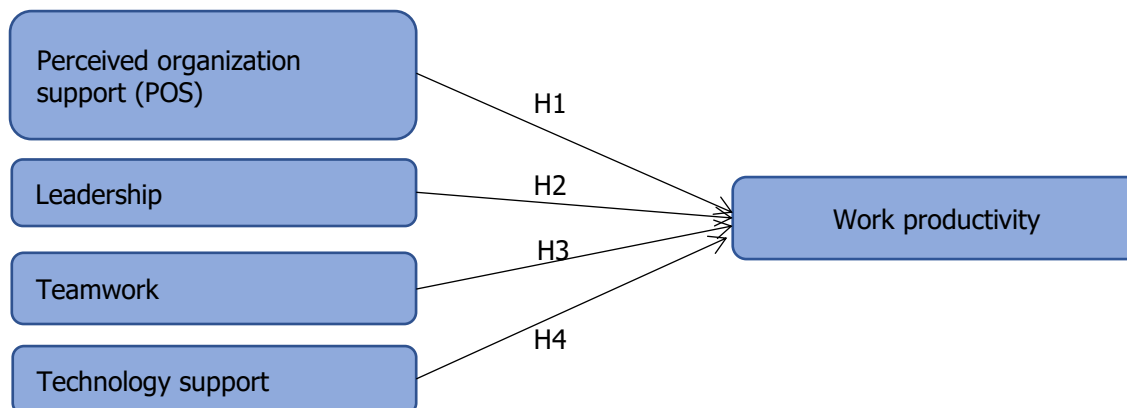


Figure 1. The Research Conceptual Framework

Research Methods

The study focuses on the Malaysian employees currently working in Malaysia both in the service and manufacturing sector. According to the Department of Statistics, Malaysia (2023), more than 79% of the jobs in the economic sector are covered by both services and manufacturing sector. Therefore, the study selected these two sectors as the target population to represent the employees in Malaysia. Using the G*Power software (Download, 2022) to determine the sample size for the study shows that a minimum of 129 respondents is needed with an effect size of $f^2=0.15$, confident level $\alpha=0.05$, $1-\beta= 0.95$. In order to ensure higher response rates, 350 respondents were contacted via WhatsApp, Messenger, and Instagram. After distributing the survey, the final sample size collected is 150 respondents. The study uses the snowballing technique (Simkus, 2022) to collect the data and the items are adopted and/or adapted from various literatures. Perceived organization support (POS) was sourced from Eisenberger et al., (1986) with 6 items, leadership from Elyousfi, Anand and Dalmasso (2021) with 5 items, teamwork from Lurie et al., (2011) with 5 items, technology support from Chen (2015) with 4 items and work performance from Farooq and Sultana (2022) with 5 items. The respondents are asked to indicate their level of agreement using a 5-point Likert Scale. The study uses SPSS version 29 to run the data for both descriptive and inferential analysis. Reliability test using Cronbach’s Alpha is tested to ensure the reliability of the items to measure the constructs. Cronbach’s alpha above 0.7 is considered acceptable and good (Tavakol & Dennick, 2011).

Results and Discussion

Descriptive Analysis

Table 4.1 Demographic’s Analysis

Demographic	Category	Percentage N=150
Gender	Female	59.3
	Male	27.3
	Prefer not to say	13.3

Age	18-25 years old	42
	26-30 years old	18
	31-35 years old	14.7
	36-40 years old	8.7
	41-45 years old	4.7
	46-50 years old	4.7
	51-55 years old	4.7
	56-60 years old	2
	Above 60 years old	0.7
Marital Status	Single	58
	Married	33.3
	Divorced	2.7
	Widowed	6
Employment Status	Full Time	93.3
	Part Time	6.7
Employer Sector	Manufacturing	89.3
	Services	10.7

From Table 4.1, most of the respondents are female (59.3%) with more than seventy percent are aged between 18-35 years old (74.7%). More than half of the respondents are still single (58%) and followed closely by married which occupied 33.3%. More than 90% of the respondents fall under the category of having a full time job (93.3%) who are working in the manufacturing sector (89.3%). Only 10.7% reported to be currently attached to the services sector.

Reliability Test

Table 4.2 indicates that the Cronbach's alpha value for all the independent variables fall within the good range which included perceived organization support, leadership, teamwork, and technology support. As for the dependent variable, work productivity is reported as 0.707 which is within the acceptance range. This indicates that all the constructs are acceptable and reliable to be used to test the model.

Table 4.2 Reliability Test for Independent Variables and Dependent Variable

Variable	Cronbach's Alpha	
Independent Variables	Perceived Organization Support	0.814
	Leadership	0.879
	Teamwork	0.850
	Technology Support	0.842
Dependent Variable	Work Productivity	0.707

Inferential Analysis

Using the multiple linear regression analysis to test the proposed hypotheses, the following were reported using Table 4.3 and Table 4.4. From Table 4.3, the multiple linear regression analysis shows that the model can be used to explain work productivity with R² equal to 32.7%. The model is fit to predict the dependent variable (F-value = 17.62, p-value < 0.01). The regression analysis shows that perceived organization support and

technology support have a p-value which is less than 0.05. However, leadership and teamwork are not significantly supported with a p-value of more than 0.05.

Table 4.3 Coefficients Metric using Multiple Linear Regression

Model	Unstandardized Coefficients		Standardized Coefficients (Beta)	t-value	Sig. (p-value)
	B	Std Error			
Constant	1.467	0.224		6.539	<0.001
POS	0.246	0.097	0.263	2.540	0.012
Leadership	0.065	0.069	0.089	0.947	0.345
Teamwork	0.080	0.069	0.103	1.154	0.251
Technology Support	0.153	0.068	0.216	2.236	0.027

R=0.572
R² = 0.327
Adjusted R² = 0.309
F=17.620 ,Sig = <0.001

Table 4.4 Hypothesis Testing

Hypotheses	Result	Decision
H1: POS → Work Productivity	p-value = 0.012 (p<0.05)	Accept H1
H2: Leadership → Work Performance	p-value =0.345 (p-value >0.05)	Reject H2
H3: Teamwork → Work Performance	p-value =0.251 (p-value >0.05)	Reject H3
H4: Technology Support → Work Productivity	p-value = 0.027 (p<0.05)	Accept H4

Based on Table 4.4, it was found that H1 and H4 are supported whereby both Perceived Organization Support (t-value = 2.540, p-value = 0.012) and Technology Support (t-value=2.236, p-value=0.027) have a positive relationship towards Work Productivity with the significant p-value less than 0.05. However, from the study, it was found that H2 and H3 were rejected whereby both Leadership (t-value = 0.947, p-value = 0.345) and Teamwork (t-value = 1.154, p-value = 0.251) does not have any significant relationship towards Work Productivity with a p-value of more than 0.05.

Perceived organization support has a positive association with work productivity in the current study. Research conducted by Alshaabani, Naz, Magda, Rudnák (2021), and Nguyen (2021) provided evidence that regardless the employees are attached to the public or commercial sectors, organizational support affected their job performance during the pandemic, whereby the support eventually lessens the impact of work-family conflict and stress on their ability to perform at work. These findings are corroborated by Alshaabani et al. (2021); these researchers commented that employees would appreciate the social and financial advantages given. This perspective from the employee shall lead to employee engagement at work during the COVID-19 pandemic. Nguyen (2021) highlighted perceived organizational support is more important than family support during the COVID-19 pandemic.

There is no relationship between leadership and work productivity. The finding is supported by Meiryani et al. (2022) that remote working will increase employee performance, not because of having a good leader. Transformational leadership typically inspires and motivates followers to achieve incredible achievements in the setting of e-leadership. The leadership is not focusing on improving employee performance during the Covid-19 pandemic; the motivation factor is a crucial priority at work regardless of the leadership. Also, the observation by Tan and Antonio (2022) shared that the recent e-leadership created due to remote working conditions during Covid-19 than in the "crisis mode" that required solid leadership to manage staff well-being, habits, and expectations.

The result also shows there is no significant relationship between teamwork and work productivity. For virtual team communication, trust factor is significant. Garro-Abarca et al.'s (2021) study demonstrated that the quality of virtual communication among team members will lead to work productivity with a strong trust level. Moreover, AlZaabi and colleagues (2021) found that older respondents with life experience could build trust quickly. This group could effectively adapt to new situations and challenges, increasing their productivity and performance with minimum motivation. Thus, it supports the finding of weak teamwork and work performance among those youngsters during Covid-19 compared to those who are of the older group, as majority of the respondents were young people.

There is a significant relationship between technology support and work productivity. Research by Tarafdar et al. (2011), Farmania et al. (2022) as well as Wang and Li (2020) indicated that technology support had reduced the technostress of employees. It could mitigate stress through better technology usage and improving speed and planning. Reducing the severity of ICT-related stressors will mitigate their adverse effects on end-user performance and satisfaction. Fortunisa (2022) highlighted that advanced technology will change the nature of jobs. Technology will bring benefits, reduce uncertainties and difficulties in advance that are created by changes, and lessen employees' fear factors, bad feelings of hostility and anxiety (Wang & Li, 2020), hence improving work productivity.

Three theories, including the organizational support theory, the social exchange theory, and the transaction theory of stress and coping, were used in this study. When applied to employee perception analysis, the findings could explain the association between organizational support and work productivity, thus strengthening the OST. In contrast, the social exchange theory could not explain the impact of leadership style on work productivity. As for the transaction theory of stress and coping, it explains technostress and employees' perceptions of technology changes, which affect work productivity.

Conclusions

The study findings imply that employee perceptions of support provided by the organization and technical assistance are important factors that affect work productivity particularly during the Covid-19 pandemic / epidemic years. Organizations both in the manufacturing and services sector can benefit from this research by focussing on the aforementioned factors to improve work performance of their employees, particularly for those involved in hybrid or WFH mode. Although this study found leadership and teamwork to have insignificant effects on employees' work productivity, these factors should not be totally

ignored by employers. Organizations could enhance e-leadership with remote control, building trust for better communication and promoting employee teamwork.

Since all the respondents of this study are Malaysians, the results cannot be generalized to non-Malaysian employees. It is recommended that this study be replicated in other countries and nationalities in future, to test its applicability under different conditions.

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