

Research Article

Conditions of Workers Who Worked from Home during the Covid-19 Pandemic in Indonesia

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Abstract.

Work from Home (WFH) is one of the policies implemented by the Indonesian government to contain the cases of Covid-19 in Indonesia since March 2020. People were required to adapt to the new normal way of working by means of WFH. WFH applied to workers in both formal and informal sectors. While those working in the formal sector can get a lot done through remote working, the types of work that can be done remotely in the informal sector are still very limited. The WFH way of working has finally become a trend that is considered flexible and has advantages for the workforce to be more productive without having to leave the house. By using the logit model, this study seeks to answer the characteristics of the formal and informal sector workers who work at home as an effect of the Covid-19 pandemic. The result show that the Covid-19 pandemic was the primary reason why workers did WFH and that a majority of them are from the formal sector. The activities of the majority of the workforce during WFH are communication, promotion, and transactions which are mostly carried out by married women workers. In addition, workers who do WFH tend to be young workers who are highly educated and are familiar with the internet.

Keywords: labor characteristics, work from home, Indonesia

1. Introduction

Work from Home (WFH) is one of the policies implemented by the Indonesian government to tackle the spread of Covid 19 cases in Indonesia since March 2020. News related to the spread of the Corona virus in Indonesia is spreading rapidly. The spread of the Corona virus has become a national and international disaster (Susilo, et al., 2020). The Covid-19 outbreak has become a very serious case handled by the World Health Organization (WHO) and various national policies have been launched to reduce the number of Corona virus spreads in Indonesia. The government began to implement various programs and reforms in various fields of work in a short time because of the

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emergency, but still pay attention to the condition of the community in order to minimize systematic errors in the way of thinking of the community which fulfil the decisions and assessments made by the government. (Buana, 2020).

In accordance with the policies taken by the government, such as the Circular Letter of the Minister of Administrative Reform and Bureaucratic Reform (MENPANRB) Number 19 of 2020 regarding the adjustment of the work system of the state civil apparatus in an effort to prevent the spread of Covid-19 in Government Agencies. This regulation stipulates that ASN who are in government agencies are able to carry out official duties by working at home or in their respective places of residence. However, not only workers who work as ASN but also various groups and other professions carry out work activities from home. People are forced to adapt to new normal situations, one of which is working from home or Work From Home (WFH). The implementation of WFH in various offices in Indonesia is certainly based on an effort to suppress the spread of Covid-19 because office areas often become clusters of the spread of the Covid-19 virus. (Uskara, 2020).

For company management and Human Resources (HR), WFH provides many advantages, risks and challenges. An advantage worth highlighting is the increase in worker productivity made during WFH. (Bloom, 2014) conducted a study in China and stated that 16,000 employees resulted in a 13% increase in performance by means of WFH (Popovici, 2020). However, there are also challenges from companies that find it difficult to build a culture and support the WFH program due to low employee motivation and satisfaction. The implementation of WFH creates a new new experience for the employees who run it. A third of the increase in productivity is because workers have a quieter work environment at home so they are able to complete their work more optimally. Workers can start work early and work until the end of the day, no need to travel, not running errands at lunch and sick days don't count (Bloom, 2014).

This study seeks to see changes in the patterns and characteristics of workers who do WFH and do not and their productivity towards work. The purpose of this study is how Indonesian workers work from home or not during the Covid 19 pandemic. The high attention of WFH during the Covid 19 pandemic has highlighted the new way of working, how formal workers carry out their productivity at work and how it affects the income of workers in Indonesia.

2. Literature Review

The concept of working from home has become important since the issue of pollution and congestion with the emergence of the Environmental Protection Agency (EPA) in

1970 which was then revised in 1990 and finally in 2000 (Nadila & Baskoro, 2021). The essence of the Clean Air Act itself is referring to reducing emissions for the sake of creating clean air quality, so through this policy company leaders are asked to encourage workers to work flexibly or use telecommuting mechanisms to reduce emissions resulting from traveling from home to office.

A study in the United States (Linos, 2020) found that remote workers who worked from home showed decreased productivity, whereas their colleagues who worked in the office showed increased productivity. (Kira & Beckmann, 2016) shows that employees work harder when working from home. The study also found that knowledge workers choose WFH to avoid daily commutes and reduce the distractions they face in the office, and to meet the needs of their families. (Labs, 2017)

When a pandemic forces society into lockdown, a study by Dingel & Neiman (2020) estimates that more than a third of all jobs in the United States can be done entirely at home. Another study on white-collar workers by (Berstein et al, 2020) found that after the lockdown was implemented, a decline in productivity began to be seen from the workers. This decline is the impact of a major lockdown carried out to reduce the number of Covid-19 cases. The increase in productivity came after several months of the lockdown. Employees find themselves working an average of 10% - 20% longer. Another study in the US about scientists. (Birkinshaw et al., 2020) found that productivity rose primarily as employees spent less time in meetings and more time with customers or partners and non-essential activities decreased by 25%. The increase in work from home activities carried out by many employees and other informal workers relies heavily on internet connections. There was a 38% decrease in worker productivity during the pandemic due to poor internet connectivity (Wu & Chen, 2020).

Employee productivity is defined as individual efficiency and effectiveness in completing work tasks and responsibilities. Effectiveness refers to the extent to which an employee can complete his or her responsibilities within a predetermined deadline. While efficiency refers to the extent to which individuals can complete tasks and responsibilities without wasting resources. Several studies have shown that the implementation of WFH has a positive impact on efficiency. A survey on efficiency found that 87% felt that worker productivity increased with WFH kerja work arrangements (Bailey & Kurland, 2002). WFH employees can modify the work environment according to individual needs, such as balancing work and family, so efficiency can be increased as employees can better manage time constraints and workflow requirements (Bailey & Kurland, 2002).

Other research suggests that individual factors play an important role in influencing employee productivity, including access and provision of information technology (IT)

training, management support, and digital infrastructure (Aboelmaged & Subbaugh, 2012). Khin dan Ho (2018) argues that digital orientation is an extension of technology orientation in the context of digital technology. Digital orientation is analyzed from the perspective of employees and is defined as an individual's commitment to the application of digital technology to support performance achievement. Thus, the stronger a person's digital orientation is, the more open the individual is to the application of digital technology. In addition, digitally oriented employees are committed to bringing digital initiatives to their work and day-to-day responsibilities.

3. Research Method

Based on the research objective, which is to see how the impact of Covid-19 on welfare opportunities by working from home (WFH), descriptive quantitative methods will be used to describe the situation. The method used to see the determining factors that influence Covid-19 on the way WFH works is the logit method. Some of the independent variables used were the reasons for WFH related to Covid-19, type of work (formal/informal), digital activities carried out during WFH, impact on income, level of education completed, working hours, internet use, gender and marital status.

This study also looks at the opportunities for the welfare of the workforce who work with the WFH method. The data used in this study is micro data from the August 2020 National Manpower Survey (Sakernas) collected by the Central Statistics Agency (BPS) which collects information on the socio-economic status of Indonesian workers. The number of samples is 793,202 which are included in the active workforce in Indonesia. The logit model used is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \epsilon$$

Note:

Y = dependent variable (do WFH/No)

α = Constant

$\beta_1 - \beta_{15}$ = Variable coefficient

X1 = Covid Reason / No

X2 = Work in the formal/informal sector

X3 = Doing promotional activities / not

X4 = Doing transaction activities / not

X5 = Doing communication activities/not

- X6 = Income increased/no
- X7 = Income decreased/no
- X8 = Fixed income/No
- X9 = Level of Education completed
- X10 = Hours worked
- X11 = Using the internet/No
- X12 = Gender
- X13 = Marital Status
- ϵ = Error

4. Result and Discussion

Work From Home (WFH) is a term that describes a new use for the purpose of working outside the office or company location even at home. This activity was previously referred to as telework, telecommuting, remote work. All of these activities are based on Internet Communication Technology (ICT) such as smartphones, tablets, laptops, and computers. Another characteristic of this way of working is that workers can work remotely since the beginning of the Covid-19 pandemic, where work activities are carried out in their respective homes, then referred to as work - from - home or home office.

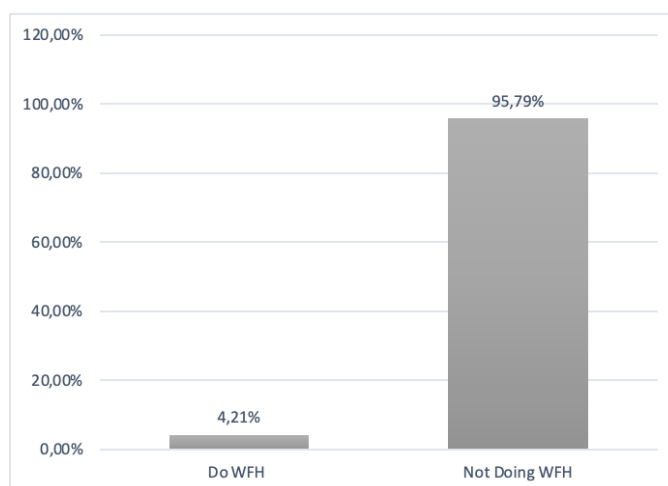


Figure 1: Comparison of the number of workers who do WFH and not. Source : Sakernas, 2020.

The results of the 2020 National Workforce Survey (Sakernas) show the number of Indonesian workers who carry out WFH as many as 33,393 people and the remaining 759,809 people still have not carried out work from home activities during the 2020 Covid-19 pandemic. Meanwhile, workers who carry out WFH on the grounds that they

are doing self-quarantine as many as 2,221 people and the remaining 27,689 people did not carry out WFH during 2020. The ratio of workers in Indonesia who work WFH and not is still quite high. only 4.21% of Indonesian workers work with WFH and the remaining 95.79% are still not working with WFH. WFH becomes very effective when it is done with the help of the internet, while jobs that are flexible enough to be done using the internet are blue-collar jobs that are technology-based, scientific and supported by adequate and service-based IT tools. This type of work in Indonesia is a high-class type of job because it requires a good understanding of the use of IT tools. This is why the absorption of workers working with WFH is still very low compared to other types of work that are not done by working from home. However, this work model is recognized as capable of reducing congestion and reducing environmental pollution due to motor vehicle pollution.

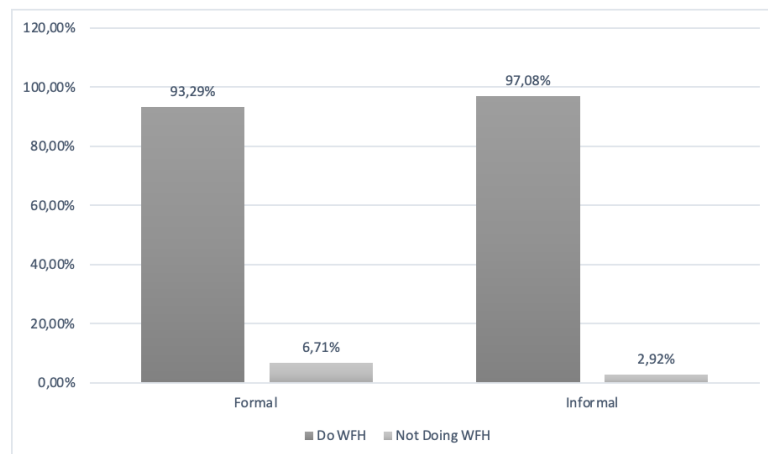


Figure 2: Percentage of Formal and Informal Sector Workers who do WFH and not. Source : Sakernas, 2020.

When viewed from the division of labor, formal and informal workers in Indonesia have carried out WFH, but with different proportions. More formal sector workers do WFH (6.71%) compared to informal sector workers (2.93%). However, more than 90% of formal and informal workers do not do WFH. Both formal and informal workers are still constrained by many reasons that prevent them from doing WFH. This indicates that the readiness of the Indonesian workforce and the labor regulations in Indonesia are still not friendly or flexible enough to work from their homes. In addition, factory workers (in the industrial sector) will not be able to carry out this activity because all labor-intensive production is carried out in factories and is centralized. Even though the industrial sector is able to distribute 25% -28% of the total workforce in Indonesia. This is still difficult to do in developing countries which are based on labor intensive.

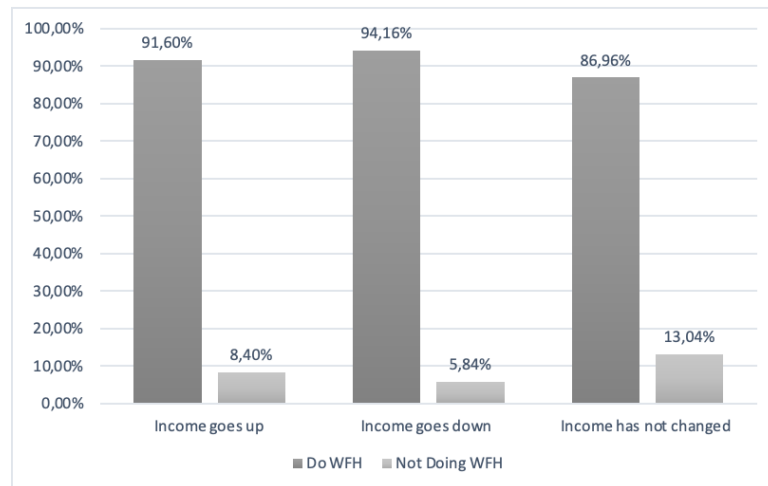


Figure 3: Changes in Income During WFH and Not. Source : Sakernas, 2020.

On the other hand, the change in income felt by workers who did WFH or not did not experience a significant change. For workers who do WFH and experience an increase in income of only 8.40%, a decrease in income of 5.84% and workers who get a fixed income of 13.04%. The rest, for workers who do not do WFH with income increasing by 91.06%, workers experiencing a decrease in income by 94.16%, and workers experiencing steady income by 86.96%. This fact shows that, WFH in Indonesia is still not able to increase income in a good direction, where there are still many who experience a decrease in income but workers who do WFH tend to have a fixed income. When compared to overall income, labor income tends to decrease, but income still dominates fellow workers who do WFH, so it can be said that WFH can become a new work trend without reducing labor income. The flexibility of WFH can be applied properly to change the habit of working from the office because it can be done through a place where the workforce can work comfortably.

The results of the analysis regarding the characteristics of workers who carry out WFH related to Covid-19 are as follows:

Covid-19 is the main reason for WFH that occurs in Indonesia, as well as being the main variable in this study related to the causes of WFH. The existence of the Covid-19 pandemic has increased the opportunity for workers to carry out WFH by 0.134% compared to no Covid. This significantly affects the WFH activities carried out by Indonesian workers. In addition, the type of work in the formal sector is positively significant by 0.771% carrying out WFH activities for its workforce. This is because work in the formal sector which tends to be in the office such as administration, processing data, trading, attending school, can be done online through digital technology and internet assistance. Compared to activities in the informal sector, the work that can be

TABLE 1: Logit Regression Analysis Results.

WFH	1 : doing work with WFH 0 : Not doing work with WFH	
	Coefficient	P>z
Covid reason / No	0,1339482	0,000
Work in the formal/informal sector	0,7712861	0,000
Doing promotional activities / not	0,1662621	0,000
Doing transaction activities / not	0,1350625	0,000
Doing communication activities / not	0,2888874	0,000
Income up/no	1,189382	0,000
Income down/no	1,133151	0,000
Fixed income/no	1,178219	0,000
Level of Education completed	0,3513587	0,000
Working hours	-0,0084922	0,000
Using the internet/No	1,470597	0,000
Gender	-0,5128861	0,000
Marital status	0,1512657	0,000

Source: Results of data processing with Stata 14.

done from home is still quite limited, such as online traders through the marketplace, programming freelancers, tutoring freelancers, and others. The rest of the work in the informal sector must be done directly between producers and consumers. This is quite difficult for workers in the informal sector if they have to do it online.

Economic activities that can utilize internet technology flexibly are carried out by Indonesian workers such as promotions, transactions and communications. The presence of unicorns in the service sector such as Gojek and Grab is able to change the pattern of human life that is safer and more comfortable with online motorcycle taxi services, food delivery, sending goods within the city, and others to provide comfort for workers who do WFH. This is able to increase promotional activities and transactions with the convenience of 2-way communication using smartphone media. In addition, the number of shopping applications and marketplaces is able to increase online trading activities so that promotions and trade transactions also increase. This activity certainly affects the WFH carried out by business actors because of the flexibility of the time and place they can choose to run their business. WFH in the trade sector is also able to increase women's work productivity because of this flexibility.

Based on changes in the income perceived by the workforce, with the WFH working model, some workers feel an increase in income, some WFH are able to reduce their income, but most of the workforce has a fixed income. WFH is a new way of working,

which is mostly done by formal workers who have a fixed income. This still has a strong influence on the income of the workforce which is quite stable during the Covid-19 pandemic period. This income change variable reflects that the method of working in the millennial era and digitalization is still able to support the welfare of the workforce, especially the formal sector without having to travel to the office. Administrative or economic activities can be carried out remotely from their respective workplaces without having to reduce the salaries given to employees as long as the work given is completed properly. The existence of this work method and supported by the existence of the internet can be a breakthrough for companies in the long term not to place too much importance on a magnificent office to accommodate the workers who work in it. This is certainly able to save operational costs that must be provided by the company for the work facilities of its employees. Or working WFH can be used by women to be productive without having to leave their obligations as mothers who have to take care of their children from morning to evening. Working with the WFH method is able to increase or create a permanent workforce income but with a private and workplace that can be freely chosen by the workforce in order to increase their productivity.

Based on the level of education completed, the regression results have a significant positive effect on WFH. The higher the level of education completed by the workforce, the WFH activities can be carried out properly. A high level of education also supports workers to be able to enter formal sector jobs compared to workers with lower levels of education. Workers with lower levels of education tend to enter the informal sector and cannot do WFH because their job specifications do not support them to do work with this work model.

On the other hand, the working hours spent by workers doing WFH is also lower than not doing WFH. Such number of working hours indicates that more free time can be obtained by the workforce. The flexibility of working hours that can be done by workers is able to reduce the effective hours of work and can choose what time they complete their work. Except when they have a meeting and have to schedule a lot of people. More flexible working hours can also be a breakthrough in the comfort of working with fixed or unchanged income levels.

The use of the internet in WFH activities is certainly very much needed by the workforce because the workforce needs a strong network to complete their work, such as sending email progress reports, conducting online meetings, providing teaching to students and conducting promotions and transactions. A strong internet network can increase labor productivity. This fact also indicates that the government must support the expansion of the internet transmitter network and cheaper internet rates so that it

can be enjoyed by all people with a strong network. Completion of work through online meetings, online documents or proof of work uploaded on the platform provided by the office can be archived safely.

Based on gender and marital status, female workers with married status do more WFH activities than male workers and are not married. The flexibility of time and the many things that can be done along with tackling work, can be done by women quite comfortably when they do WFH. On the other hand, the way WFH works is able to support the specification of women's types of work

In general, the Work From Home (WFH) method applied by Indonesian workers during the Covid-19 pandemic is able to become a new breakthrough way of working in the long term. For formal workers, WFH can be a breakthrough for the problem of lack of land for offices and can reduce the number of trips and movements made by workers to go to work in the morning and return home in the afternoon. This is certainly able to describe the problem of congestion in big cities. On the other hand, changes in the income of workers who do not all experience a decrease in income while doing WFH, in fact tend to experience an increase in income or steady income which indicates that this way of working is not completely detrimental to the workforce. WFH is able to reduce costs in completing work.

5. Conclusion

Work from Home (WFH) activities in Indonesia are influenced by several things, including the reason for the Covid-19 pandemic, carried out by most of the formal sector workers, activities carried out during WFH including promotions, transactions and communications, some workers experienced a decrease in income during WFH, but more experienced a change in income up or down. Workers with higher educational specifications have a greater chance of WFH compared to workers with lower educational specifications. On the other hand, time flexibility during WFH can reduce the amount of work time allocated by workers to complete their work. Internet use certainly has a positive effect on the smooth running of WFH. Married female workers have more opportunities to do WFH compared to unmarried male workers.

References

- [1] Aboelmaged GM, Subbaugh SM. Factors influencing perceived productivity of Egyptian teleworkers; An empirical study. *Meas Bus Excell.* 2012;16(2):3–22.

- [2] Bailey D, Kurland N. A review of telework research : Findings, new directions and lessons for the study of modern work. *J Organ Behav.* 2020.
- [3] Berstein E, Blunden H, Brodsky A, Wonbin W, Waber B. The implications of working without the office. *Harv Bus Rev.* 2020.
- [4] Birkinshaw J, Cohen J, Stach P. Knowledge workers are more productive from home. *Harv Bus Rev.* 2020.
- [5] Buana, D. R. (2020). Analisis Perilaku Masyarakat Indonesia dalam Menghadapi Pandemi Virus Corona (Covid-19) dan Kiat Menjaga Kesehatan Jiwa . *SALAM : Jurnal Sosial dan Budaya Syar-I.*
- [6] Dingel JI, Neiman B. How many jobs can be done at home? *J Public Econ.* 2020 Sep;189:104235.
- [7] Khin S, Ho T. Digital Technology, digital capability and organizational performance: A mediating role of digital innovation. *Int J Innov Sci.* 2018.
- [8] Kira R, Beckmann M. Working from home what is the effect on employees effort. *Econ Stor.* 2016.
- [9] Labs, O. (2017). *State of Remote Work 2017.*
- [10] Linos E. (2020). When working from home changes work at the office: Measuring the impact of teleworking on organizations. *Working Paper.*
- [11] Nadila, S. M., & Baskoro, A. A. (2021). bekerja dari Rumah : Analisa Kuantitatif Kinerja Para Pekerja Saat Pandemi Covid-19 . *Jurnal Vokasi Indonesia*, 11-22.
- [12] Popovici, V., & Popovici, A. L. (2020). Remote Work Revolution : Current Opportunities and Challenges for Organizations . *Ovidius University Annals, Economic Sciences Series*, 468-472.
- [13] Staples, D. S., Hulland, J. S., & Higgins, C. A. (1999). A Self-Efficacy Theory Explanation for the Management of Remote Workers in Virtual Organizations. *A Self-Efficacy Theory Explanation for the Management of Remote Workers in Virtual Organizations*, 758-776.
- [14] Susilo A, Rumende CM, Pitoyo CW, Santoso WD, Yulianti M, Herikurniawan H, et al. Coronavirus Disease 2019. *Jurnal Penyakit Dalam Indonesia*; 2020.
- [15] Wu H, Chen Y. The impact of work from home (WFH) on workload and productivity in terms of different tasks and occupations. *Late Breaking Paper : Interactio, Knowledge and Social Media.* Springer; 2020.