Determinants of Job Satisfaction Among Work-From-Home Malaysians During Pandemic: Application of Job Demands-Resources Model

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ABSTRACT

Work From Home (WFH) or telework is gaining its popularity all over the world, especially during the COVID-19 pandemic. The pandemic has forced the organizations to embark on vitrual work environment even though many were not prepared for such changes. This study examined the determinants of job satisfaction among the new home workers during the COVID-19 pandemic in Malaysia by applying the Job Demands-Resources (JD-R) Model. The data were collected from 370 respondents across various industries through online questionnaire survey. Out of the 370 respondents, 30.5% of the respondents specializing in education/training, 24.6% are in accounting/banking/finance, 15.9% are in computer/IT and the remaining 29% are from other fields such as administration/HR, marketing/sales, manufacturing, engineering, art/media/communication, sciences, services and others. The findings based on the Structural Equation Modelling (SEM) analysis suggests that social isolation, suitability of home workspace, organizational supports, job autonomy and perceived self-competency have significant influences on employees' job satisfaction while working from home. This study offers valuable insights to organizations regarding sustainable human resource management strategies during the pandemic. It suggests that various forms of organizational support should be extended to employees during times of difficulties and uncertainties.

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INTRODUCTION

With the current advancement of information communication technology, Work-From-Home (WFH) or telework has become a common work arrangement in the 21st century which allow the employees to work across organizational and national boundaries, time and space (Eurofound, 2017). Recognizing the potential advantages of WFH, telework nowadays is gaining its popularity all over the world, especially during this COVID-19 pandemic crisis, where employees around the world are forced to switch from work in office to work from home for the purpose of containing the spreading of virus (Agota et al., 2020). Many organizations have started to think of the arrangement of WFH as the best approach to be adopted as a new normal during and after the pandemic crisis. According to Bhat et al. (2017), this WFH strategy allows the organizations to be more agile and responsive to the ever-changing business environment and different crisis, such as the COVID-19 like pandemic which has greatly changed an individual's personal life and working life around the globe.

Malaysia, with no exceptional; when the nation-wide decision on lockdown was announced on 18 March 2020 by Malaysian government, WFH was one of the measures to curb with the rising number of COVID-19 cases. During the lockdown period, organizations across different sectors have come to an urgent need to transform their business activities from offline to online for the sake of business continuity and sustainability: digital business and delivery services were flourished in the market, students were forced to attend online classes, and office workers who never WFH before were being the first time switched to virtual workspaces. According to a survey conducted by the Department of Statistic Malaysia, there were 44% of the workers from both public and private sectors reported that they WFH during the first phase of Movement Control Order (DOS, 2020). With the sudden switch of mode of work, employees, especially the new WFH workers, might not be ready and adapt themselves to the virtual work environment.

There are different kinds of challenges faced by the employees while working from home. For instance, getting familiarise with the latest technology which rarely or never been used before, learning new skills, afraid of getting an infection, the limited accessibility and availability of resources and information, the blurred boundaries between work and personal life, the office space environment at home might not be as conducive as working in office and the challenge of achieving work life balance (Oakman et al., 2020). All these eventually added extra burden and responsibilities to the employees (Bhattarai, 2020). From the employers' perspectives, WFH was widely recognized as the best options of mode of working arrangement even after the pandemic because of its potential of cost saving such as reducing daily utilities and paid traveling cost, investment in infrastructure and work flexibility. However, this arrangement could actually impose and add an unfair burden on the employees as the cost has been indirectly transferred to the employees (Pennington and Jim Stanford, 2020). Therefore, it is important to explore the job satisfaction from the employee's perspectives during the pandemic crisis.

Employees' job satisfaction at all stages is very important parts of an employee's lifecycle and motivation to remain loyal to and stayed with an organization. A happy employee tends to be more productive and achieve a better mental health and wellbeing. Mental health issues such as job burnout, lowered self-esteem, anxiety, and depression can be minimized, and thereby, creating a healthier and more productive workplace (De Oliveira et al., 2023).

Studies focusing on virtual work or telework were not new and can be found extensively in the literature. However, the nature of work environment while working from home during pandemic crisis is very much different from the normal teleworking due to its limitation of work location (Donny, 2020). During the lockdown period, employees were urged to stay at home and the employees can only work from home. The working environment at home might not be as conducive as working in the comfortable area such as a café. Employees can be distracted by many disturbances, especially parents with young children at home. What are the factors that would likely to affect employees' job satisfaction during pandemic? The literature focused especially on pandemic and job satisfaction is rather rare. The pandemic like COVID-19 has forced organizations to work virtually even though they may not be physically and psychological ready for such changes. Therefore, the study of job satisfaction during the pandemic crisis has become a more relevant and newer scope of research study for the HR practitioner, researcher and other stakeholders to explore.

From the employees' perspective, this mandatory WFH arrangement has changed the existing job demand and job resources and brought a new and different set of challenges and motivation to the individual (Barbieri et al., 2021). As this is an extraordinary scenario and never happened before in the past, studies focused

on "mandatory" or enforced WFH are rather rare and limited. No doubts, there might have numerous of potential factors affecting individual's job satisfaction during crisis pandemic, this study will mainly examine the specific variables from the three main categories: job demands, job resources and personal resources.

The main objective of this research is to examine the determinants of job satisfaction among the new home workers during the COVID-19 pandemic in Malaysia by applying the Job Demands-Resources (JD-R) Model. Specifically, this study aims to assess the relationship of social isolation, suitability of home workspace, organizational support, job autonomy, and perceived self-competency on job satisfaction. This study provides implication to organization for sustainable human resource management during crisis pandemic in the future. It also serves as a reference for future researchers who are interested in exploring human behavior during crisis pandemic.

LITERATURE REVIEW

Job Demand-Resource (JD-R) Model

According to Demerouti and Bakker (2011), the underlying assumption of JD-R model is that each of every occupation has its own sets of specific risk factor which associated with job related stress. These factors can be grouped into two categories: job demands and job resources. JR-D model has been widely applied across different profession or working setting to examine the effect of both job demands and job resources toward job related strain and motivation, simultaneously (Demerouti and Bakker, 2011). Job demand is defined as "physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills" (Demerouti and Bakker, 2011). In another words, it is referred to those elements that can, directly or indirectly, cause stress to an individual such as social isolation, workload and unfavourable working environment. According to Meijman and Mulder (1998), job demand could likely to turn into job stressors if the individual failed to meet the job requirements. Job resources, on the other hand, is defined as "physical, psychological, social, or organizational aspects of the job that are either functional in achieving work goals, reducing job demands and the associated physiological and psychological costs, or [in] stimulating personal growth, learning, and development" (Demerouti and Bakker, 2011). Conducive working environment, organizational supports, job flexibility, performance feedback and job autonomy are among the elements that can support and maintain an individual well-being (Yu and Wu, 2021). In addition, JR-D model has undergone revision by incorporating personal resources into the existing model (Demerouti and Bakker, 2011). Personal resources such as self-efficacy, organisational-based self-esteem and optimism can be viewed as personal characteristics or personal strengths that can contribute, directly or indirectly, towards an individual's work engagement (Xanthopoulou et al., 2007). In other words, personal resources can be viewed as "individuals' sense of their ability to control and impact their environment successfully" (Xanthopoulou et al., 2013). It serves as an important determinant in facilitating the process of adapting an entirely new work settings and accepting radical change of work practices (Judge and Cable, 1997). This JR-D model provides a good foundation and framework in examining the determinants of employees' job satisfaction during Covid-19 pandemic as this model allows flexibility in incorporating its specific variables according to different specific contexts such as during pandemic crisis.

Job Demand

Social Isolation

Social isolation is referred to "the separation of a person, emotionally or physically, or both, from a group of wanted or necessary connections with other persons" (Biordi and Nicholson, 2013). As discussed earlier, WFH arrangement was in an urgent need as to control the spread of the virus and this scenario has resulted that the employees were being socially isolated. Social isolation has been commonly regarded as one of the biggest disadvantages of WFH as it creates social interaction restriction and communication barriers among the employees (Morganson et al., 2010). Brooks et al. (2020) stated that employees might experience emotional exhaustion and stress due to social and physical isolation. Past studies have also highlighted that during the quarantine period, mental and social health problems emerged, and subsequently, affect the overall quality life of the people (Smith and Lim, 2020; Clair et al., 2021). From the work perspective, with limitation of social

contact and interaction within and outside the work, employees tend to feel frustration and tension and eventually, resulted to lower job satisfaction (Toscano and Zappalà, 2020). With this, the following hypothesis is formed:

H1: Social isolation negatively affects employees' job satisfaction during crisis pandemic.

Job Resources

Suitability of Home Workspace

The suitability of home workspace comprises of both "physical" elements such as internet accessibility, computer hardware and software (IT tools), comfortable furniture, and "mental" conditions where the working environment is free from any distractions and disturbances (Carillo et al., 2021). The suitability of the virtual working condition will have a significant impact on employees' job satisfaction (De Croon et al., 2005). Information Technology (IT) tools are the most essential element needed while working from home as it allows the employees to share important information across different times and national boundaries (Cavazotte et al., 2014). In addition, it also plays a role in fulfilling individual social need for interpersonal interaction, thereby, improve employees' job satisfaction (Brunelle and Fortin, 2021). Besides that, according to Carillo et al. (2021), in order to maintain job satisfaction, it is critical to have a separate home office which is free from noises and distraction in ensuring a clear boundary between work and home. With this, the following hypothesis is formed:

H2: Suitability of home workspace positively affects employee's job satisfaction during crisis pandemic.

Organizational Supports

The emotional and instrumental supports provided by the organizations during the pandemic crisis is regarded as one of the important resources that help an induvial to deal with work-life conflict and achieve a balance between professional and personal life, thereby, promoting employees' job satisfaction (Kossek et al., 2011). Outside of work, digital social support provided by the organization improve job satisfaction by helping individual to fulfil their social needs of lacking personal interaction and helps to release work pressure indirectly (Anderson et al., 2015). When employees perceived that the supports and assistance provided are valuable, it tends to develop positive feelings, thereby, increase job satisfaction and quality of life (Barbieri et al., 2021). With this, the following hypothesis is formed:

H3: Organizational supports positively affect employee's job satisfaction during crisis pandemic.

Job Autonomy

Based on Job Characteristics Model (JCM), job autonomy is referred to the degree of discretion and independence given to an employee while performing and carrying out professional tasks (Hackman and Oldham, 1975). In other words, employees have the absolute control over their work scheduling, decision-making and freedom to pursue the preferred way on how to conduct and perform the work activities respectively (Morgeson and Humphrey, 2006). In JR-D model, job autonomy was recognized as one of the job resources that helps to reduce job stress and thus, enhance higher level of job satisfaction (Demerouti and Bakker, 2011). These findings were also supported by other researchers who found significant relationship between job autonomy and job satisfaction. According to Allen et al. (2013) and Bakker and Demerouti (2014), job autonomy not only allows the employees to coordinate work activities according to individual preferences, priorities, and time, to ensure work productivity, at the same time, to be more effective in coping and managing stressful job demands and resulted in higher job satisfaction. This is further supported by Change and Cheng (2014) who claimed that job autonomy is one of the determinants of job satisfaction particularly for those individuals who facing and struggling with high job demands and work-family conflict. With the sudden changes of the mode of work to full time WFH, it is yet to be examined whether employees will be having independence, authority, and discretion in performing the job demands and subsequently, its effect towards job satisfaction. With this, the following hypothesis is formed:

H4: Job autonomy positively affects employee's job satisfaction during crisis pandemic.

Personal Resources

__Perceived self-competency__

Competencies can be defined as a set of human's cognitive, emotional and motivational characteristics which comprising of knowledge, skills, traits and attitudes (Marsek et al., 2012). These characteristics allow an individual to perform the work tasks and manage the working situation, more effectively (Ley, 2006). There are specified types of skills and competencies needed for successful virtual workspace. According to Roberta and Nathan (2019), communication, self-motivation, trustworthiness, discipline, curiosity & critical thinking, adaptability, accountability, and empathy, were identified as the essential skills required by the teleworkers. Elijah (2020) further proposed 5 core competencies which were found critical and essential to be a successful remote worker: communication, integrity, self-management, growth mindset and digital proficiency. Past studies had revealed the significant relationship between perceived self-competency and job satisfaction, and it is one of the determinants of job satisfaction (Hamzah et al., 2013; Seyal and Afzal, 2013; Chalmers et al., 2013). With this, the following hypothesis is formed:

H5: Perceived self-competency positively affects employee's job satisfaction during crisis pandemic.

The proposed research framework for the study is presented in Figure 1.
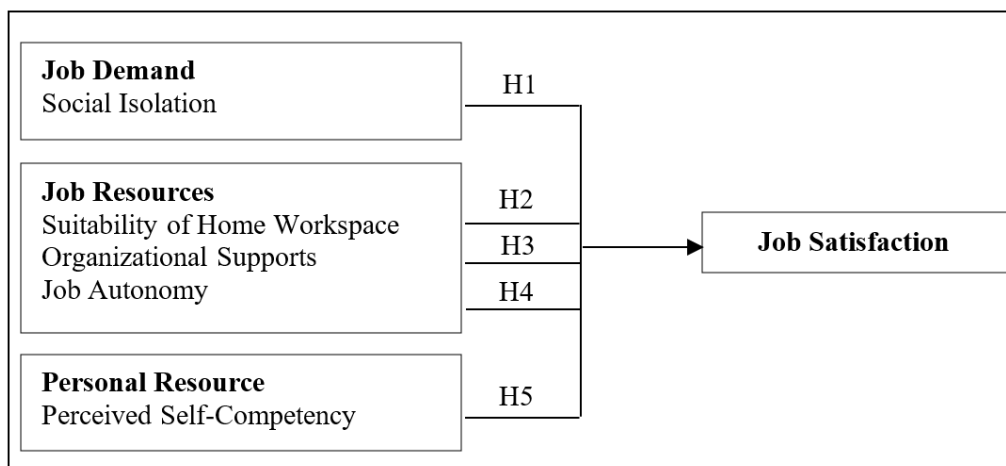
Source: Research framework developed for the study

Figure 1 Determinants of job satisfaction during crisis pandemic

METHODOLOGY

This study employed quantitative approach through online questionnaire survey. The questionnaire was designed by using Google Form and the link was sent to the target respondents by using convenience sampling and snowball sampling through different social media platforms such as email, Messenger and WhatsApp. The target respondents are the new home workers who do not have any experience of working from home prior to the COVID-19 pandemic. The data collection was carried out from 1st August 2021 to 30th October 2021, which extended over a period of 3-months. This survey was conducted 17 months after the official announcement of WFH policy where people have started to adjust and adapt themselves to the changes of mode of work. To minimize the common method variance, respondents were given with the assurance that the identity would remain anonymous and confidential, and there was no right and wrong answer, and respondents were encouraged to answer the questions honestly. According to Podsakoff et al. (2003), these "procedures should reduce people's evaluation apprehension and make them less likely to edit their responses to be more socially desirable, lenient, acquiescent and consistent with how the researcher wants them to respond". This study managed to gather a total of 403 completed responses, which met the minimum sample size requirement of 138

recommended by G-Power software (F-Test with power of 0.95, α= 0.05 and effect size of 0.15). Out of the 403 responses, 33 of the respondents reported that worked from home before, therefore, this group of people was excluded from the study. The remaining 370 responses, who are the new home workers, were entered into SPSS version 28 and Smart PLS 3 for data analysis. Structural Equation Modelling was used to test the hypotheses developed in this study.

A total of 32 items were adapted from past studies to measure the 6 variables in this study. This study applied the five-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5) to measure the studied variables. To measure social isolation, 6 items were adapted from Almarzooqi and Alaamer (2020)'s research. Items such as "Work from home creates difficulties in communicating with other employees.", "Work from home weakens the link between team members." were extracted from the study. To assess the suitability of home workspace, 6 items were extracted from Bhattarai (2020). Items related to workspace environment such as "I get time to focus on my work without interruptions from other people.", "I like the atmosphere in my home better than at work", "The physical conditions in my home do afford a good working environment." were employed. Next, organizational supports were measured with 5 items such as "My organization provides trainings and workshops to remain and improve employees' work productivity while working from home.", "My organization provides emotional supports for the employees.", "My organization adjusts my workload to accommodate my family responsibilities." adapted from Donald et al. (2020). To measure job autonomy, 5 items were adapted from Morgeson and Humphrey (2006)'s studies. Items such as ""While working from home, the job provides me with significant autonomy in making decisions", "While working from home, the job gives me a considerable opportunity for independence and freedom in how I do the work." were employed. There were 5 different skills adapted from Agota et al. (2020) to measure individual's perceived self-competency. Items such as "I am good in time management.', "I have strong personal responsibility for one's work." "I have good digital literacy skills." were extracted from the study. Lastly, job satisfaction was measure with 5 items adapted from Brayfield and Rothe (1951). Sample items such as "I feel fairly satisfied with my present job.", "Most days I am enthusiastic about my work.", "I consider my job rather unpleasant." were used to assess the overall job satisfaction while working from home.

The independent variables: social isolation, suitability of home workspace, organizational support, job autonomy, and perceived self-competency, are modelled as formative construct as the measurement items are not correlated with each other. Changes to any of these items will bring significant impact to the validity of the latent variable (Hair et al., 2017). Therefore, these items cannot be interchangeable among themselves. As for the dependent variable, job satisfaction, it is modelled as a reflective construct in this study in which these items are highly correlated and interchangeable. There are two steps involved in assessing and evaluating the research model in this study. Firstly, is to assess the validity and reliability of the measurement constructs; Secondly, is to assess the structural model as a whole to answer the research questions (Hair et al., 2017).

Convergent validity, collinearity among indicators and significance and relevance of outer weights were conducted to validate the formative measurement model. The validation results for all the formative constructs are presented in Table 1.

From Table 1, the redundancy analysis results revealed that the path coefficient for all the formative constructs in the study are well above 0.8, which demonstrates high satisfactory level of convergent validity (Hair et al., 2017; Hair et al., 2018). Next, the Variance Inflation Factor (VIF) for all the indicators are below the threshold value of 3.3, which indicates that collinearity issue does not exist in any of the formative constructs (Diamantopoulos and Siguaw, 2006). Lastly, the outer weights values for each of the formative indicators are significant except for SI1, SI4, SI6, SW3, OS3, JA1, JA2, JA4, JA5, SC2 and SC3. However, these indicators are still retained in the construct for content validity purpose (Hair et al., 2017). Furthermore, the outer loading values for these indicators are all significant (P-value <0.05), therefore, these indicators are retained for absolute contribution towards its construct (Hair et al., 2017).

Table 1 Assessment of formative constructs

Construct	Indicators	Convergent Validity	VIF	Outer Weights	Weights P-value	Outer Loadings	Loadings P-value
Social Isolation	SI1	0.873	1.559	0.067	0.681	0.529	0.000
	SI2		1.507	0.735	0.000	0.877	0.000
	SI3		1.379	0.243	0.014	0.509	0.000
	SI4		2.017	0.056	0.754	0.312	0.013
	SI5		1.839	0.485	0.000	0.660	0.000
	SI6		2.277	0.368	0.058	0.288	0.024
Suitability of Home Workspace	SW1	0.952	1.476	0.518	0.000	0.528	0.000
	SW2		1.811	0.336	0.015	0.532	0.000
	SW3		1.562	0.128	0.337	0.656	0.000
	SW4		1.687	0.707	0.000	0.573	0.000
	SW5		1.869	0.461	0.001	0.229	0.037
	SW6		1.131	0.484	0.000	0.340	0.003
Organizational Supports	OS1	0.883	1.279	0.221	0.035	0.571	0.000
	OS2		2.056	0.488	0.000	0.865	0.000
	OS3		1.910	0.164	0.193	0.733	0.000
	OS4		1.169	0.219	0.022	0.507	0.000
	OS5		1.335	0.317	0.000	0.695	0.000
Job Autonomy	JA1	0.930	1.288	0.038	0.740	0.472	0.000
	JA2		1.174	0.197	0.212	0.489	0.001
	JA3		1.379	0.771	0.000	0.931	0.000
	JA4		1.143	0.175	0.096	0.430	0.000
	JA5		1.139	0.214	0.065	0.433	0.000
Perceived Self Competency	SC1	0.942	1.920	0.255	0.008	0.806	0.000
	SC2		1.493	0.111	0.139	0.641	0.000
	SC3		1.790	0.158	0.060	0.737	0.000
	SC4		2.471	0.345	0.005	0.884	0.000
	SC5		2.342	0.342	0.005	0.882	0.000

To validate the reflective construct, indicator reliability, internal consistency, convergent validity and discriminant validity should be conducted (Hair et al., 2017). However, since there is only one reflective construct – job satisfaction, in this study, therefore, discriminant validity test was omitted as it is not a need to examine the distinctiveness of the construct (Urbach and Ahlemann, 2010). The validation results for the reflective construct are presented in Table 2.

Table 2 Assessment of reflective construct

Construct	Indicators	Factor Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
Job Satisfaction	JS1	0.858	0.919	0.694
	JS2	0.809		
	JS3	0.902		
	JS4	0.748		
	JS5	0.841		

From Table 2, the results revealed that all the item loadings are well above the recommended value of 0.708, thus demonstrating satisfactory levels of indicator reliability (Hair et al., 2017). Besides that, the CR value of 0.919 is also above the threshold of 0.7, which indicates that the items used to measure the constructs in this study achieved satisfactory level of internal consistency (Hair et al., 2017; Hair et al., 2018). Lastly, the AVE value is also higher than the recommended threshold value of 0.5, therefore, it indicates that the measurement construct in this study demonstrated an adequate convergent validity (Hair et al., 2017). With that, it shows that the measurement models in the study have been validated successfully and the subsequent step is to assess the fitness of the structural model.

FINDINGS

Table 3 presents the respondents' demographic profile. There are about 69.2% females and 30.8% males participated in this survey. Out of the 370 respondents, 53.8% are Generation Y, 43.8% are Generation X and the remaining 2.4% are Generation Z. Besides that, majority of the respondents reported that they have obtained a Master degree (47.6%), followed by Doctorate degree (24.3%), bachelor degree (23.0%), Diploma (3.0%) and secondary and lower (2.2%). In addition, 30.5% of the respondents are specialized in education/training, 24.6% are in accounting/banking/finance, 15.9% are in computer/IT and the remaining 29% are from other fields such

As administration/HR, marketing/sales, manufacturing, engineering, art/media/communication, sciences, services and others. Lastly, 58.9% of the respondents reported that they have children under 15 years old present at home while they are working from home during the pandemic and 41.1% reported the opposite.

Table 3 Respondents' demographic background

	Frequency	Percentage
Gender		
Male	114	30.8
Female	256	69.2
Generation		
X (born between 1965 to 1980)	162	43.8
Y (born between 1981 to 1996)	199	53.8
Z (born between 1997 to 2012)	9	2.4
Education Level		
Secondary or lower	8	2.2
Diploma	11	3.0
Bachelor	85	23.0
Master	176	47.6
Doctorate	90	24.3
Specialization		
Accounting/banking/finance	91	24.6
Administration/HR	36	9.7
Art/Media/Communication	4	1.1
Computer/IT	59	15.9
Education/Training	113	30.5
Engineering	12	3.2
Manufacturing	12	3.2
Marketing/Sales	16	4.3
Sciences	4	1.1
Services	4	1.1
Others	19	5.1
Children		
Yes	218	58.9
No	152	41.1

Note: Sample size (N) = 370

Assessment and validation of structural model is important for the researcher to make decisions whether to support or not to support the hypotheses developed in the study (Urbach and Ahlemann, 2010). Five different types of analyses were conducted to test the fitness of the structural model: lateral collinearity, path coefficient, coefficient of determination (R^2), effect size (f^2) and predictive relevance (Q^2). Table 4 presents the overall assessment result for the structural model.

Table 4 Assessment of structural model

	Relationship	Std Beta	p-value	t-value	Decision	f^2	VIF	R^2	Q^2
1	Social Isolation → Job Satisfaction	-0.121	0.000	3.296	Supported	0.024	1.353	0.556	0.366
2	Suitability of Home Workspace → Job Satisfaction	0.131	0.003	2.730	Supported	0.028	1.364		
3	Organizational Support → Job Satisfaction	0.221	0.000	3.629	Supported	0.076	1.445		
4	Job Autonomy → Job Satisfaction	0.222	0.000	5.138	Supported	0.093	1.201		
5	Perceived Self Competency → Job Satisfaction	0.344	0.000	5.532	Supported	0.173	1.540		

In order to address the collinearity issues, it is important to assess each set of predictors construct separately (Kock and Lynn, 2012). The VIF values for all the constructs are below the suggested value of 3.3 (Diamantopoulos and Sigouw, 2006), thus indicates that collinearity issues do not exist in the study (Hair et al., 2017). Next, a bootstrapping procedure with 5000 subsamples at 95% confidence level was run to assess the significance of the weight in the paths. The results show that the T values for all the constructs examined are greater than the critical value of 1.645 (one-tailed test) and the P values are less than 0.01. This implies that all the hypothesized relationships in the study are significant. To be more specific, the predictor of social isolation (β = -0.121, p <0.01), suitability of home workspace (β = 0.131, P <0.01), organizational support (β = 0.221, p <0.01), job autonomy (β = 0.222, p <0.01) and perceived self-competency (β = 0.344, P < 0.01), are significantly related to job satisfaction, which explained 55.6% (R^2 = 0.556) of variances in job satisfaction. According to

Cohen (1988), R^2 value above 0.26 indicates that there is a substantial predictive combined effect of independent variables on dependent variable. Therefore, with a R^2 value of 0.556, it indicates that this is a substantial model. With this, Hypothesis 1, Hypothesis 2, Hypothesis 3, Hypothesis 4, and Hypothesis 5, were all supported.

According to Cohen (1988), f^2 values of 0.02, 0.15 and 0.35 are considered as small, medium and large effect, respectively in explaining its dependent variable. It can be observed that perceived self-competency (f^2 = 0.173) has medium effect in producing the R^2 for job satisfaction. In addition, the results also indicate that social isolation (f^2 = 0.024), suitability of home workspace (f^2= 0.028), organizational support (f^2 = 0.076), job autonomy (f^2= 0.093) have relatively small effect in producing the R^2 for job satisfaction. Lastly, Q^2 values for job satisfaction (Q^2= 0.366) is above the recommended value of 0, indicating that the model has sufficient predictive relevance (Fornell and Cha, 1994).

DISCUSSION AND IMPLICATION

This study aims to examine the determinants of job satisfaction among the employees who work from home during Covid-19 pandemic. To be more specified, it intends to explore the effect of job demand (social isolation), job resources (suitability of home workspace, organizational support, job autonomy) and personal resources (perceived self-competencies) towards job satisfaction, by applying the Job Demand-Resources (JD-R) model. The findings revealed that job demand, job resources and personal resources significantly affect employees job satisfaction during the pandemic crisis.

Firstly, social isolation (job demand) is found negatively associated with job satisfaction (supporting H1). This result is consistent with Golden and Viega (2005)'s finding who also claimed that while employees are working from home, there is a limitation of social interaction within and outside work, this can cause frustration among the employees and resulted in lower job satisfaction. Therefore, to overcome the problem of isolation, organization should find ways to create and increase social interaction. Different types of digital social and emotional supports should be provided to the employees while working from home. For examples, managers can regularly check-ins to find out how is employees' life while working from home, different kinds of digital social activities such as virtual exercise classes and online happy hours can be organized to bring the sense of togetherness and belongingness among the colleagues, provide telehealth counselling services, initiate an online discussion board on mental and emotional health.

Next, suitability of home workplace (job resources) is found positively associated with job satisfaction (supporting H2). This finding is supported by De Croon et al. (2005) and Carillo et al. (2021) who claimed that a conducive and favourable home office environment increase employees job satisfaction while working from home. According to Cavazotte et al. (2014), IT tools are the most essential elements required while working from home. Therefore, organization should consider providing or subsidizing technology, home wi-fi and collaboration platform, to allow the employees to share important resources and information across boundaries and time space. In addition, organization can also supply or subsidize furniture such as ergonomics chairs and table for home office.

Organizational supports, which regarded as one of the job resources, are also found to be positively associated with job satisfaction (supporting H3). This result is consistent with the past studies conducted by Kossek et al. (2011) and Barbieri et al. (2021) who supported that organizational supports given during pandemic crisis help an individual to strike a balance between working and personal life, thereby, increase job satisfaction and quality of life. Therefore, different types of approaches can be implemented by the organizations such as provide time flexibility or time off to allow the employees to adjust the work scheduling to accommodate with family commitment or obligation, maintain employee's productivity and engagement even though they work remotely from home, maintain frequent, transparent and clear communication with the employees, provide technology, emotional and mental supports and promote employees' wellbeing.

Another job resource which is found positively associated with job satisfaction is job autonomy (supporting H4). This finding was supported by other researchers such as Demerouti and Bakker (2011), Allen et al. (2013), Bakker and Demerouti (2014) and Chang and Cheng (2014) who reached a common conclusion that job autonomy was a significant determinant of job satisfaction. It is a challenge for many people to maintain a clear boundary between professional and personal life, especially when it comes to a mandatory form of WFH when children and spouse are also around. In order to help the employees to achieve work-life balance during

pandemic crisis, certain degree of freedom, flexibility and discretion should be given to the employees in taking charge of their own work scheduling and activities which allow them to accommodate family obligation and responsibility at the same time.

Lastly, perceived self-competency (personal resources) is found to be positively associated with job satisfaction (supporting H5). This result is consistent with past studies which also agreed that perceived self-competency affects employees' job satisfaction significantly (Hamzah et al., 2013; Seyal and Afzal, 2013; Chalmers et al., 2013). With that, organization should relook into the existing training and learning programmes and design and provide the programmes and courses to build and enhance the relevant skills and knowledge from time to time. If employees possess the essential sets of competencies, it certainly helps to manage the work task more effectively which in turn, improve work productivity and job satisfaction.

CONCLUSION AND RECOMMENDATION

In conclusion, this study provides insights and implication to organization for sustainable human resource management during crisis pandemic in the future. Organization should redefine the existing human resource management policies and practices and create effective and meaningful action plans to support WFH employees in the time of difficulties and uncertainties. Employees job satisfaction is very important parts of an employee's career lifecycle and motivation to remain loyal to and employed with an organization. It is important to maintain and enhance employees' job satisfaction from time to time in different situation and different scenario, which eventually have subsequent effects on the work productivity and mental health and wellbeing. In addition, this study also serves as a reference for future researchers who are interested in exploring human behavior during crisis pandemic. The findings from this study could shed some new insights, particularly in the area of human resource management, to the current management literature in Malaysian settings.

Like other research, this study is no without its limitation. Firstly, the proposed research model explained 55.6% of the variance in job satisfaction among WFH employees during the pandemic crisis. This implied that the remaining 44.4% could be explained by other factors which are not being examined in the study. Therefore, other variables such as workload, role clarity, performance feedback, participation in decision making, self-efficacy, emotional intelligence, can be incorporated in the model to improve the coefficient of determination in future study. Secondly, the sample represents only the WFH employees working in certain states in Malaysia; therefore, it cannot make generalization to the entire population in Malaysia. Future studies may increase the geographical coverage or study on different specific geographical area and focus on certain industries and different group of employees. Thirdly, JD-R model is applied in present study, it is suggested that other frameworks or theories can be adopted and incorporated to build on new job demand and resources in future study. Lastly, the self-reported data collected for this study is based on employees' perspective, hence, future study may also assess the employer's perception to obtain a more holistic view from both parties

ACKNOWLEDGEMENT

REFERENCES

Agota, G. R., Violeta, R., Kristina, V. and Katarína, S., 2020. Working from Home—Who Is Happy? A Survey of Lithuania's Employees during the COVID-19 Quarantine Period. *Sustainability*, *12*(5332), pp. 1-21.

Allen, T. D., Johnson, R. C., Kiburz, K. M., Shockley, K. M., 2013. Work-Family Conflict and Flexible Work Arrangements: Deconstructing Flexibility. *Personnel Psychology*, *66*, pp. 345–376.

Almarzooqi, B. and Alaamer, F. A., 2020. *Worker Perceptions on Working from Home during COVID-19 Pandemic Empirical Evidence from Bahrain*. Retrieved 10 May, from https://ssrn.com/abstract=3643890

Anderson, A. J., Kaplan, S. A., Vega, R. P., 2015. The Impact of Telework on Emotional Experience: When, and for Whom, Does Telework Improve Daily Affective Well-Being?. *European Journal of Work & Organizational Psychology*, *24*, pp. 882–897.

Bakker, A. B., Brummelhuis, L. L., Prins, J. T., 2011. Applying the Job Demands-Resources Model to the Work-Home Interface: A Study among Medical Residents and Their Partners. *Journal of Vocational Behavior*, *79*, pp. 170-180.

Bakker, A. B. and Demerouti, E., 2014. *Job Demands-Resources Theory. In Wellbeing: A Complete Reference Guide*, JohnWiley & Sons, Ltd.: Chichester, UK,Volume III, pp. 37–64.

Barbieri, B., Balia, S., Sulis, I., Cois, E., Cabras, C., Atzara, S. and De Simone, S., 2021. Don't Call It Smart: Working From Home During the Pandemic Crisis. *Frontier in Psychology*, *12*, pp. 741585, 1-13.

Bhat, S. K., Pande, N. and Ahuja, V., 2017. Virtual Team Effectiveness: An Empirical Study Using SEM. *Procedia Computer Science*, *122*, pp. 33–41.

Bhattarai, M., 2020. *Working from Home and Job Satisfaction During the Pandemic Times.* Independent Publication, Toronto, ON, Canada.

Biordi, D. L. and Nicholson, N. R., 2013. Social isolation. In I. M. Lubkin, & P. D. Larsen (Eds.), *Chronic illness: Impact and intervention* (pp. 97-132). Jones and Bartlett Learning.

Brayfield, A. H. and Rothe, H. F., 1951. An Index of Job Satisfaction. *Journal of Applied Psychology*, *35*, pp. 307-311.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S. and Greenberg, N., 2020. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*, *395*, pp. 912–920.

Brunelle, E. and Fortin, J.-A., 2021. Distance Makes the Heart Grow Fonder: An Examination of Teleworkers' and Office Workers' Job Satisfaction through the Lens of Self-Determination Theory. *SAGE Open*, *11*, p. 2158244020985516.

Carillo, K., Cachat-Rosset, G., Marsan, J., Saba, T. and Klarsfeld, A., 2021. Adjusting to Epidemic-Induced Telework: Empirical Insights from Teleworkers in France. *European Journal of Information System*, *30*, pp. 69–88.

Cavazotte, F., Heloisa Lemos, A. and Villadsen, K., 2014. Corporate Smart Phones: Professionals' Conscious Engagement in Escalating Work Connectivity. *New Technology and Work Employment*, *29*, pp. 72–87.

Chalmers, J., Surujlala, J. and Dhurup, M., 2013. Reflections on operational competencies required of educators at public secondary schools. *Mediterranean Journal of Social Sciences*, *4*, pp. 181–192.

Clair, R., Gordon, M., Kroon, M. and Reilly, C., 2021. The effects of social isolation on well-being and life satisfaction during pandemic. *Humanities and Social Science Communications*, *8*, pp. 1–6.

Cohen J., 1988. *Statistical Power Analysis for the Behavioral Sciences.* New York, NY: Routledge Academic

De Croon, E. M., Sluiter, J. K., Kuijer, P. P. F. M. and Frings-Dresen, M. H. W., 2005. The Effect of Office Concepts on Worker Health and Performance: A Systematic Review of the Literature. *Ergonomics*, *48*, pp. 119–134.

de Oliveira, C., Saka, M., Bone, L. and Jacobs, R., 2023. The role of mental health on workplace productivity: a critical review of the literature. *Applied health economics and health policy*, *21*(2), pp.167-193.

Demerouti, E. and Bakker, A. B., 2011. The Job Demands–Resources model: Challenges for future research. *SA Journal of Industrial Psychology*, *37*(2), pp. 1-9.

Diamantopoulos, A. and Siguaw, J. A., 2006. Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration. *British Journal of Management*, *17*(4), pp. 263–282.

Donald, S., Charles, S. and Josh, B., 2020. *Five Ways Leaders Can Support Remote Work.* Retrieved 2 June, from https://sloanreview.mit.edu/article/five-ways-leaders-can-support-remote-work/

Donny, S., 2020. Revealing the Effect of Work-From-Home on Job Performance during the Covid-19 Crisis: Empirical Evidence from Indonesia. *The Journal of Contemporary Issues in Business and Government*, *26*(1), pp. 23-40.

DOS, 2020. *Report of Special Survey on Effects of COVID-19 on Economy & Individual – Round 1*. Department of Statistics.

Elijah, E., 2020. *5 Core Competencies of a Successful Remote Worker*. Retrieved July 2022, from https://www.linkedin.com/pulse/5-core-competencies-successful-remote-workerelija h-elkins

Eurofound and the International Labour Office, 2017. *Working Anytime, Anywhere: The Effects on the World of Work.* Publications Office of the European Union, Luxembourg, and the International Labour Office, Geneva.

Fornell, C. and Cha, J., 1994. Partial Least Squares. *Advanced Methods of Marketing Research*, *407*, pp. 52-78.

Hackman, J. R. and Oldham, G. R., 1975. Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, *60*, pp. 159–170.

Hair, J. F., Hult, G., Tomas, M., Ringle, C. M., and Sarstedt, M., 2017. *A Primer on Partial Least Squares Structural Equation Modeling (PLSSEM)*: SAGE Publications, Incorporated.

Hair, J. F., Sarstedt, M., Ringle, C. M. and Gudergan, S. P., 2018. *Advanced Issues in Partial Least Squares Structural Equation Modeling (PLS-SEM).* Thousand Oaks, CA: Sage.

Hamzah, M. I., Othman, A. K., Hashim, N., Rashid, M. H. A. and Besir, S. M., 2013. Moderating effects of organizational culture on the link between leadership competencies and job role performance. *Australian Journal of Basic and Applied Sciences*, *7*, pp. 270–285.

Judge, T. A. and Cable, D. M., 1997. Applicant personality, organizational culture, and organization attraction. *Personnel Psychology*, *50*, pp. 359–394.

Kossek, E. E., Pichler, S., Bodner, T. and Hammer, L. B., 2011. Workplace Social Support and Work-Family Conflict: A Meta-Analysis Clarifying the Influence of General and Work-Family-Specific Supervisor and Organizational Support. *Personnel Psychology*, *64*, pp. 289–313.

Ley, T., 2006. *Organizational competency management: A competence performance approach- methods, empirical findings and practical implications*. Retrieved June 2022 from http://knowcenter.Tugraz.at/wpcontent/uploads/2010/12/Diss_Tobias _Ley_Sum mary.pdf.

Masrek, N. M., Johare, R., Saad, M. S. M., Rahim, H. and Masli, J. B., 2012. Competencies needed by paraprofessionals in library services: A case of study of Sarawak state libraries, *IBIMA Business Review 2012*, pp. 1–12.

Meijman, T. F. and Mulder, G., 1998. Psychological aspects of workload. In P. J. Drenth, H. Thierry and C.J. de Wolff (Eds.), *Handbook of Work and Organisational Psychology* (2nd ed.); pp. 5–33. Hove, UK: Erlbaum.

Morganson, V. J., Major, D. A., Oborn, K. L., Verive, J. M., and Heelan, M. P., 2010. Comparing telework locations and traditional work arrangements: differences in work-life balance support, job satisfaction, and inclusion. *Journal of Management Psychology*, *25*, pp. 578–595.

Morgeson, F. P. and Humphrey, S. E., 2006. The work design questionnaire (WDQ): developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, *91*(6), pp. 1321–1339.

Oakman, J., Kinsman, N., Stuckey, R., Graham, M. and Weale, V., 2020. A rapid review of mental and physical health effects of working at home: how do we optimise health?. *BMC public health*, *20*, pp. 1-13.

Pennington, A. and Jim Stanford., 2020. *Working from Home: Opportunities and Risks.* The Australia Institute, Centre for Future Work.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y. and Podsakoff, N. P., 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88* (5), pp. 879–903.

Preacher, K. J. and Hayes, A. F., 2008. Contemporary approaches to assessing mediation in communication research. In A. F. Hayes, M. D. Slater, & L. B. Snyder (Eds.), *The Sage sourcebook of advanced data analysis methods for communication research* (pp. 13–54). Sage.

Roberta, S. and Nathan, J. S., 2019. *Remote work: competencies and motivation.* Retrieved July 2022, from https://www.forbes.com/sites/laurelfarrer/2020/03/19/academic-research-proves-8-skills-critical-to-work-from-home-success/

Rudolph, C.W., Allan, B., Clark, M., Hertel, G., Hirschi, A., Kunze, F., Shockley, K., Shoss, M., Sonnentag, S. and Zacher, H., 2021. Pandemics: Implications for research and practice in industrial and organizational psychology. *Industrial and Organizational Psychology*, *14*(1-2), pp.1-35.

Seyal, A. H. and Afzal, T., 2013. An investigation of relationship among emotional intelligence, organizational commitment and job satisfaction: Evidence from academics in Brunei Darussalam. *International Business Research*, *6*, pp. 217–228.

Smith, B. and Lim, M., 2020. How the COVID-19 pandemic is focusing attention on loneliness and social isolation. *Public Health Research and Practice*, *30*, p. e3022008.

Toscano, F and Zappalà, S., 2020. Social isolation and stress as predictors of productivity perception and remote work satisfaction during the covid-19 pandemic: the role of concern about the virus in a moderated double mediation. *Sustainability*, *12*(23), pp. 1-14.

Urbach, N. and Ahlemann, F., 2010. Structural Equation Modeling in Information Systems Research Using Partial Least Squares. *Journal of Information Technology Theory and Application*, *11*(2), pp. 5-40.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., Schaufeli, W. B., 2007. The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, *14,* pp. 121–141.

Xanthopoulou, D., Bakker, A. B. and Fischbach, A., 2013. Work engagement among employees facing emotional demands: The role of personal resources. *Journal of Personnel Psychology*, *12*(2), pp. 74–84.

Yu, J. and Wu, Y., 2021. The Impact of Enforced Working from Home on Employee Job Satisfaction during COVID-19: An Event System Perspective. *International Journal Environment Research and Public Health*, *18*(13207), pp. 1-22.