

WORK-FROM-HOME PRODUCTIVITY IN INDONESIA: FIRST TIME EXPERIENCE OF VIRTUAL WORKING DURING COVID-19 TIME

PRODUKTIVITAS KERJA DALAM MELAKUKAN *WORK FROM HOME* DI INDONESIA: PENGALAMAN PERTAMA PEGAWAI PERKANTORAN BEKERJA VIRTUAL SEMASA COVID-19

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ABSTRAK

Selama pandemi COVID-19 melanda dunia, bekerja dari rumah atau work-from-home (WFH) menjadi alternatif pelaksanaan kerja yang paling memungkinkan untuk diterapkan. Namun, produktivitas WFH masih dipertanyakan oleh banyak pihak, terutama perusahaan-perusahaan yang menjalankan WFH secara internisif untuk pertama kali. Artikel ini bertujuan untuk membahas faktor-faktor yang berpengaruh terhadap produktivitas kerja semasa WFH dengan pendekatan teori perilaku organisasional. Pada pendekatan ini, produktivitas kerja semasa WFH dipandang sebagai suatu perilaku yang dipengaruhi oleh beragam faktor, baik itu individual, kelompok, maupun organisasional. Tulisan ini berupaya untuk menguji secara empirik keterampilan digital dan motivasi kerja sebagai faktor individual, kepemimpinan digital dan kolaborasi digital sebagai faktor kelompok, serta manajemen kinerja dan perceived organizational supports sebagai faktor organisasional berpengaruh terhadap produktivitas kerja selama WFH. Artikel ini mengacu pada cross-sectional study dengan melibatkan 855 karyawan perkantoran yang berasal dari 32 provinsi di Indonesia. Analisis PLS based Structural Equation Modelling digunakan untuk menguji model riset yang dikembangkan. Aplikasi SmartPLS digunakan untuk pengujian statistik tersebut. Hasil analisis menjelaskan bahwa hanya faktor individual berpengaruh langsung, sedangkan faktor kelompok dan organisasional berpengaruh tidak langsung. Untuk menjaga dan meningkatkan produktivitas kerja para pegawai kantor selama melakukan WFH, organisasi direkomendasikan untuk memperhatikan keterampilan digital dan motivasi kerja sebagai faktor individual dan menyelaraskan faktor kelompok serta organisasional agar berdampak terhadap faktor individual dan akhirnya berdampak terhadap produktivitas kerja semasa WFH.

ABSTRACT

During COVID-19, working from home (WFH) becomes the most possible working arrangement alternative in order to practice social distancing. The productivity of WFH is still questioned by many organizations, especially companies which conduct WFH extensively for the first time. This paper aims to examine influential factors of work productivity during WFH by employing the theory of organizational behavior as the approach. Work productivity of WFH is viewed as a behavior in an organization influenced by various factors in individual, group, and organizational perspectives. Furthermore, this paper aims to examine the impact of individual factors (e.g., digital skill and work motivation), group factors (e.g., digital leadership and digital collaboration), and organizational factors (e.g., perceived organizational support and performance management) on work productivity during WFH. Do digital skills, work motivation, digital leadership, digital collaboration, perceived organizational support, and performance management impact positively and significantly on work productivity? This paper is based on cross-sectional study which involved 855 office workers from 32 provinces in Indonesia. PLS SEM and SmartPLS version 3.0 were used to structure and test the research model. The analysis result reveals that individual factor influences WFH productivity directly, while group and organizational antecedents influenced indirectly. To leverage WFH productivity, organizations should focus to develop digital skills and work motivation as individual factor. The organizational and group antecedents should be aligned and directed to impact on WFH productivity.

Keywords: Organizational behavior, work-from-home, work productivity,

INTRODUCTION

COVID-19 pandemic has changed many dimensions of civilization fundamentally. Social and economic shocks caused by the COVID-19 pandemic have restructured organizations' and individuals' perception about work and occupation in macro and micro shifts (Kramer & Kramer, 2020). COVID-19 outbreak has led to global social distancing to prevent the spread of the virus. COVID-19 also forced the migration of workplaces, which were initially concentrated in offices, to become widely distributed at homes. Many industries ceased operations in their regular workplace due to government-mandated closures and stay-at-home instruction (Bick et al., 2020). Working from home (WFH) is triggered by exponential growth of victims and is expected to be an effective way to flatten the curve of COVID-19 victims. The immediate WFH instruction for all office workers caused employees' productivity, business survivability, and national economic growth to decline (Hevia & Neumeyer, 2020).

Many jobs (e.g., public transport driver, medical workers, manufacture machine operator), were impossible to be done through WFH. COVID-19 forced many people to become inactive or search for another job. Measuring effective WFH behavior of employees is important to evaluate the benefits and costs of virus control policies and to articulate optimal reopening strategies (Kramer & Kramer, 2020). Work-from-home experience may change occupational perspectives on working from home itself. It needs better understanding about occupational and individual characteristics associated with work-from-home effectiveness and better designation of occupational groups and individuals for working (or not working) from home (Kramer & Kramer, 2020). The proportion of the jobs which could be conducted from home is an important input to estimate the economic performance during social distancing period. Individual productivity of the workers may differ substantially when the work process was done at home instead of traditional workplaces (Dingel & Neilman, 2020).

WFH productivity becomes a critical issue in macro and micro-economic viewpoints. WFH has many advantages when it is compared to tra-

ditional work arrangement (e.g., shorter breaks, less time off, fewer sick days, reduced carbon emissions). However, WFH also has several barriers such as job position, gender, income levels, differing skill, and space requirement (Bakker et al., 2019).

A qualitative study with in-depth interview involving teachers at elementary schools in Indonesia revealed that WFH provides several disadvantages and advantages. The advantages of WFH are (1) more flexibility in completing work, (2) more flexibility in following office hours, (3) more efficiency in spending money for commuting, (4) more life satisfaction because teachers can avoid traffic jam-related stress, and (5) more free time for serving personal life or family. The disadvantage of WFH are (1) self-management—it is not easy to maintain work motivation without direct interaction with organizational supports, (2) the increase of electricity and internet bill, and (3) data security related issues (Purwanto et al., 2020)

Another study found that higher the skill level and bigger proportion of professional or managerial staffs in the workplace increases the chance of WFH to be offered as fixed employment option (Felstead et al., 2002). It indicates that WFH is more suitable for professional and managerial activity in an office. The increase of productivity during WFH is caused by having a familiar environment, which makes it more comfortable to finish the works, and the fact that the people at home worked longer hours than at their offices (Bloom, 2014).

As a substitute of working arrangements, employees' work productivity during WFH is still questioned by many institutions, especially organizations which apply WFH largely for the first time. Many studies have clarified that WFH provides benefits for organization and employees. Unfortunately, it is still difficult to apply for some organizations.. They need to estimate WFH productivity and scrutinize the influential drivers, which were explained in many studies. Working hour is one of influential drivers. Doing WFH with less than 18 working hours per week has a bigger positive impact on productivity compared to full-time working hours (Kazekami, 2018).

Supervisor's trust and support, reduced communication with co-workers, the possibility to take care of family, and the availability of the working facility at home were found to be the influential drivers for WFH productivity (Nakrošienė et al., 2019).

This paper applies the theory of organizational behavior (Uhl-Bien et al., 2020) as the main theoretical foundation. WFH productivity is viewed as a behavior in the organization. As a behavior, work productivity of employee during WFH is influenced by various factors. Those factors are categorized into three layers: individual, group, and organizational antecedent. WFH productivity can be influenced directly by individual antecedent of the office worker. Group and organizational antecedents influence either directly or indirectly on WFH productivity. Organizational antecedent influences individual and group antecedents, and group antecedent influences individual antecedents (Scandura, 2017).

An empirical study which involved 203 small and medium enterprises in Finland was conducted by Saunila et al. (2019). The study found that capabilities in managing human and time affect productivity and innovation performance. The finding indicates that productivity is influenced by time management capability as the individual antecedent and human management capability as the group or organizational capability. The study inspired the researchers to elaborate on the effects of individual, group and organizational antecedents on WFH productivity.

Furthermore, this paper aims to examine the impact of individual, group, and organizational antecedents on WFH productivity. It also tests the impact of organizational and group antecedent on individual antecedent and impact of group antecedent on individual antecedent. Individual antecedent is reflected into digital skill and work motivation. Group antecedent is described into digital leadership of the superiors and digital collaboration with team-mates. Finally, organizational antecedent is defined into performance management and perceived organizational support.

LITERATURE REVIEW

Work Productivity

WFH as an alternative work arrangement has been known since early 1990's. WFH was known as teleworking, telecommuting, virtual office, or remote working defined as a remote work arrangement in regular or temporary basis that facilitates people to work flexibly from any location rather than from office conventionally (Maruyama, Hopkinson, & James, 2009). WFH is used to overcome social inclusion by empowering individuals with specific constraints to contribute to the workforce (Bosua et al., 2017). Related to COVID-19 outbreak, WFH is viewed as an alternative which provides opportunities to protect people from being infected by diseases in the public places. In Indonesia, WFH is conducted on a temporary basis at the beginning.

Productivity is related to the relationship between the outputs produced by a system and the inputs needed to create the outputs (Sink, 1985). Many studies highlight total factor productivity and the productivity of individual inputs and certain business fields. The term of operational productivity is used to describe various production input (e.g., facilities, labor, inventory, and equipment). Operational managers control all the input and processes to maximize the outputs (Saunila et al., 2019). The concept of WFH productivity in this paper explains how office workers experience more productive working during WFH compared to working from the office regularly. Productivity during WFH is reflected in quantitative and qualitative outcomes. The quantitative outcome measures whether office workers can complete more jobs, work faster, or with less cost while implementing WFH in comparison to while working from office. On the other hand, the qualitative outcome indicates whether office workers work with more focus, more ideas, or are happier during WFH compared to when working from office.

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indicates that productivity is influenced by time management capability as individual antecedent and human management capability as group or organizational capability. The study inspired the researchers to elaborate on the effects of individual, group and organizational antecedents on WFH productivity. Previous empirical studies mostly elaborated influential factors of work productivity from single perspective only, but this paper is an attempt to discuss influential factors from multiple perspectives simultaneously.

Individual Antecedent

Individual antecedent is an internal factor which comes from the internal side of people inherently. It includes personality, intelligence, perception, motivation, preference in decision making, competence or skill, and many others. These factors are under the control of office worker as an individual. Motivation and skills are highlighted as two main predictors of working performance; therefore, this study reflects individual antecedent in working motivation and digital skills.

Working motivation is being perceived as the influential factor to reach business success in a dynamic environment (Sitthiwarongchai et al., 2020). Working motivation refers to individual, internal, and inherent factor which drives, directs, and keeps people to perform specific behaviors during certain period. There are so many theoretical concepts of working motivation. This paper uses McClelland's theory of needs to describe the working motivation. Working motivation is reflected into three kinds of needs: (1) need of power: people are motivated to climb the structural ladder of organization or to have control over other people and resources in organization and has privilege to make decision; (2) need of affiliation: people are motivated when they have a good relationship with a large number of people inside and outside the organization, and (3) need of achievement: people are motivated by appreciation from the organization for their "out-of-crowded" contribution or performance (McClelland, 1961).

According to the perspective of organizational behavior (Uhl-Bien et al., 2020), besides working motivation, competence is also predicted

as one of the influential factors on work productivity. In relation to the context of WFH, digital skills are needed to work effectively from remote site by using the internet. The capability to utilize various kinds of digital technology to conduct tasks and collaborate with team-mates and external partners becomes crucial. A previous study shows that higher digital skills will generate a more effective and efficient performance. Digital skills are not only influential for productivity in ICT or high-tech industries, but also for "brick and mortar" industries as well. Companies that do not utilize integrated approaches and train the employees with digital skills are failing to seize opportunities that digital workplace could convey (Attaran, Attaran, & Kirkland, 2019). Digital skills become an imperative for business organizations. Increased productivity and revenue growth in compelling business results will be experienced by organizations that have adopted digital technology. The continuously intensifying digital technology has an impact on productivity in all sectors of the economy (Funes et al., 2018).

Several empirical studies have proved that individual factors impacts on work productivity. An empirical study which involved 286 dual-career families in USA found that before the COVID-19 pandemic, there were no gender differences in self-rated job satisfaction and work productivity. However, during the lockdown, women are reported to gain lower job satisfaction and work productivity than men (Feng & Savani, 2020). In another study, 262 respondents reported that smartphone addiction became a negative effect on self-reported work productivity, both in personal and professional lives. (Duke & Montag, 2017). The empirical study with 1,095 respondents found that using strengths at work was associated with productivity, OCB, and job satisfaction and these associations were mediated by higher positive emotions and engagement (Lavy & Littman-Ovadia, 2017)

A different study reported that character strengths are predicted to contribute to human thriving. Individuals' behaviors and attitudes at work impacts on work productivity, organizational citizenship behavior (OCB), and job satisfaction. The national health and wellness

survey were conducted in seven countries (United States, UK, France, Germany, Italy, Spain, and China). This survey involved several groups of people: current smokers, people who were trying to quit, former smokers, and people who never smoke. The study found that smoking was associated with significant loss on work productivity and quitting benefits extend to work productivity rapidly after cessation (Baker et al., 2017).

Based on those previous studies, individual factors (e.g., gender, smartphone addiction, personal strength, and smoking habit) are shown to have a significant impact on work productivity. This paper supposes to examine the impact of digital skill and working motivation as individual antecedents on WFH productivity.

H1: *Individual antecedent impacts on WFH productivity significantly*

Group Antecedent

Group antecedent is an external factor which comes from social surrounding of the office workers. The social surrounding includes superiors, subordinates, teammates, external parties, and others. In ordinary or work-from-office arrangement, leadership capability of superiors, collaboration with teammates, and support from subordinates are influential group factors on work productivity. WFH during COVID-19 forced workers to work remotely and more independently. Support from subordinates is limited. The workers should accomplish all tasks by his/her own self at home. Therefore, leadership of superiors and collaboration with teammates by utilizing digital technology for working is crucial. This paper determines that group antecedent is reflected into digital leadership and digital collaboration and supposes to examine the impact of group antecedent on WFH productivity and on individual antecedent.

Digital leadership is defined as the capability of a manager to communicate a clear and meaningful vision and to actualize strategies for the digitization process (Zeike et al., 2019). Digital leadership is triggered by technological disruption that not only affects daily life, but also business life in an organization. The capability of

leading digitally is related to digital capability and leadership capability. Business organizations which are categorized as the digital master are more competitive than others in the similar industry. Digital mastery is a category for companies that have a high score in leadership capability and digital capability (Westerman et al., 2014). Digital leadership is reflected in digital attitude and leadership skills (Rudito & Sinaga, 2017). This paper defines digital leadership as the individual capability of a manager or superior as the organizational leader to be involved and train employees to utilize digital technology to support the company and aim for sustainable business growth.

Beside individual working skill, productivity as a behavior is also influenced by social factor. An individual's ability to collaborate with others is an essential factor which influenced productivity (Uhl-Bien et al., 2020). Collaboration as a social skill is defined as a mutually beneficial and well-defined relationship between two or more entities to accomplish shared goals. It is often used as a mean to solve complex issues or problems (Green & Johnson, 2015). In WFH context, collaboration is conducted via internet. Workers or employees work from home and digital technology enables them to collaborate with other people inside and/or outside organization. This article uses digital collaboration as the construct. Digital collaboration is operationally defined as collaboration by using digital technology among workers with internal and/or external partners to accomplish a common task (Kock, 2009). By adapting the previous concept (Easley et al., 2003), digital collaboration is described into four dimensions: team characteristics, job type, collaboration quality, and technology usage.

Several previous empirical studies have proved that group antecedent impacts on productivity. The empirical study conducted by Rehman et al. (2019) in the banking industry of Pakistan revealed a significant positive association between transformational leadership and employees' productivity. Another empirical study by Yunus and Ernawati (2018) found that collaboration and privacy exerted a positive influence on work productivity. Based on those studies, it

is indicated that leadership and collaboration as group antecedent are influential factors of work productivity. This paper supposes to examine the impact of group antecedent on WFH productivity.

H2: *Group antecedent impacts on WFH productivity significantly*

Empirical study that involved 86 employees of Ministry of Education in Timor-Leste revealed that work motivation mediated the influence of leadership style on employee performance. Leadership impacted on work motivation, then impacted on employee performance (Guterresa et al., 2020). A study using multisource and multilevel survey data from 171 individuals in 43 teams from eight major high-technology companies in China found that individual-focused transformational leadership had a positive indirect effect on individual creativity via individual skill development (Dong et al., 2017). A qualitative study which involved 58 graduate students found that in an online collaborative program, the student's intrinsic motivation is affected by the level of his/her satisfaction, and that affected his/her attitudes towards technology as the only course to enhance technology in education (Shonfeld & Magen-Nagar, 2020). This result indicates that collaboration impacts on motivation.

Based on those previous studies (Dong et al., 2017; Guterresa, et al., 2020; Shonfeld & Magen-Nagar, 2020), we found that leadership and collaboration as group antecedent impacts on motivation or skill as individual antecedent and proposes a hypothesis that group antecedent has positive and significant impact on individual antecedent.

H3: *Group antecedent impacts on individual antecedent significantly*

Organizational Antecedent

Organizational antecedent is an external factor which influences productivity as a behavior that comes from the organization where the worker works. Organizational antecedent can be related to organizational structure, corporate culture, management system, operational regulation and policy, technological support, performance management, capability of top management team,

and other factors. In WFH context, productivity is more influenced by how performance is measured from the remote location and how top management provides support for the workers. Therefore, in this paper, performance management and perceived organizational support are chosen to describe organizational antecedent.

The history of performance management was focused on performance evaluation which aims to gain accurate score of individual performances. The first large-scale use of ratings in work settings is used for efficiency ratings in the US Federal Civil Service and trait assessments (e.g., punctual, assertive) of officer performance during World War I (Pulakos et al., 2019). The rise of scientific management theories in the beginning twentieth century led to an increased attention on evaluating productivity and the corresponding use of ratings to leverage higher performance (Murphy & Cleveland, 1995). Performance management is a strategical practice of HRM which supposes to facilitate performance and development in an organization (Tseng & Levy, 2019).

Performance management is a process of making common shared understanding about what is to be achieved and how is to be measured in an organization. It holds many aspects of an organization, including strategic business dynamics, business strategy, managerial processes, and innovation with managers and employees at the central process (Iyswarya & Rajaram, 2017). Based on systematic literature review on performance management, Pulakos et al. (2019) formulated four key behaviors which employees need to display to in driving high performance. Those key behaviors are: (1) clarifying the performance expectations to ensure understanding on working standards and priorities, (2) explaining expectations with peers about who is doing what, and by when, (3) accepting and asking feedback non-defensively, and (4) using feedback to continuously improve own performance.

Perceived organizational support (POS) is a comprehensive employee perception relating the extent to which the organization appreciates employee's contributions and cares about employee's well-being (Kurtessis et al., 2017). Employees who are certain that their organizations treat them fairly and care about their well-being will

feel indebted to reciprocate by increasing their performance, commitment, and loyalty (Eder & Eisenberger, 2008). When an organization provides support to employees and appreciate their contributions, employees will respond with positive work-related behaviors (Lyubovnikova et al., 2018) such as increased performance and effort (Kim et al., 2017). In the context of WFH, organizational climate does not exist strongly in working experience of employees. Working at home will make them difficult to feel the support and attention from the organization. Therefore, POS is one of the organizational antecedents that are crucial in influencing work productivity. At the initial POS measurement, the study used questionnaire with 32 items but then using only eight items with adequate psychometric properties. The respondent is asked to indicate the extent to which she/he agreed on a seven-point scale (Eisenberger et al., 1986). This paper reflects POS in four dimensions: rewards, development, working conditions, and employee welfare.

Previous empirical studies have revealed that POS and productivity mutually influenced each other. Empirical study in the laundry plants revealed that perceived organizational support in employees' well-being impacts on productivity by about 10% (Gubler et al., 2018). The survey which involved 88 teams in 13 healthcare organizations across the United Kingdom revealed that POS impacts on individual and team productivity (Lyubovnikova et al., 2018). Based on that study, POS as organizational antecedent impacts on work productivity and this paper supposes to examine the impact of organizational antecedent on WFH productivity.

H4: *Organizational antecedent impacts on WFH productivity significantly*

An empirical study in Turkey which involved 432 people from 14 forest-related companies revealed that performance appraisal has a positive and significant impact on employee motivation and productivity (Aydın & Tiryaki, 2018). It means that performance management as organizational antecedent impacts on employee motivation as individual antecedent. This paper supposes to examine the impact of organizational antecedent on individual antecedent.

H5: *Organizational antecedent impacts on individual antecedent significantly*

Previous empirical study in a small, privately held commercial construction firm in the Southern United States which involved 97 employees revealed that the formalization of performance appraisal has a positive effect on trust in leadership (Belsito & Reutzler, 2019). It means that performance appraisal as organizational antecedent impacts on leadership as group antecedent. Based on that empirical fact, this paper supposes to examine the impact of organizational antecedent on group antecedent.

H6: *Organizational antecedent impacts on group antecedent significantly*

Method

This paper is based on exploratory cross-sectional study using partial least square structural equation modeling to structure research model and data analysis. The research model was constructed in second order construction which consisted of four variables: organizational antecedent as independent variable, group antecedent and individual antecedent as mediating variables, and WFH productivity as dependent variable. Organizational antecedent is described by performance management and perceived organizational support as dimensions. Group antecedent is reflected into two dimensions: digital leadership and digital collaboration. Individual antecedent is defined into two dimensions: work motivation and digital skill. Finally, WFH productivity is explained by two dimensions: quantitative outcome and qualitative outcome.

The data was collected through an online questionnaire from April 11th, to June 25th, 2020. Non-probabilistic sampling (which combined convenience and snowballing approach) was used as sampling method. This method selected the respondents from personal and professional networks of the researchers. The researchers came from BINUS University (Jakarta), Universitas Trunojoyo (Madura), STIE Pariwisata Indoensia (Semarang), Universitas Jember (Jawa Timur), and Universitas Riau (Pekanbaru).

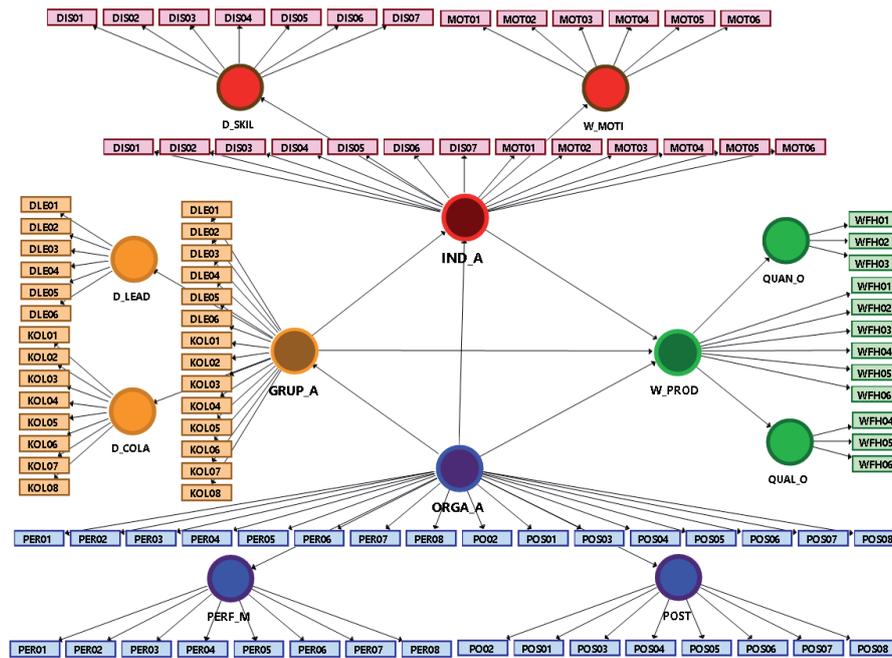


Figure 1. Proposed Research Model

Validity and reliability analysis were conducted on research model. An indicator is valid when its OL score is higher than 0.60. All indicators of all variables have OL score higher than 0.60 (Hair et al., 2014), except for MOT04, MOT04, MOT06 in Working Motivation which are excluded as its OL scores are less than 0,6. Average variance extracted (AVE) is used for validity analysis on variables and its dimensions. Cronbach’s Alpha (CA) or Composite reliability (CR) score are used for reliability analysis on variables and its dimensions. A variable or dimension is reliable when its CA or CR score is higher than 0.70. Table 1 shows that all variables and its dimensions have AVE of above 0.500 and CA and CR score of above 0,70. It means that the variables and its dimensions are valid and reliable to represent the research model.

Table 2 explains the relationship between variable and its dimension with path coefficient, t-Statistics, and p-Values. The path coefficient ranges from 0.71 to 0.95 with p-Values = 0.000 (less than 0.05) and t-Statistics of 26 to 242 (more than 1.96). It means that the relationship of all variables to each dimensions are significant. The research model is valid, reliable, and significant to test the hypotheses.

Finding and Discussion

The respondents are 824 office workers from 32 provinces all over Indonesia. Most of them (75%) are working for an organization permanently (75%), in private company (40%), and governmental institution as the civil servant (28%). Some holds structural position in their organization (63%). Only 18.6% of respondents have ever done WFH before COVID-19 pandemics; the rest are first timers. Based on the demographical profile, the respondents are distributed by gender equally–female (49. 64%) and male (50. 36%). They are mostly over 30-year-old (64%) with work experience of more than 5 years in their organization (72%). Most respondents have educational background in bachelor’s and master’s degree (70%). Most of them (81%) stay at these six provinces: Sumatra Barat, Jawa Timur, Jawa Barat, Jawa Tengah, Daerah Istimewa Yogyakarta, and DKI Jakarta.

After running basic bootstrapping with 1000 subsamples, SmartPLS version 3.0 provides the analysis result which is shown in Figure 2 and Table 3 as a base of hypothesis testing. From six hypotheses, three hypotheses are accepted and three others are rejected. Hypotheses H2, H4, dan H5 are rejected while hypotheses H1, H3, and

Table 1. Validity and Reliability Analysis

Dimension	Item	OL	CA	CR	AVE	Dimension	Item	OL	CA	CR	AVE	
WFH PRODUCTIVITY			0.89	0.92	0.65							
Quantitative Outcome	WFH03	0.72					KOL02	0.66				
	WFH01	0.86	0.78	0.87	0.70		KOL03	0.67				
	WFH02	0.91				Digital Collaboration	KOL04	0.68				
Qualitative Outcome	WFH04	0.85					KOL01	0.74	0.87	0.90	0.53	
	WFH06	0.88	0.85	0.91	0.77			KOL08	0.74			
	WFH05	0.90					KOL05	0.77				
INDIVIDUAL ANTECEDENT			0.86	0.89	0.51		KOL07	0.78				
	DIS03	0.65					KOL06	0.79				
	DIS02	0.68				ORGANIZATIONAL ANT.			0.94	0.95	0.55	
	DIS07	0.76					PER08	0.68				
Digital Skill	DIS01	0.78	0.87	0.90	0.57		PER01	0.70				
	DIS04	0.79				Performance Management	PER03	0.73				
	DIS06	0.80					PER06	0.76	0.89	0.91	0.56	
DIS05	0.82						PER05	0.77				
Working Motivation	MOT03	0.74					PER04	0.77				
	MOT01	0.80	0.69	0.83	0.62		PER02	0.77				
	MOT02	0.81					PER07	0.80				
GROUP ANTECEDENT			0.91	0.92	0.54		POS03	0.79				
	DLE01	0.76					POS02	0.81				
	DLE05	0.79				Perceived Org. Support	POS07	0.81				
Digital Leadership	DLE06	0.80	0.89	0.92	0.65			POS04	0.81	0.93	0.95	0.69
	DLE02	0.81						POS01	0.83			
	DLE03	0.85					POS08	0.85				
	DLE04	0.85					POS06	0.87				
							POS05	0.87				

Note: **OL** = Outer Loading, **CA** = Cronbach's Alpha, **CR** = Composite Reliability, **AVE** = Average Variance Extracted

Note: obtained from primary data

Table 2. Outer Path Coefficient

Variable	Dimensions	Path Coefficient	t- Statistics	p-Values	Result
WFH Productivity	Qualitative Outcome	0.95	242.28	0.00	Significant
	Quantitative Outcome	0.94	181.99	0.00	Significant
Individual Antecedent	Digital Skill	0.95	220.12	0.00	Significant
	Working Motivation	0.71	26.00	0.00	Significant
Group Antecedent	Digital Collaboration	0.90	93.06	0.00	Significant
	Digital Leadership	0.85	73.39	0.00	Significant
Organizational Antecedent	Performance Management	0.92	122.96	0.00	Significant
	Perceived Organizational Support	0.95	222.44	0.00	Significant

Note. Obtained from primary data

Table 3. Hypothesis Testing

Hypothesis	Path Coefficient	t-Statistics	p-Values	Result
H1: Individual Antecedent → WFH Productivity	0.469	10.788	0.000	Accepted
H2: Group Antecedent → WFH Productivity	0.016	0.237	0.813	Rejected
H3: Group Antecedent → Individual Antecedent	0.613	11.559	0.000	Accepted
H4: Organizational Antecedent → WFH Productivity	0.094	1.894	0.058	Rejected
H5: Organizational Antecedent → Individual Antecedent	0.010	0.239	0.811	Rejected
H6: Organizational Antecedent → Group Antecedent	0.723	31.897	0.000	Accepted

Note: Obtained from primary data

H6 are accepted. There are no direct impact of group antecedent (H2) and organizational antecedent (H4) on WFH productivity and no direct impact of organizational antecedent on individual antecedent (H5). WFH productivity is influenced directly by individual antecedent (H1), then individual antecedent influenced directly by group antecedent (H3) and finally group antecedent is influenced directly by organizational antecedent (H6).

WFH productivity is influenced directly by working motivation and digital skill of office workers as individual antecedent. This result strengthens previous empirical studies conducted by Shaban et al. (2017) and Zira (2016). Shaban et al. (2017) found that motivation is an influential factor of productivity in Jordanian industrial companies. Zira (2016) found a significant but negative relationship between labor productivity and skill mismatch in numeracy in 24 OECD countries. Based on table 2, WFH productivity is reflected equally in quantitative outcome (0.94) and qualitative outcome (0.95). Employees reported that they experienced better productivity while working from home with higher quantitative outcome and qualitative outcome. WFH productivity is influenced directly only by individual antecedent about 28.1%. Group antecedent and organizational antecedent do not influence directly on WFH productivity. Individual antecedent is reflected more by digital skill (0.95) rather than working motivation (0.71).

Individual antecedent is influenced directly by group antecedent. This result is in line with

empirical studies by Dong et al., (2017) about transformational leadership on individual skill development, Guterresa et al. (2020) about impact of leadership style on work motivation, and Shonfeld and Magen-Nagar (2020) about collaborative online program impact on intrinsic motivation. These empirical studies conclude that leadership and collaboration as group antecedent impacts on motivation or skill as individual antecedent. Based on Figure 2, group antecedent impacts on individual antecedent by about 38.5%. According to Table 2, group antecedent is almost equally reflected in digital collaboration (0.90) and digital leadership (0.85). Digital collaboration and digital leadership influence significantly on digital skills and working motivation. By improving digital collaboration and digital leadership, digital skills and working motivation of employee during WFH are impacted.

Finally, group antecedent is influenced by organizational antecedent. It is in line with previous study conducted by Belsito and Reutzel (2019) which found that performance appraisal has a positive effect on leadership. Figure 2 explains that organizational antecedent impacts about 52.1% on group antecedent. Based on Table 2, organizational antecedent is equally reflected in performance management (0.92) and perceived organizational support (0.95). To improve digital collaboration and digital leadership, this paper recommends companies and organizations to align performance management and perceived organizational support for employees who has WFH as his or her temporary work arrangement.

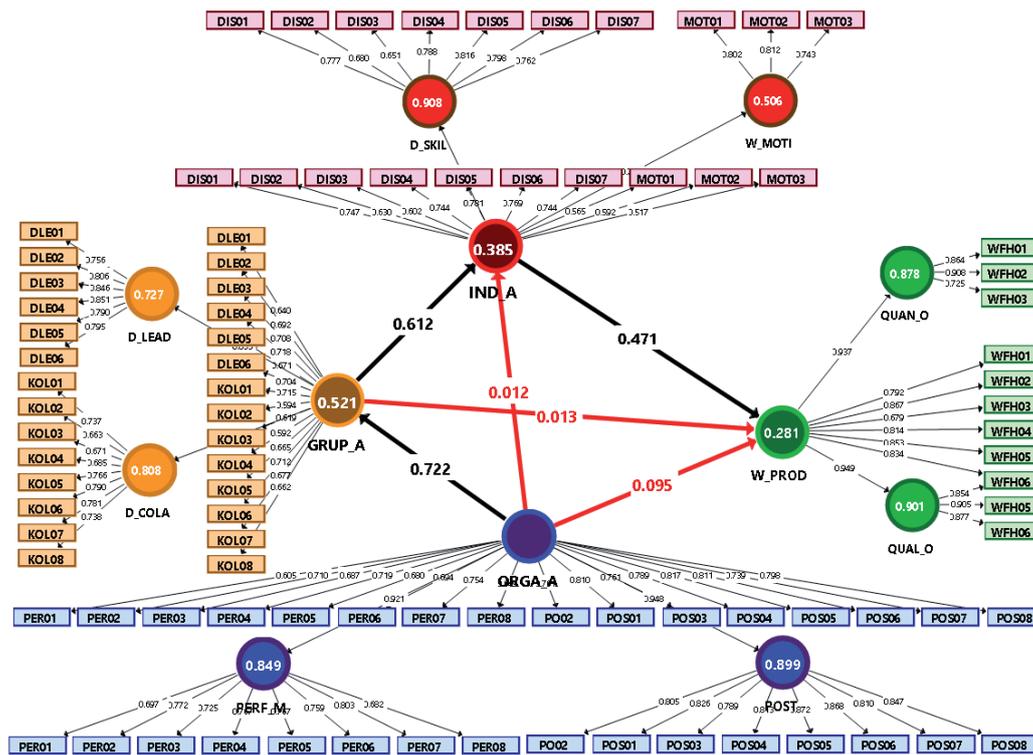


Figure 2. Result of PLS SEM Analysis

CONCLUSION

WFH productivity is a strategic issue in COVID-19 era. Developing productivity of employee in conducting WFH can be stimulated by improving individual antecedent which is reflected in digital skills and working motivation. Group antecedent does not impact directly on WFH productivity. Group antecedent is reflected in digital leadership, while digital collaboration influences indirectly on WFH productivity. Group antecedent impacts on WFH productivity by influencing individual antecedent. Organizational antecedent, which is reflected into performance management and perceived organizational support, does not impact directly too on WFH productivity. Organizational antecedent impacts directly on group antecedent.

To improve employee productivity during WFH, the management should focus to develop digital skill and maintain the working motivation. The digital leadership of a supervisor or manager should be aligned to the development of digital

skills and working motivation. Performance management and perceived organizational support should be direct to endorse and encourage the development of supervisors and managers in the area of digital leadership and digital collaboration.

For future research, this paper recommends researchers to using first order type model which directly connects digital skills, working motivation, digital leadership, digital collaboration, performance management, and perceived organizational support to WFH productivity. Sampling method for data collection should use a more randomized or probabilistic approach with larger number of respondents. The research model can be expanded by inserting the other impactful factors on WFH productivity because based on the current research model, WFH productivity is influenced by individual antecedent in only 28.1%. There are about 71.9 % other influential factors on WFH productivity that are not examined yet in this paper.

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