

Factors Affecting the Productivity and Satisfaction of Home-Based Teleworkers in the Philippines

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Abstract

Different teleworking factors were investigated to identify which ones have a significant effect on the Filipino teleworkers' productivity and satisfaction. The factors with a significant effect on productivity were the degree of work hour flexibility and the degree of supervision. On the other hand, the factors that have a significant effect on satisfaction were age, IT support availability, and the degree of supervision. Moderation analysis on the factors affecting satisfaction found that increasing age reduced the positive effect of IT support availability. Analysis of just the respondents with child and elder responsibilities yielded almost similar results with IT support availability and balance of responsibilities at home significantly affecting satisfaction for those with child care responsibilities and degree of work hour flexibility and degree of supervision significantly affecting productivity among those with elder care responsibilities. Further analysis showed that providing financial assistance and training prior to teleworking significantly improved teleworker satisfaction while the presence of other household members significantly improved teleworker productivity. These findings may be used as basis for creating guidelines for the effective implementation of teleworking of office workers in the Philippines.

Keywords: work from home, teleworking, telecommuting, performance of teleworkers

Introduction

Teleworking, or working from home using information and communications technology, has risen up worldwide due to various advancements and improvements in the field of information and communication technologies (Hill et al., 2003; Peters & den Dulk, 2003; Giovanis, 2018; Smith et al., 2019), and accompanied by changes to the community's attitude, modernizing working arrangements in favor of achieving a balanced lifestyle (Nakrošienė et al., 2019; Mustajab et al., 2020). A study by the International Workplace Group in 2018 found that 70% of employees work remotely at least once per week (Browne, 2018; PR Newswire, 2018), while the Global Workplace

Analytics analysis in 2018 showed that home-based teleworking grew by 173% since 2015.

Despite widespread interest, the growth rate of teleworking still varies significantly globally per country. According to Owl Labs' 2018 Global State of Remote Works, 9% more companies in Asia and South America do not allow teleworking as compared to the global average. In the Philippines, a survey from the Employers Confederation of the Philippines (ECOP) in 2019 found that despite government support and strong public interest, only 28% of Philippine-based companies have implemented a teleworking arrangement with the number of actual teleworkers still unknown (Reyes, 2019).

This slow growth in the implementation of teleworking could be attributed to a lack of understanding on how different teleworking factors interact with each other in addition to several barriers to effective teleworking such as the management's lack of trust towards their employees due to the impression that the quality of work would decrease if they were out of sight (Hill et al., 2003; Peters & den Dulk, 2003; Nakrošienė et al., 2019; Fuscaldo, 2021) and the employees' lack of proper workspace and equipment outside of the office (Baker et al., 2007; Mustajab et al., 2020; Lopez-Leon et al., 2020; Shields, 2021; Virginia Tech Human Resources, 2021). This also makes it difficult for businesses to balance the advantages and disadvantages of teleworking.

The most commonly stated advantage of teleworking is that it gives workers the flexibility in how to use their time and divide it between work and social/family life (Hill et al., 2003; Peters & den Dulk, 2003; Giovanis, 2018; Belzunegui-Eraso & Erro-Garcés, 2020; Mustajab et al., 2020). This flexibility also lets teleworkers perform during their peak hours or take shorter breaks to be more productive (Hill et al., 2003; Bloom et al., 2014; Giovanis, 2018; Nakrošienė et al., 2019; Smith et al., 2019; Kazekami, 2020; Mustajab et al., 2020). Teleworking has also reduced the need for commuting to work, giving businesses and organizations the opportunity to hire and retain the best employees even if they live far away (Hill et al., 2003; Bloom et al., 2014; Mustajab et al., 2020). This has also helped employees save on transportation expenses (Hill et al., 2003; Peters & den Dulk, 2003; Nakrošienė et al., 2019; Mustajab et al., 2020), and has allowed employees to work more discretely and comfortably at home without being distracted by their co-workers (Bloom et al., 2014; Nakrošienė et al., 2019; Smith et al., 2019) or being under constant supervision from their managers (Giovanis, 2018; Nakrošienė et al., 2019; Kazekami, 2020; Mustajab et al., 2020). Less people in the office also benefits the employers by cutting expenses such as rent for office space and electricity (Nakrošienė et al., 2019; Mustajab et al., 2020).

On the other hand, the most commonly reported disadvantage is the employees' work spilling over into their homes, resulting in

increased levels of stress in some teleworkers (Ojala & Pyöriä, 2018; Nakrošienė et al., 2019; Kazekami, 2020; Mustajab et al., 2020). Additionally, reduced communication between co-workers due to working separately may lead to less team synergy, lower morale, a sense of isolation for employees (Hill et al., 2003; de Vries et al., 2019; Nakrošienė et al., 2019; Van der Lippe & Lippényi, 2020), and in some cases, even lower job satisfaction (Nakrošienė et al., 2019; Smith et al., 2019). The fewer hours teleworkers spend in the office also often makes them feel distant from the organization and experience career growth anxiety (Hill et al., 2003; Nakrošienė et al., 2019; Van der Lippe & Lippényi, 2020). To make up for the time not spent in the office, some teleworkers develop workaholism or an informal overtime practice (Hill et al., 2003; Peters & den Dulk, 2003; Ojala & Pyöriä, 2018; Nakrošienė et al., 2019; Kazekami, 2020). Lastly, teleworking could also increase costs such as for electricity and internet for employees due to longer hours at home (Baker et al., 2007).

According to Peters & den Dulk (2003), national and regional cultures may also influence how well teleworking is implemented in a certain area. Unfortunately, in the Philippines, not much is known about the factors that may have influence on local teleworking. Considering the low adoption rate of teleworking in the country, there is a need to identify which factors affect working from home. Towards this, the purpose of this study is to find out what factors have a significant effect on Filipino teleworkers' productivity and satisfaction. Understanding these factors and knowing how they interact with each other would provide guidance to businesses in planning and/or properly implementing their teleworking setup.

Methodology

Research Design and Tool

The study used a correlational design to investigate the relationship among several factors with the productivity and satisfaction of home-based teleworkers. A survey questionnaire was prepared and used as data-gathering tool. A pilot test was conducted with 32 respondents

to ensure that a correlation among the research variables can be found. The instrument has six sections: demographics, organizational factors, job factors, personal and household factors, and work impact. The demographics section inquired about the respondent’s age, gender, occupation, and their length of teleworking experience. The organizational factors section inquired about the different kinds of support offered by the management and work culture that did not pertain to the characteristics of the job itself. The job factors section inquired about work practices and the characteristics of the job itself such as work hours and frequency of meetings and whether these have changed upon teleworking. Personal & household factors section inquired about respondent’s responsibilities outside of work that might affect their work. Meanwhile, the work impact section inquired about the respondent’s work productivity and satisfaction upon teleworking.

Respondents

Respondents were selected using the exponential discriminative snowball sampling method to ensure that all respondents have a background in teleworking. The initial respondents were selected among people that the researchers knew to be teleworkers who did office work in different industries. Each respondent then provided names of people they knew to also be teleworkers who did office work. However, an option was given for the respondents to simply send the hyperlink for the survey form directly to others if they felt that complete anonymity

was needed. All respondents were reviewed again individually based on their answers in the demographics section to ensure that they passed the criteria of being teleworkers who did office work.

A total of 130 responses were obtained from the online survey although only 103 were used for analysis. Twenty-seven respondents were removed from the study due to 14 answering the survey incorrectly and being unavailable when contacted for correction, 11 did not pass the criteria of performing office work, and two did not have any experience in teleworking. Table 1 shows that there is a discrepancy among the age groups, with a large majority from the age bracket of 21-30 years old while the other two age groups having almost equal representations. For the nature of work, most of the respondents worked in operations while research and administration are almost equal, and a single respondent worked in marketing.

Since a large majority of the respondents (83.4951%) consisted of those in the 21-30 years old age group, the findings of this study might have a bias towards younger workers. Similarly, teleworkers working in operations also made up a majority of the respondents (57.2816%), which could also result in a bias towards employees working in operations. These possible biases should be kept in mind when reading the findings of this study.

Statistical Analysis

A multiple regression analysis was done to identify which organizational and personal

Table 1. Demographic information of the telework survey respondents (n=103).

Age group	Number	Percentage (%)
21-30 years old	86	83.4951
31-40 years old	9	8.7379
41 years old and onwards	8	7.7670
Nature of work		
Operations	59	57.2816
Research	22	21.3592
Administration	21	20.3883
Marketing	1	0.9709

factors have a significant correlation with the teleworkers' job productivity and/or job satisfaction. Factors that did not show any significant correlations were removed and no longer used for further analyses.

Another regression analysis was done between job productivity and job satisfaction. If a significant correlation was found, a follow-up mediation analysis was done on the organizational factors which have a significant correlation on both job productivity and job satisfaction, with job productivity as the mediator. Mediation analysis is a type of regression analysis that is typically done to better understand the relationship of an independent and dependent variable by introducing another dependent variable, the mediator, into the correlation. If a mediation effect was found, it can be said that the mediator is the means by which the independent variable affects the dependent variable. In the context of the study, this was done to provide clarification whether the organizational factors that affect both job productivity and job satisfaction are affecting them independent of each other or if the increase in job satisfaction happened due to an increase in job productivity.

Afterwards, moderation analysis was done, testing personal factors as the moderator between organizational factors and job productivity and satisfaction. Moderation analysis is another type of regression analysis that tests whether the presence of another independent variable, the moderator, changes the correlation of two variables. If a moderating effect was found, then it can be said that the relationship of the independent and dependent variables are not constant and varies at different values of the moderator. In the context of the study, this helped determine which personal factors affect and by how much they affect the influence of organizational factors on job productivity and/or job satisfaction.

Two additional regression analyses were then done solely for respondents who reported to have child and elder care responsibilities each. This was to see whether different teleworking factors would become significant if more focus was placed specifically on either child care and/or elder care.

Response Variables

Productivity in this study was defined as the rate of productive time compared to the number of hours a teleworker has to work without counting their overtime hours. Productivity is a common measure of performance in telework studies since an increase in productivity is also a commonly reported benefit to teleworking. This was measured in the study by asking the respondents' the average work hours they consider to be productive and comparing it to their work hours without overtime. This is not to be confused with performance which pertains to the overall performance of a teleworker, of which productivity is a part.

Job satisfaction refers to the general level of contentment or fulfillment an employee feels with their job. For this study, satisfaction will be defined as the level of satisfaction a teleworker feels with the quality of their work since starting the teleworking setup. This will help measure their performance indirectly as it measures the teleworker's satisfaction with their output which can be affected by the multiple teleworking factors. In the study, this was measured by the respondents rating their satisfaction with the quality of their work.

Results and Discussion

Table 2 shows the multiple regression analysis results for teleworking factors with productivity and satisfaction for those respondents with child care responsibilities, and for those with elder care responsibilities.

Only two teleworking factors were found to have a significant correlation with productivity among all respondents. Degree of supervision had a positive correlation with productivity indicating that greater or more frequent supervision resulted in an increase in productivity for the teleworkers. Meanwhile, the degree of work hour flexibility had a negative correlation with productivity indicating that more work hour flexible home-based teleworking setups resulted in a decrease in productivity for Filipino workers. Additionally, the teleworking factors that were found to

Table 2. Multiple regression analysis of teleworking factors with productivity and satisfaction.

Teleworking factor	All respondents (N=103)				Respondents with child care responsibilities (N=26)				Respondents with elder care responsibilities (N=35)			
	Productivity		Satisfaction		Productivity		Satisfaction		Productivity		Satisfaction	
	B	p	B	p	B	p	B	p	B	p	B	P
Age	-0.003	0.360	0.033	0.017	-0.006	0.407	-0.029	0.194	0.001	0.844	0.024	0.272
WFH Length	-0.017	0.401	-0.108	0.172	-0.03	0.48	-0.184	0.171	-0.032	0.395	-0.110	0.383
Overtime Frequency	-0.001	0.959	-0.021	0.673	0.009	0.742	-0.008	0.921	0.028	0.349	-0.064	0.520
Meeting Frequency	0.018	0.157	0.061	0.197	0.043	0.132	0.157	0.080	0.034	0.178	0.076	0.364
Meeting Length	-0.030	0.072	-0.091	0.128	0.009	0.837	-0.112	0.410	-0.034	0.581	-0.186	0.375
Number of children at home	0.040	0.120	-0.101	0.305	-0.008	0.891	-0.117	0.521	-0.009	0.823	-0.082	0.541
Number of elders at home	-0.024	0.282	-0.004	0.967	-0.011	0.849	-0.169	0.379	0.033	0.507	-0.126	0.452
IT support availability	0.008	0.775	0.235	0.029	0.065	0.468	0.728	0.031	-0.034	0.517	0.151	0.391
Degree of Supervision	0.051	0.027	0.187	0.035	-0.032	0.717	0.297	0.336	0.138	0.025	-0.236	0.221
Power Distance	-0.005	0.846	-0.146	0.152	-0.071	0.299	-0.203	0.298	0.05	0.335	0.144	0.403
Workmate Interaction Frequency	0.004	0.869	0.146	0.104	0.085	0.402	0.167	0.578	-0.056	0.321	0.266	0.166
Workmate Interaction Importance	-0.013	0.698	-0.045	0.728	-0.161	0.146	0.213	0.485	-0.039	0.605	0.118	0.641
Degree of Work Hour Flexibility	-0.057	0.006	0.045	0.557	0.029	0.682	0.107	0.601	-0.091	0.043	0.086	0.543
Balance of Responsibilities at Home	-0.004	0.902	0.136	0.222	0.029	0.965	-1.053	0.024	-0.013	0.85	0.129	0.581

have a significant correlation with satisfaction among all respondents were age, IT support availability, and the degree of supervision. Age was the only personal and household factor that was found to have a significant correlation with either productivity and satisfaction. IT support availability had the highest regression coefficient among all the significant teleworking factors for both productivity and satisfaction with the correlation of degree of supervision with satisfaction being the second highest. The three significant teleworking factors were positively correlated with satisfaction, indicating that as age, IT support availability, and degree of supervision increased, the satisfaction of Filipino teleworkers also increased.

The negative correlation of the degree of work hour flexibility with productivity indicates that a fixed work schedule might be more conducive for the productivity of Filipino teleworkers. This decrease in productivity due to increasing work hour flexibility is also reported by Peters & den Dulk (2003) and Mustajab et al. (2020) who

stated that the increased work hour flexibility gives teleworkers more control over the time and order of doing their work. This allows the teleworkers to do their tasks in shorter periods of time spread out over the duration of the workday (Hill et al., 2003). Moreover, Filipinos are known for being family oriented and that they prioritize their family in many of their decisions (Diversify OSS, 2016). If given more freedom in how they utilize their time, Filipino teleworkers might be more likely to spend time less time with their work to attend to their family.

Age having a positive correlation with satisfaction could be due to older teleworkers having more responsibilities and thus appreciate teleworking more as it allows them to better balance their multiple tasks and responsibilities in a single day. This is also reported by Giovanis (2018) who stated that older workers are more likely to take part in teleworking due to them being more experienced and more likely to hold higher positions applicable in teleworking schemes. However, this is contrary to the findings

of Nakrošienė et al. (2019) who found that younger workers appreciate teleworking more due to the freedom and autonomy it provides.

The positive correlation of IT support availability can be due to the highly technical nature of teleworking, making available regular technical support a greatly appreciated by teleworkers. Additionally, the lack of technical support was also stated to increase stress among teleworkers (Baker et al., 2007). In the Philippines, the regular availability of technical assistance could have a greater impact on teleworker satisfaction, considering the poor quality of internet connectivity in the country (Surfshark, 2020; Rodriguez, 2020). The poor connectivity could indicate that technical support is more difficult to obtain in the Philippines, making its regular availability all the more valuable and appreciated.

The degree of supervision having a significant correlation with both productivity and satisfaction is unique among all the other significant teleworking factors, hence the need to highlight the point. The positive correlation suggests that frequent monitoring is important for the improvement of the performance of Filipino teleworkers. This agrees with Altman's (2020) findings that frequent status updates and regular one-on-one meetings help build rapport and increase trust between employee and manager, which then helps improve the performance of teleworkers. Moreover, Filipino workers are said to often take great pride of their work and go out of their way to avoid embarrassment (Diversify OSS, 2016). This could play a part in the importance of supervision on the improvement of performance of Filipino teleworkers, as this gives them more reason to perform well even when working remotely.

One notable observation in the initial regression analyses was that the non-work-related interactions with workmates did not have significant correlation with either productivity or satisfaction. This factor was expected to have significance due to the Filipino value of *pakikisama*, or their inherent friendliness and helpfulness to others (Dimayuga, 2016; Curran Daly, 2007). It was thought that the lessened interaction with workmates due to not being in the office would worsen the performance of Filipino teleworkers. This, however, seems to

not be the case, as this factor was not found to have significance. This could be due to Filipinos having a larger social media presence than the global average (Estrares, 2019), allowing workers to have an already easily accessible means of communication despite not working together in the same workspace at the same time.

Similar to the initial regression analysis, IT support availability had a significant correlation with satisfaction among the respondents with child care responsibilities. Balance of responsibilities at home also had a significant correlation with satisfaction. Additionally, the regression coefficients of these significant teleworking factors were notably larger than those in the initial regression analysis which could indicate greater importance for those with child care responsibilities.

The positive correlation of IT support availability with satisfaction, similar to that in the initial regression analysis, could be due to the highly technical nature of teleworking, making regularly available technical support greatly appreciated. Additionally, the respondents with child care responsibilities were generally older and possibly less technologically adept than younger workers (Woog, n.d.) and thus appreciate more technical assistance.

The negative correlation of balance of responsibilities at home with satisfaction indicates that Filipino teleworkers with child care responsibilities had lower satisfactions with fairer distribution of responsibilities at home. This is contrary to the findings of Troup & Rose (2012) who found that, generally, a fair share of responsibilities at home resulted in a better work-life balance for teleworkers. Moreover, due to Filipino values placing a large amount of importance on family (Diversify OSS, 2016), it was expected that the balance of responsibilities at home would have a positive correlation with satisfaction which this was contrary to. This could be due to the uneven distribution of responsibilities at home being in their favor, allowing them to focus more on their work.

For the multiple regression analysis using only respondents who reported to have elder care responsibilities, the significant teleworking factors with productivity were the degrees of supervision and work hour flexibility. These were the same teleworking factors which have

a significant correlation with productivity in the initial regression analysis.

Similar to the initial regression analysis, the positive correlation of degree of supervision with productivity signifies that frequent monitoring, request for status updates, and one-on-one meetings are important for the productivity of Filipino home-based teleworkers with elder care responsibilities. The negative correlation of degree of work hour flexibility with productivity could also be due to the increased flexibility allowing Filipino teleworkers to do their work in shorter periods of time so that they could spend more time attending to their family.

It should be noted that the proportion of respondents with child care and elder care responsibilities were too few to form any conclusive results; these analyses were done only for the purpose of gaining additional insight and to point out possible research areas on the topic of teleworking in the Philippines.

Since age was found to have a significant correlation with satisfaction in the initial regression analysis for all respondents, moderation analysis was possible for the other teleworking factors which were found to also have a significant correlation with satisfaction, these were IT support availability and degree of supervision. The results of the moderation analysis of IT support availability, degree of supervision and satisfaction with age as the moderating variable are shown in table 3. Here, it can be seen that Age x Degree of supervision had a significant correlation with satisfaction indicating that the effect of supervision on satisfaction changed with the teleworker’s age.

Age not having a moderating effect on IT support availability could be due to technical

support being greatly important for teleworkers of all ages. Meanwhile, the negative correlation of age with the degree of supervision indicates that the positive effect of the degree of supervision on satisfaction becomes less positive with increasing age. This is possibly due to older workers generally being more confident and seeing themselves as more reliable and loyal than younger workers (James et al., 2007) and as such preferring less supervision as it might make them feel less trusted by their superiors.

Additional separate regression analyses were done including only the respondents who reported to have received either financial assistance, training prior to teleworking, and those who have other household members who can help in child or elder care. Similar to the child and elder care regression analyses, these were conducted to gain additional insights as to what affects the productivity and satisfaction of Filipino teleworkers. But then again, it should be kept in mind that the proportion of these respondents to all of the respondents were still too few to form any conclusive results.

Tables 4 shows that among the respondents who received financial assistance, the only significant correlation found was between the helpfulness of the provided financial assistance and satisfaction. The positive correlation indicates that the satisfaction of Filipino teleworkers increases with the perceived helpfulness of the provided financial assistance. This could be explained by the financial assistance helping to relieve some of the additional costs incurred by the teleworkers (Hill et al., 2003; Baker et al., 2007), this then helps lessen stress which was found to have a positive effect on teleworker satisfaction (Kazekami, 2020).

Table 3. Moderation analysis of age, IT support availability, and degree of supervision with satisfaction using age as the moderating variable.

Teleworking factor	B	p
Age	0.022	0.047
IT support availability	0.234	0.006
Degree of supervision	0.162	0.044
Age x IT support availability	-0.002	0.901
Age x Degree of supervision	-0.031	0.035

Table 4. Regression analyses of other factors with productivity and satisfaction.

Teleworking factor	N	Productivity		Satisfaction	
		B	p	B	p
Has Received Financial Assistance					
Perceived Helpfulness of Financial Assistance	45	-0.035	0.416	0.446	0.004
Frequency of Financial Assistance	45	0.045	0.216	0.120	0.325
Has Received Training Prior to Teleworking	66	0.023	0.476	0.391	0.003
Has Presence of Other Household Members	58	0.072	0.022	0.024	0.817

Table 4 also shows that among those who received training for either work or communication programs, the helpfulness of the training was also found to have a significant correlation with satisfaction. This agrees with the findings of Baker et al. (2007) that training was significantly correlated with satisfaction but not with productivity. As teleworking can involve many programs for different activities – in addition to its highly technical nature – some employees might find it difficult to adopt the new work setup. Thus, receiving training would help them learn how to do their work better and easier, which will improve their satisfaction.

The availability of other household members to help in child and/or elder care was also found to have a significant effect on teleworker productivity. As part of the Filipino value of family-centeredness, available household members help in the care of children and the elderly. This is important, as the presence of other household members who can attend to children and the elderly would mean less responsibilities and/or distraction for the teleworker.

Conclusion

Among the many organizational and job factors which could have an effect on either teleworker productivity or satisfaction, degree of work hour flexibility, degree of supervision, and IT support availability were found to have significant correlations to productivity and/or satisfaction and should be given the most

attention when implementing a telework setup. But while these are mostly similar to the findings of earlier studies, a key difference found here was the negative correlation of degree of work hour flexibility with productivity and the positive correlation of degree of supervision with both productivity and satisfaction. These suggest that what might work for teleworking in other countries such as highly flexible work hours and high amount of discretion for teleworkers might not necessarily have the same effect in the Philippines.

Higher work-hour flexibility was found to contribute to lower productivity among the respondents, suggesting that fixed work hours might help improve the productivity of Filipino teleworkers. While it is not recommended to give teleworkers a very strict and rigid work schedule since it is still important to maintain a certain degree of freedom to allow the teleworkers to attend to their other responsibilities and emergencies, a properly designed and well-organized schedule with indications of when and how long a teleworker should work in a day or for a specific task could help keep them focused, lessen the likelihood of distractions, and result in an overall improvement of productivity.

Additionally, the amount of supervision should be given special attention, as it significantly affects both productivity and satisfaction. Frequent monitoring and status update by supervisors is advised to help build rapport with teleworkers and to ensure improved performance. Having brief, regularly scheduled check-ups on the teleworkers two or three times

in a work day is good for giving teleworkers freedom and discretion with their work while maintaining a high degree of supervision. One-on-one virtual meetings are also encouraged particularly on sensitive matters relating to performance as low morale can potentially lead to low productivity” for more clarity and to avoid the term embarrassment which might be too negative.

IT support availability should also be considered, as it had the strongest correlation for either productivity and satisfaction. Having technical support regularly and easily accessible would ensure smooth work performance for teleworkers as it allows them to quickly get help for their daily tasks and during emergencies. Aside from regular technical support, giving the employees training for the programs that they will use as well as providing some form of financial assistance also showed to have a positive effect on their satisfaction, and thus should also be considered important.

Home-based teleworking could also allow for other personal and household factors to affect either teleworker productivity or satisfaction. Age was found to lessen the positive effect of supervision on satisfaction, hence fewer supervision should be given to older teleworkers to prevent them from feeling less trusted and worsen their satisfaction. Meanwhile, the responsibilities a teleworker has at home was also found to have an effect on their performance. Thus, it is worthwhile to do a background check on the workers’ household situation to ensure that they receive enough support for child care and/or elder care so as not to affect their productivity.

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