
Factors Affecting Perceived Productivity on Teleworkers during Covid-19 Pandemic in Indonesia

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Abstract

Phenomena of working remotely as a result of the Covid-19 pandemic have prompted this research to be carried out as a step to analyze the factors that affect Perceived Productivity in teleworkers in Indonesia, such as IT Training, IT Infrastructure, Management Support, Job Security, Work Flexibility, Attitude toward Teleworking, Organizational Commitment and Strain. The survey involved 205 respondents who were permanent employees at companies or agencies who became teleworkers due to the Covid-19 pandemic conditions. A structured questionnaire with a specified scale was used in this research. Multiple regression was used to analyze the data. The results showed that IT Infrastructure, Management Support, Attitude toward Teleworking, and Organizational Commitment had a positive influence on the Perceived Productivity of teleworkers in Indonesia. Meanwhile, IT Training, Job Security, Work Flexibility, and Strain do not affect the Perceived Productivity of teleworkers in Indonesia. The implications of this research are the reference for management in formulating strategies to drive perceived productivity to the employee who becomes a teleworker during the Covid-19 pandemic.

Keywords: Perceived Productivity, IT Training, IT Infrastructure, Management Support, Job Security, Work Flexibility, Attitude toward Teleworking, Organizational Commitment, Strain, Teleworker.

Abstrak

Fenomena bekerja dari jarak jauh sebagai dampak dari pandemi Covid-19 telah mendorong penelitian ini dilakukan sebagai langkah untuk menganalisis faktor-faktor yang memengaruhi Produktivitas yang Dirasakan pada teleworker di Indonesia, seperti Pelatihan TI, Infrastruktur IT, Dukungan Manajemen, Keamanan Kerja, Fleksibilitas Kerja, Sikap terhadap Teleworking, Komitmen Organisasi dan Ketegangan. Survei ini melibatkan 205 responden yang merupakan karyawan tetap di perusahaan atau instansi yang menjadi teleworker karena kondisi pandemi Covid-19. Kuesioner terstruktur dengan skala tertentu digunakan dalam penelitian ini. Regresi berganda digunakan untuk menganalisis data. Hasil penelitian menunjukkan bahwa Infrastruktur IT, Dukungan Manajemen, Sikap terhadap Teleworking dan Komitmen Organisasi memiliki pengaruh positif terhadap Produktivitas yang Dirasakan pada pekerja tele di Indonesia. Sementara itu, Pelatihan IT, Keamanan Kerja, Fleksibilitas Kerja dan Ketegangan tidak memengaruhi Produktivitas yang Dirasakan pada teleworker di Indonesia. Implikasi dari penelitian ini adalah acuan manajemen dalam merumuskan strategi untuk mendorong produktivitas karyawan yang menjadi teleworker selama pandemi Covid-19.

Kata Kunci: *Produktivitas yang Dirasakan, Pelatihan TI, Infrastruktur IT, Dukungan Manajemen, Keamanan Kerja, Fleksibilitas Kerja, Sikap terhadap Teleworking, Komitmen Organisasi, Ketegangan, Teleworker.*

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1. Introduction

Coronavirus has become the world's hottest topic since early January 2020. This virus has surprisingly become a terror for the world community, especially after claiming hundreds of human lives within two weeks (Febrian, 2020). The Corona virus that is currently attacking the world community was first identified in China in December 2019. The World Health Organization (WHO) announces that Covid-19 is becoming a new name for the Corona Virus (Nugroho, 2020).

The death toll after being positively infected by Covid-19 as of early April 2020 reached more than 100,000 people worldwide. Based on data obtained from John Hopkins University, the five countries with the highest death tolls include Italy, the United States, Spain, France and the United Kingdom (Utomo, 2020).

Social Distancing or what is often referred to as social distancing is a non-pharmaceutical preventive measure for the spread of Covid-19. Social distancing is a health practice aimed at preventing sick people from having contact within distance of healthy people to reduce the chances of transmission. A study released in 2007 stated that the mortality rate caused by the influenza virus in Spain in 1918 was significantly reduced by practicing social distancing (CNN Indonesia Team, 2020). The form of social distancing implementation in Indonesia is in the form of a regulation of the Government on Large-Scale Social Restrictions, which includes the temporary closure of schools, workplaces, restrictions on religious activities and restrictions on activities in public places or facilities (BBC Visual Journalism East Asia Team, 2020).

Social distancing encourages the implementation of teleworking in various companies or organizations. Perez et. al. (2003) defines teleworking as work performed from various locations (such as homes) that allows workers to access their work activities using information and communication technologies (Nakrošienė, Bučiūnienė & Goštautaitė, 2019). Furthermore, Madsen (2003) explains that teleworking is considered an alternative way of organizing work, that is, by offering the possibility to work anywhere and anytime. Teleworking is seen as a win-win scenario for workers and those who hire, making it possible to reduce operational costs, motivate workers and maintain the balance of workers' families (Nakrošienė, Bučiūnienė & Goštautaitė, 2019). A study on teleworking in 2000 was interesting to study, namely on employees of small companies in the UK and Hong Kong who prefer to telework to some extent if given the opportunity to choose (Baruch & Yuen, 2000).

Gallup (2015) explains that information technology has become an integral part of the work environment, and the physical locations that require

workers to work from the workplace have gradually lost their importance. According to Gallup's annual work and education poll, the rise in people working from home has seen a significant increase. To give you an idea, in America, data on workers from home increased from 9 percent to 37 percent in 2015 (Nakrošienė, Bučiūnienė & Goštautaitė, 2019).

Information technology that supports the operations of an organization or company can be in the form of IT Infrastructure and IT Training. IT Infrastructure and IT Training are valuable internal resources, can be considered the basis for sustainable Teleworking productivity. IT Infrastructure availability refers to the extent to which employees have easy access to information communication tools and web-based applications. Meanwhile, the availability of IT Training refers to the extent to which employees are facilitated to learn information technology (Aboelmaged & Subbaugh, 2012).

Indonesia is one of the countries with a high mortality rate during the Covid-19 pandemic. Until the beginning of April 2020, the percentage of deaths due to Covid-19 was recorded at 8%, 2.3% higher than the death rate in the world (Puri, 2020). Indonesia is the number one country in the largest number of Covid-19 exposure cases in the ASEAN region. The second position was occupied by the Philippines, followed by Singapore, Malaysia and Thailand (Abrar, 2020).

Facing the Covid-19 pandemic crisis infecting almost all parts of the world, working from home is a wise choice to make. Some large companies have even allowed their employees to work permanently remotely. Facebook's CEO revealed that up to half of its employees will be able to work remotely in the next five to 10 years. Microsoft took a similar step, the company allowing more of its employees to work permanently remotely (Warren, 2020). Next Around the middle of 2020, just two months after the coronavirus pandemic, Jack Dorsey, CEO of Twitter announced that nearly 9,000 employees on Twitter could work from anywhere for a permanent period of time (Costa, 2020).

Various phenomena of working remotely as a result of the Covid-19 pandemic have encouraged this research to be carried out as a step to analyze the factors that affect Perceived Productivity in teleworkers in Indonesia, such as IT Training, IT Infrastructure, Management Support, Job Security, Work Flexibility, Attitude toward Teleworking, Organizational Commitment and Strains.

2. Theoretical Framework and Hypothesis Development

Teleworking

Teleworking is defined by Perez et. al. (2003) as work performed from various locations (such as homes) that allows workers to access their work

activities by using information and communication technologies (Nakrošienė, Bučiūnienė & Goštautaitė, 2019). Furthermore, Madsen (2003) said that teleworking is considered an alternative way of organizing work, that is, by offering the possibility to work anywhere and anytime. Teleworking is seen as a win-win scenario for workers and those who hire, making it possible to reduce operational costs, motivate workers and maintain the balance of workers' families (Nakrošienė, Bučiūnienė & Goštautaitė, 2019).

Meanwhile, Teleworkers are defined by Gajendran and Harrison (2007) as employees who carry out alternative work arrangements by carrying out tasks in other places that are usually carried out in the main or central workplace, at least for some part of their work schedule, by using electronic media to interact with others inside and outside the organization (Suh & Lee, 2017). Another definition explains Teleworker is an employee who performs all or most of their work physically separate from their primary job location, using Information and Technology for operations and communications (Baruch & Yuen, 2000).

Hunton and Norman (2010) says that teleworking and virtual working are terms often used interchangeably to refer to employees who work periodically or exclusively for their employers from locations equipped with telecommunications technology to transfer work to a central enterprise. The definition applied to teleworking can be seen from the dimensions of distance and technology that must be met simultaneously when identifying concepts. The distance dimension reflects the transfer of workers from the traditional workplace, where other employees work, to other locations, such as at home (Aboelmaged & Subbaugh, 2012). The concept of teleworking is often referred to as telecommuting or remote working (Perez, Carnicer & Sanchez, 2002).

Bailey and Kurland (2002); Nilles (1997) explains that teleworking is a broad and complex phenomenon, which is often defined as work done from a place other than an office space (Nakrošienė, Bučiūnienė & Goštautaitė, 2019). Work that is not done at work is called teleworking while the person who does it is referred to as a teleworker.

Previous studies have revealed a number of implications of Teleworking for individuals, organizations and communities (Perez Perez et al., 2003). These advantages include flexibility of working time, increased autonomy, reduced informal communication, increased family and leisure, low stress levels, reduced travel costs, increased productivity and job satisfaction, reduced traffic congestion and air pollution (Nakrošienė & Goštautaitė, 2019).

By allowing employees to telework, away from the office to focus on tasks that require a higher level of concentration, organizations can improve

the quality and quantity of their output (Basile & Beauregard, 2016).

IT Infrastructure and IT Training are valuable internal resources, can be considered the basis for sustainable teleworking productivity. IT Infrastructure availability refers to the extent to which employees have easy access to information communication tools and web-based applications. Meanwhile, the availability of IT Training refers to the extent to which employees are facilitated to learn information technology (Aboelmaged & Subbaugh, 2012).

Hypothesis Development

The Effect of IT Infrastructure and IT Training on Perceived Productivity

Productivity is a major issue that has emerged as one of the important challenges for teleworkers (Aboelmaged & Subbaugh, 2012). Scholefield (2008) explains that teleworker productivity is related to information technology. Decreased productivity in teleworkers can occur as a result of inadequate information and communication technology. IT Training is the extent to which employees are facilitated to learn information technology while IT Infrastructure is the extent to which employees have easy access to information communication tools and web-based applications (Aboelmaged & Subbaugh, 2012).

IT Infrastructure and IT Training are key to the success of teleworking, both of which play a role in the success of individuals and companies in increasing productivity (Aboelmaged & Subbaugh, 2012). The hypothesis proposed is as follows:

H1: IT Infrastructure (ITI) has a positive influence on Perceived Productivity (PP) in Teleworkers in Indonesia .

H2: IT Training (ITT) has a positive influence on Perceived Productivity (PP) in Teleworkers in Indonesia.

The Effect of Management Support on Perceived Productivity

Research has revealed (Scholefield, 2008; Watad and Disanzo, 2000) that management support is a solid foundation for successful teleworking implementation and increasing teleworker productivity (Aboelmaged & Subbaugh, 2012). Perincherry (2009) argues that lack of management support in teleworking implementation can result in reduced teleworker productivity (Aboelmaged & Subbaugh, 2012).

Using data from 122 CEOs of Spanish companies, Mayo et al. (2009) found that management support is an important factor in the adoption of teleworking. Teleworkers who understand that their managers and leaders support teleworking will be able to gain higher productivity (Aboelmaged & Subbaugh, 2012). The hypothesis proposed is as follows:

H3: Management Support (MS) has a positive influence on Perceived Productivity (PP) in Teleworkers in Indonesia.

Institutional ownership can minimize conflicts of interest between principals and agents. With institutional supervision, it can optimize the supervision of management performance to avoid misappropriation behavior carried out by management. So that the involvement of institutions with companies can have an effect to improve better company performance (Petta and Tarigan, 2017). The greater the shareholding by the institution, the greater the power of the voice and the encouragement of the institution to supervise management. Institutions involved in banking share ownership are certainly very good at financial statements so that it is difficult for managers to manipulate financial statements so that it will reduce the level of fraud that managers will commit and will improve banking financial performance. In accordance with the results of research conducted by Nilayanti and Suaryana (2019), Hermayanti and Sukartha (2019), Candradewi and Sedana (2016), Istighfarin and Wirawati (2015), Kartikasari (2017), and Hendratni et al (2018) which resulted in institutional ownership having a positive effect on financial performance, the hypothesis two (H2) in this study is as follows.

H2: Institutional ownership positively affects the financial performance of banks.

The Effect of Job Security on Perceived Productivity

Empirical research (Belot et al., 2007; Lim and Teo, 2000) have revealed the link between job security and productivity levels. Teleworking has been considered a threat to job security due to the uncertainty of job continuity and career development opportunities. The difficulty of managing employee perceptions that are usually not in line with the supervisor's mind is one of the motives for job insecurity among teleworkers. Since teleworkers aren't always inside the workplace and physically communicating with their supervisors, they'll probably miss out on promotion and career advancement opportunities (Aboelmaged & Subbaugh, 2012).

In addition, Teo and Lim (1998) explain that administrative concerns about the appraisal of teleworker performance and designing a fair compensation scheme for them are another hurdle to job security (Aboelmaged & Subbaugh, 2012). According to Borland (1999), job security is defined as freedom from the fear of losing a job (Sanyal, Hisam & BaOmar, 2018). Stapleton (2009) explains that job security is an employee's guarantee or confidence that they will keep their current job (Sanyal, Hisam & BaOmar, 2018). Job security has a direct influence on worker productivity

(Sanyal, Hisam & BaOmar, 2018). In line with this reasoning, the hypothesis proposed is as follows:

H4: Job Security (JS) has a positive influence on Perceived Productivity (PP) in Teleworkers in Indonesia.

The Effect of Work Flexibility on Perceived Productivity

Martinez-Sanchez et al. (2007) revealed that work flexibility has a positive influence with performance. Teleworking is a strategy to overcome excessive workloads and free from fixed and temporal work schedules which in turn reinforces other flexible performance outcomes in the company (Aboelmaged & Subbaugh, 2012). Work flexibility is the ability of employees to control the duration and time of work as well as the work location provided by the company (Shagvaliyeva & Yazdani-fard, 2014).

Lim & Teo (2000) explains that increased flexibility in work schedules on Teleworkers offers an opportunity to better handle their tasks. It also allows employees to work long hours when they are in the most productive conditions (Aboelmaged & Subbaugh, 2012). The hypothesis proposed is as follows:

H5: Work Flexibility (WF) has a positive influence on Perceived Productivity (PP).

The Effect of Attitude toward Teleworking on Perceived Productivity

The results of Neufeld and Fang's (2005) research explain that beliefs and attitudes have a role to play in influencing teleworker productivity in Canada. Furthermore, based on a survey of 101 teleworkers, Khalifa and Davison (2008) found attitudes toward teleworking maintained a significant effect on the intention to do teleworking. Meanwhile, Neufeld and Fang (2005) indicate that teleworker beliefs and attitudes are closely related to teleworker productivity. Furthermore, Abdel & Wahad (2007) asserts that improving attitudes toward teleworking tends to result in higher expectations about teleworker productivity (Aboelmaged & Subbaugh, 2012).

Clear & Dickson (2005) also found that attitudes toward teleworking play an important role in facilitating the success of teleworking implementation (Aboelmaged & Subbaugh, 2012).

Thus, the hypothesis proposed is as follows:

H6: Attitude toward Teleworking (ATT) has a positive influence on Perceived Productivity (PP) in Teleworkers in Indonesia.

The Effect of Organizational Commitment on Perceived Productivity

Organizational commitment is a key factor that improves the productivity and performance of long-term workers (Westover, Westover & Westover, 2010). Lim & Teo's (2000) research shows that a

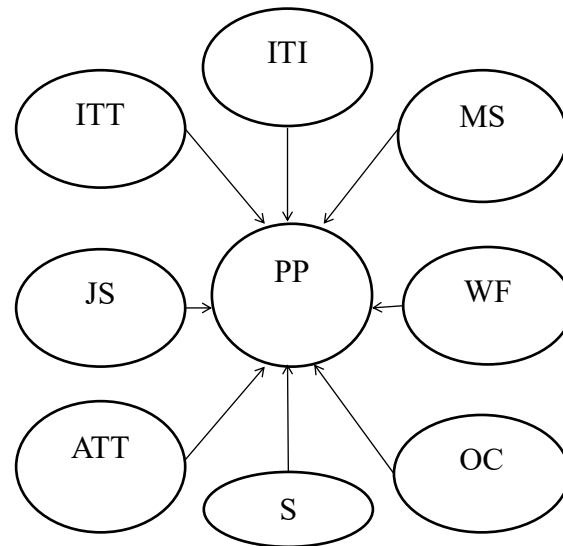


Figure 1. Research Models

Source: Adopted from Aboelmaged & Subbaugh (2012) and Suh & Lee (2017)

person with a strong organizational commitment will have a strong belief in the company's goals and help the company to be successful (Aboelmaged & Subbaugh, 2012).

Organizational commitment has a positive influence on the performance of tasks in teleworking settings. In line with this, it is plausible that teleworkers with high levels of organizational commitment tend to have high levels of productivity (Hunton and Norman, 2010). Thus, the hypothesis proposed is as follows:

H7: Organizational Commitment (OC) has a positive influence on Perceived Productivity (PP) in Teleworkers in Indonesia.

Effect of Strains on Perceived Productivity

Strains are mental stress that is felt in a work environment (Suh & Lee, 2017). Strain or mental stress has a negative influence on productivity and quality of life (Lee, Lee & Suh, 2016).

H8: Strain(S) has a negative influence on Perceived Productivity (PP) in Teleworkers in Indonesia.

This study modified the research model of Aboelmaged & Subbaugh (2012) and Suh & Lee (2017) which examined the factors that influence perceived productivity in teleworkers. This research tries to look at a different context, namely in Indonesia where the Covid-19 pandemic requires every worker to become a teleworker. The respondents used in this study were permanent employees in companies or agencies who became teleworkers due to the conditions of the Covid-19 pandemic.

Based on the hypothesis that has been described, the frame of thought in this study is on figure 1.

3. Research Method

This type of research is descriptive research that will test a hypothesis. According to Malhotra (2010) the descriptive method is a type of conclusive research that has the main objective of describing something, usually market characteristics or functions (Malhotra, 2010). Then this study was designed using cross sectional designs, namely research designs that involve collecting information obtained from several samples from the population which was carried out only once.

A population is a comprehensive collection of all elements that have the same characteristics and are of concern to the researcher (Malhotra, 2010). According to Malhotra (2010), the target population is a collection of objects that have information to be studied. A sample is a subgroup of a population selected to participate in a study (Malhotra, 2010). The population in this study is permanent employees in companies or agencies that have become teleworker due to the Covid-19 pandemic in Indonesia.

The sampling method used in this study was non-probability sampling using purposive sampling techniques, where samples were selected based on their characteristics.

According to Malhotra (2010), purposive sampling is a technique for determining samples based on certain considerations, which are considered to match the characteristics of the sample that is determined to be sampled. This technique was chosen because the population and samples taken have certain characteristics, namely permanent employees in companies or agencies that become teleworkers due to the Covid-19 pandemic in Indonesia.

The sample size in this study where the population is unknown multiplied by 5, according to the sample size guidelines states that the sample size

guidelines depend on the number of indicators multiplied by 5 to 10 (Hair, Black, Babin, & Anderson, 2010). In this study, the number of samples was as follows the number of indicators multiplied by 5, so that 205 respondents were obtained. The research period was conducted from August to October 2020.

To find out the factors that affect Perceived Productivity in teleworkers in Indonesia, measurement indicators were made that were adopted from several previous studies. IT Training response which is the extent to which employees are facilitated to learn information technology (Aboelmaged & Subbaugh, 2012) measured using 3 indicators adopted from the measurement indicators Aboelmaged & Subbaugh (2012) and Suh & Lee (2017).

IT Response Infrastructured is the degree to which employees have easy access to information communication tools and web-based applications (Aboelmaged & Subbaugh, 2012) measured using 5 indicators adopted from the Aboelmaged & Subbaugh measurement indicators (2012).

Response Management Support is a stage in which management understands the importance of job functions and is personally involved in relationships with employee activities (Jitpaiboon & Kalaiyan, 2005) measured using 5 indicators adopted from the measurement indicators Aboelmaged & Subbaugh (2012). Job Security response is a manifestation of the fear of losing a job (Borland, 1999 in Sanyal, Hisam & BaOmar, 2018) measured using 4 indicators adopted from the Aboelmaged & Subbaugh measurement indicator (2012).

Work Flexibility response is the ability of employees to control the duration and work time and work location provided by the company (Shagvaliyeva & Yazdanifard, 2014) measured using 4 indicators adopted from the Aboelmaged & Subbaugh measurement indicator (2012).

Attitude toward Teleworking response is a positive or negative perception and confidence in work or teleworking (Omar, 2014) measured using 4 indicators adopted from the Aboelmaged & Subbaugh measurement indicator (2012).

Organizational Commitment response is an individual commitment whether affectively, normatively or institutionally in a company or organization (Ramalho, Luiz & de Oliveira, 2018) measured using 7 indicators adopted from the Aboelmaged & Subbaugh measurement indicators (2012).

Strain response is mental stress felt in a work environment (Suh & Lee, 2017) measured using 3 indicators adopted from measurement indicators Suh & Lee (2017).

Perceived Productivity response is an employee's perception of productivity or the achievement of optimal work results (Vänni, Virtanen, Luukkaala, & Nygård, 2012) measured using 3 indicators adopted from the measurement indicators Aboelmaged & Subbaugh (2012). The semantic

differential scale is used with a range of numbers 1 (Strongly Disagree) to 6 (Strongly Agree) to measure each stimulus across all measured responses.

The types of data in this study include the type of primary data processed directly from respondents, the result of respondents' responses to the questionnaire provided.

The data analysis used includes validity and reliability tests, classical assumption tests (heteroskedasticity test, multicholinearity test, normality test) and hypothesis test using a multiple regression analysis approach.

4. Result, Discussion, and Managerial Implication

From the results of the distribution of the questionnaire to 205 respondents who were permanent employees in companies or agencies that became teleworkers due to the Covid-19 pandemic conditions in Indonesia, data analysis was carried out. The first stage is by conducting validity and reliability testing. The results of validity and reliability testing show that all indicators used in this study are valid and reliable.

The respondent's profile describes the characteristics of respondents who are permanent employees in companies or agencies that become teleworker due to the condition of the Covid-19 pandemic in Indonesia. Table 1 shows the profiles of respondents in the study.

showed that 67.3% of respondents provided information that there were employees who were positive for Covid-19 in the company or institution where the respondent worked.

Furthermore, respondents' profiles show that the majority of respondents are domiciled in Jakarta (51.7%), female gender (54.6%) and male (45.4%), the majority are married (62%), the age varies dominated by the age range of 26 – 35 years (42.9%), the type of work varies dominated by private employees (51.7%) and civil servants (31.2%), the length of work varies, the majority of S1 education (66.15%), the majority of the average monthly expenditure is Rp. 4 – 9,999 million (50.7%).

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The validity test is needed to find out whether

Table 1. Respondent Profile

Characteristic	Item	Percentage
Whether in the company or place of work you found employees who are positive for Covid-19?	Yes	67.3%
	No	32.7%
Domicile	Jakarta	51.7%
	Bogor	11.7%
	Depok	11.2%
	Tangerang	13.2%
	Bekasi	8.3%
	Tulungagung	0.5%
	Pekan Baru	0.5%
	Cibinong	0.5%
	Semarang	0.5%
	Ternate	0.5%
	Bandung	0.5%
	Cilegon	0.5%
Serang	0.5%	
Gender	Femal	54.6%
	Male	45.4%
Age	17 - 25	16.1%
	26 – 35	42.9%
	36 – 45	32.7%
	>45	8.3%
Marital Status	Married	62%
	Single	36.6%
	Others	1.5%
Work	Private Employee	51.7%
	Civil Servant (PNS)	31.2%
	BUMN	9.3%
	Lecturer	5.9%
	Teacher	0.5%
	International Organizations	0.5%
	BUMD	0.5%
	NGO	0.5%
Length of Service	1 – 3 years	28.4%
	3.1 – 5 years	17.6%
	5.1 – 10 years	25.5%
	>10 years	28.4%
Final Education	Senior High School	3.08%
	Bachelor's Degree	66.15%
	Master's Degree	30.77%
Average monthly expenses	Rp. 1 – 3.999 million	20%
	Rp. 4 – 9.999 million	50.7%
	>Rp. 10 million	29.3%

Source : Data processed (2020)

Table 2. Test Results on Multiple Regression Analysis

Var.	Koef.	t-value	Sig.	Conclusion
	1.207	1.102	0.272	
ITT	-0.047	-.680	0.497	H1 unsupported data
ITI	0.152	3.126	0.002	H2 Data Supported
MS	0.124	2.931	0.004	H3 Data Supported
JS	0.053	1.602	0.111	H4 unsupported data
WF	-0.017	-.395	0.693	H5 unsupported data
ATT	0.263	6.503	0.000	H6 Data Supported
OC	0.077	2.831	0.005	H7 Data Supported
S	-0.057	-1.214	0.226	H8 unsupported data
Adj. R ²	0.490			
F-Stat.	25.393			
	(Sig			
	0.000)			

Source : Data processed (2020)

the indicators on each variable used in the questionnaire are correct in measuring what you want to measure. Valid criteria using factor analysis are if the KMO value is above 0.5, the significance value is less than 0.5, the MSA value is more than 0.5, the loading factor is more equal to 0.5. The validity test results state that all indicators meet the criteria and are declared valid.

Furthermore, the results of the Main Test Reliability test were carried out on 205 respondents using the analysis of Cronbach's Alpha value.

A reliability test is performed to determine whether the instrument or questionnaire used is consistent when asked by a number of people in different time periods. The reliable criterion is if the value of cronbach's alpha is above 0.6. The reliability test results show that all variables meet the criteria, so that it can be concluded to be reliable.

Furthermore, the results of multiple regression analysis in this study are presented in Table 2. Analysis conducted using SPSS (*Statistical Pack-*

age for Social Science) software 25.

Table 2 shows that the value of Adjusted R2 is 0.490, it can be interpreted that the variables IT Training, IT Infrastructure, Management Support, Job Security, Work Flexibility, Attitude toward Teleworking, Organizational Commitment and Strains are able to explain Perceived Productivity 49% of teleworker respondents in Indonesia, while the remaining 51% is explained by other factors

The Effect of IT Training on Perceived Productivity

Based on the results of multiple regression tests, it was found that IT Training has no influence on Perceived Productivity, because it has a significance value of $0.497 > \alpha 0.05$ or in other words, H1 is not supported by data. It is alleged that teleworker respondents explored the use of technology to work remotely independently, not relying on IT Training. The majority of respondents' ages are in the range of 25 – 36 years, namely generation Y,

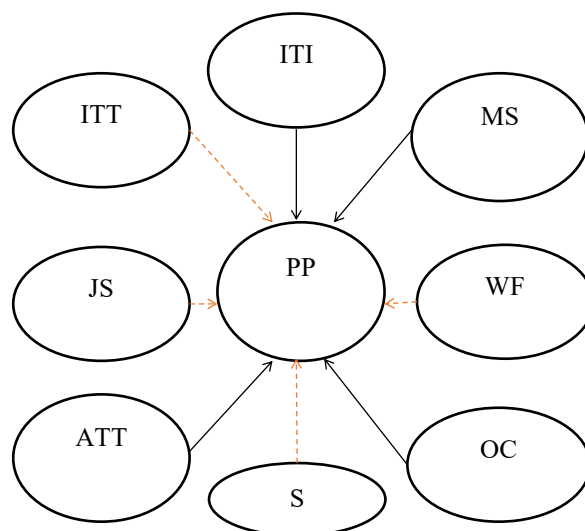


Figure 2. Test Results Model

having a preference to use digital technology independently.

The Effect of IT Infrastructure on Perceived Productivity

Based on the results of multiple regression tests, it was found that IT Infrastructure has a positive influence on Perceived Productivity, because it has a Significance value of $0.002 < \alpha 0.05$ and a β value of 0.152. These results show that the better the quality of IT Infrastructure provided by companies for teleworkers, the more their Perceived Productivity will also increase. This means that if the ease of access to information tools and web-based applications is improved, it will drive an increase in perceived productivity of teleworker workers.

The results of the study provide direction that perceived productivity will increase if the work environment is well connected, supported by computer hardware with good performance and the support of the IT Department in helping the use of applications via the internet at work and also diverse information for employees.

The Effect of Management Support on Perceived Productivity

Furthermore, based on the results of the multiple regression test conducted, the results were obtained that Management Support had a positive and significant influence on Perceived Productivity, because it had a Significance value of $0.004 < \alpha 0.05$ and a β value of 0.124. This shows that the support of management or superiors to work remotely can increase Perceived Productivity in teleworker workers in Indonesia. Management support can be in the form of providing funds, employee motivation and policies related to the good use of ICT for teleworking (Aboelmaged & Subbaugh, 2012).

The results of the study explain that perceived productivity will increase if employers consider remote working as a beneficial work alternative, encourage employees to work remotely, provide resources to enable remote work and are interested in seeing employees work remotely.

The Effect of Job Security on Perceived Productivity

Furthermore, the results of the multiple regression test conducted obtained the result that Job Security has no influence on Perceived Productivity, because it has a Significance value of $0.111 > \alpha 0.05$ and a β value of 0.053 or in other words H4 is not supported by data.

The Effect of Work Flexibility on Perceived Productivity

Based on the results of multiple regression tests conducted, it was found that Work Flexibility has no influence on Perceived Productivity, because it has a Significance value of $0.693 > \alpha 0.05$ and a

value of $\beta -0.017$ or in other words H5 is not supported by data.

The Effect of Job Security on Perceived Productivity

Furthermore, the results of the multiple regression test conducted obtained the result that Job Security has no influence on Perceived Productivity, because it has a Significance value of $0.111 > \alpha 0.05$ and a β value of 0.053 or in other words H4 is not supported by data.

The Effect of Attitude toward Teleworking on Perceived Productivity

Based on the results of the multiple regression test conducted, the results were obtained that Attitude toward Teleworking has a positive and significant influence on Perceived Productivity, because it has a Significance value of $0.000 < \alpha 0.05$ and a β value of 0.263. This shows a positive attitude towards teleworking able to increase Perceived Productivity in teleworker workers in Indonesia.

The results of this study are in line with what was revealed by Clear & Dickson (2005) who found that attitudes towards teleworking play an important role in facilitating the successful implementation of teleworking (Aboelmaged & Subbaugh, 2012). The research results also support Neufeld and Fang (2005) which indicate that teleworker beliefs and attitudes are closely related to teleworker productivity (Aboelmaged & Subbaugh, 2012).

The results of this study reveal that perceived productivity will increase if teleworkers have a good perception of several statements including, working remotely as an alternative to work arrangements is a good idea, work arrangements are a good idea, fun and highly expected

The Effect of Organizational Commitment on Perceived Productivity

Based on the results of multiple regression tests conducted, the results were obtained that Organizational Commitment has a positive and significant influence on Perceived Productivity, because it has a Significance value of $0.005 < \alpha 0.05$ and a β value of 0.077. This shows that the higher the organization's commitment, the higher the Perceived Productivity of teleworker workers in Indonesia.

The results of this study explain that perceived productivity will increase if teleworkers have a good perception of some statements including that the company has great personal meaning for teleworkers, feels part of the company family and assesses the company as a second home. An attitude of respect for the company's vision, feeling as if the company's problems are its own problems and being very happy to spend the rest of the career in the company can increase perceived productivity in teleworkers.

Effect of Strains on Perceived Productivity

Based on the results of multiple regression tests conducted, it was found that the Strain had no influence on Perceived Productivity, because it had a Significance value of $0.226 > \alpha 0.05$ and a value of $\beta -0.057$ or in other words H_8 was not supported by data.

Implication

The results of the research conducted have implications for company or institutional management in disruption to the work environment where teleworking or working remotely in the conditions of the Covid-19 pandemic is a common thing to do.

To find out the variables that have the most dominant influence on Perceived Productivity, the values obtained from the hypothesis testing results are sorted from the largest to the smallest. The variables that most dominantly affect Perceived Productivity are Attitude toward Teleworking ($\beta 0.263$), followed by IT Infrastructure ($\beta 0.152$), Management Support ($\beta 0.124$) and Organizational Commitment ($\beta 0.077$).

The averagerespondents' perceptions for each indicator on the Attitude toward Teleworking variable were as follows: b remote work as an alternative to work arrangements is a good idea (4.68), b remote work as an alternative to work arrangements is a wise idea (4.70), b remote work as an alternative to pleasant work arrangements (4.44) and b Remote working as an alternative to work arrangements is highly expected (4.45).

The averagerespondents' perceptions for each indicator on the IT Infrastructure variable are as follows: my work environment is well connected to the internet (5.03), my work environment is supported by computer hardware (laptop/PC/Tablet) (5.01), my company's IT department assists in the use of applications via the internet at work (4.66), d My company's IT department provides diverse information for employees (4.34), and my work environment encourages the use of applications via the internet at work (4.91).

The averagerespondents' perceptions for each indicator in the Management Support variable are as follows: a tasan I consider working remotely as a beneficial work alternative (4.36), a tasan I encourage employees to work remotely (4.28), a tasan I provide resources to enable remote work (3.10), a i'm interested in seeing employees working remotely (3.65).

The averagerespondents' perceptions for each indicator on the Organizational Commitment variable are as follows: my company has great personal significance to me (4.48), I feel like part of a family in my company (4.59), I feel like my second home (4.51), I respect my corporate vision (4.96), s I feel a strong sense of belonging to my company (4.42), I really feel as if this company's problem is

my own problem (3.89) and I would love to spend the rest of my career with this company (4.08).

5. Conclusion, Suggestion, and Limitation

This study seeks to analyze the factors that influence Perceived Productivity in teleworkers who become teleworkers due to the Covid 19 pandemic in Indonesia, including IT Training, IT Infrastructure, Management Support, Job Security, Work Flexibility, Attitude toward Teleworking, Organizational Commitment and Strain. The results showed that IT Infrastructure, Management Support, Attitude toward Teleworking and Organizational Commitment have a positive influence on Perceived Productivity in teleworkers in Indonesia. Meanwhile, IT Training, Job Security, Work Flexibility and Strains do not affect perceived productivity in teleworkers in Indonesia. This research has succeeded in providing answers to what factors affect Perceived Productivity in teleworkers who become teleworkers due to the Covid 19 pandemic in Indonesia. Previous research has not reviewed specific conditions, namely the Covid-19 pandemic as a shaper of remote working conditions.

The results of this study have several limitations including: this research has not focused on teleworker behavior in a particular industry; s ampel research dominated by generation Y, namely in the age range of 26 - 35 years which is 42.9% and the age range of 17 -25 years which is 16.1% so that it cannot represent the value and perception for more mature consumers, domisili samples are centered in the Jakarta area and its surroundings so that a wider reach is needed for further research.

Further research needs to focus on perceived productivity in teleworkers in specific industries with a wider reach. The addition of other variables such as job satisfaction and compensation are also interesting to appear in further research.

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