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Working from home effectiveness during Covid-19: Evidence from university staff in Indonesia

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A R T I C L E I N F O

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ABSTRACT

The purpose of this paper is to examine determinant factors that influence lecturers' productivity during working from home arrangement in the covid-19 pandemic. The focus is the impact of organizational factors that includes IT training, digital infrastructure, and management support, and individual factors as represented by digital orientation on employees' digital capability which in turn affect their productivity. A survey of academic staff from 15 faculties at a state in East Java, Indonesia was conducted as the data collection method. A total of 267 completed questionnaires were analysed using SmartPLS version 2.0. Only an individual's digital orientation was found to have significant impact on the individual's digital capability which in turn affected their d productivity during implementing work from home in this covid-19 pandemic. The research findings suggest the importance of digital orientation in staff selection criteria and for universities to move to greater online delivery of courses combined with flexible working options for staff.

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1. Introduction

Work from home (WFH) has long been associated with programs that support work life balance (WLB) in organisations. WFH to support WLB has been widely applied in Western countries, especially in large companies (Felstead & Jewson, 2000). The policy is designed to provide more flexibility for their employees to help employees to balance their roles in work and outside of work (Olson & Primps, 1984). From the HRM perspective, implementing WLB policy, including WFH arrangements, is recognized as having a positive impact on employee work attitudes and behaviour. In this case, the implementation of the WLB policy is recognized as being able to increase employee job satisfaction, increase organizational commitment and even improve employee performance (Crosbie & Moore, 2004). However, previous studies have been undertaken in Western countries, (Crosbie & Moore, 2004; Felstead & Jewson, 2000), and this paper addresses the effectiveness of working from home in a developing economy context where cultural and social conditions around employment are very different from those found in advanced economies (Afrianty et al., 2015).

With the outbreak of COVID-19, WFH arrangement have been implemented globally in those sectors where services can be delivered online (Arruda, 2020). Working from home reduces exposure to the public for staff and reduces the need to commute to workplaces that involves further exposure To reduce the spread of COVID-19, the Indonesian government urged staff to social distance and where possible to conducting activities at home, including learning from home and working from home (Kemendikbud, 2020).

As part of the government working from home program, HR managers were held responsible for providing support for the implementation and supervision of work from home. In line with this requirement, a recommendation to study and work from home was issued by the Minister of Education and Culture of the Republic of Indonesia (Kemendikbud, 2020). The Minister required that for learning activities both in schools and colleges in the Covid-19 affected areas to be carried out at home and academic staff and students were instructed to stay off campus. The Indonesia Minister

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of Education and Culture instructed Local Government and Higher Education managers to ensure that working from did not adversely impact on the quality of education or the productivity of staff. The Indonesian Ministry of Education and Culture specifically stated: "Physical presence is not a measure of performance. The most important thing is that learning continues and continues to happen. Only the way that turns into online learning" (Kemendikbud, 2020).

As a result of the current covid-19 outbreak, universities around the world are moving towards online education as campuses fully or partially closed. Travel bans, campus closures, and social distancing measures have forced university students and staff into their homes for teaching and learning, which has required them to adapt to working and studying remotely. University teaching staff in infected countries and regions are now delivering their lectures online, and administrative tasks are being completed online, and meetings are also organized online In terms of the impact of covid-19 pandemic on Higher Education Institutions (HEIs) the International Association Universities (IAU) indicated that 67% of HEIs around the world have replaced their classroom into online distance teaching and learning (Marinoni et al., 2020). Similarly, Symonds (2020) reported that 50% of higher education professionals in universities across the globe had switched some of their scheduled courses online, this number is only set to increase as the coronavirus continues (Symonds, 2020). In a very short time period, teaching and administrative staff, management, and students have had to accommodate remote teaching, learning, and administration, and in many cases without prior experience.

The Indonesian Minister of Education and Culture required that learning activities both in schools and colleges in the Covid-19 affected areas were to be carried out at home through ITC. At the beginning of the pandemic in Indonesia, around March 2020, almost all universities in Indonesia had to switch their activities from off-line and on campus face to face delivery to on-line and remote delivery. Teaching and learning was supported by cloud technology, and software that supported program delivery, interaction such as tutorials and workshops, assessment, and meetings.

The literature addresses the consequences of WFH arrangements on efficiency and productivity, thus establishing an organizational business case for the process (Nakrošienė et al., 2019; Timsal & Awais, 2016). Increased employee productivity from engaging in teleworking one of the most important arguments for offering this arrangement to employees. It is argued that by working away from the office, employees can be more productive because they can work during their most productive time, they are not distracted by office socialising and co-workers, and they have reduced commuting time (Golden & Veiga, 2008; Martinez-Sanchez et al., 2006; Tremblay & Genin, 2007). There are potential negative consequences such as being on continuous call and balancing the demands of family and social life with working from home (Felstead & Jewson, 2000).

The purpose of this research is to examines the factors that impacted on the ability of lecturers in completing their tasks and responsibilities through WFH arrangements in response to COVID-19. The factors that were grouped into organizational and individual factors. Organizational factors identified from the literature as being potentially relevant to impacting on productivity included IT training, digital infrastructure, and management support. The contribution of this research is that it examines a forced and dramatic change in work routines because of the COVI19 crisis and the application across the workforce, not to selected individuals. There is contextual significance behind the research since the tertiary education plays strategic role in Indonesia in terms of employment, training, skills and development. Finally, this is an emerging economy context, and while Indonesia is an emerging economy in Southeast Asia, it does have social, religious, and cultural conditions that differ from those found in Western economies and this contributes to the importance of the study (Burgess et al., 2020).

2. Literature review and hypotheses development

2.1. Working from home

Working from Home (WFH) is defined as periodic work at home (out of the principal office), one or more days a week (Hill et al., 2003). This arrangement has been considered as an alternative way of organizing work to provide flexibility to workers in terms of hours, balancing work and nonwork responsibilities, and saving on work commuting time (Felstead & Jewson, 2000). Before COVID-19, WFH was presented as a win-win scenario for employees and employers. From the employer perspective, several advantages of offering WFH included attracting and retaining highly skilled employees, improving employee commitment/engagement, and improved matching of time and workflows (Aboelmaged & Subbaugh, 2012; Bailey & Kurland, 2002). However, since the outbreak of covid-19, WFH arrangements have seems to be a policy that is being implemented globally to reduce the spread of covid-19 and to maintain production and employment during a period in which workplaces are closed and travel curtailed (Arruda, 2020; Marinoni et al., 2020). Under COVID and the associated restrictions on travel and with social distancing, WFH is no longer regarded as an exclusive option for a minority of workers, but an arrangement that must be taken by all those businesses and workers who do not require a physical workplace to continue with production and employment. Davaram and Burgess (2021) argue that one of the most observable changes which has occurred because of COVID has been the shift of many employees into WFH arrangements across occupations even where this previously was not an option.

Apart from reducing the exposure to infection and the associated health-risks, the implementation of WFH during this pandemic has been found to cause challenges such as delays in service delivery, providing additional resources and training, and requiring investment in IT, software, and infrastructure to support WFH (Shareena & Shahid, 2020). Managing teams while working from home has also been found to be e challenging, however, technological tools such as online meeting platforms such as Zoom and Teams, have proven to be effective in supporting project team meetings (Jallow et al., 2020). In India, it was s found that working from home was stressful for some employees as the home environment was found to be uncomfortable, disruptive, and unsuitable for sustained periods of productive work. (Shareena & Shahid, 2020). Given these early findings on the impact of WFH under the conditions of the pandemic, it is suitable to examine the impact on employee productivity within the Indonesian HE sectors.

2.2. Antecedents of employees' productivity in implementing WFH

Employee productivity is defined as the efficiency and effectiveness of individuals in completing tasks and work responsibilities (Staples, Hulland, & Higgins, 2020). Effectiveness refers to the extent to which an employee can complete their responsibilities in accordance with a predetermined deadline. Whereas efficiency refers to the extent to which the individual can accomplish tasks and responsibilities without any waste of resources. Several studies have shown that implementing WFH has a positive impact on efficiency. A survey of IBM employees showed that 87% of employees felt that their productivity had increased with WHF arrangements (Bailey & Kurland, 2002). WFH employees can modify the work environment according to individual needs, such as balancing work and family, so that efficiency can be improved as employees can better manage time constraints and

workflow requirements (Bailey & Kurland, 2002).

Research found that individual and organizational factors play a crucial role in influencing the ed productivity of employees who engage in WFH (Aboelmaged & Subbaugh, 2012). Digital orientation and digital capability are the individual factors regarded as being important in affecting employee productivity in the case of WFH. On the other hand, organizational factors that have been identified as being important in influencing employee productivity include access and provision of Information Technology (IT) training, management support, and digital infrastructure (Aboelmaged & Subbaugh, 2012). In this research both employee and organizational conditions that impact on employee productivity when engaged in WFH are examined.

Digital orientation of individual employees is a recently identified condition impacting on employee productivity and prior research on digital orientation has been conducted at the organizational level (Khin & Ho, 2018). Khin and Ho (2018) suggest that digital orientation is an extension of technological orientation. It is the conceptualized as technology orientation in a digital technology context. Specifically, in this research, digital orientation is analysed from the perspective of the employee and it is defined as an individual's commitment toward application of digital technology to support the accomplishment of the job. Thus, the stronger the digital orientation of an individual, the more open the individual is to the application of digital technologies. Moreover, a digital oriented employee is committed to embrace digital initiatives for their day-to-day job and responsibilities. According to Quinton, Canhoto, Molinillo, Pera, & Budhathoki, 2017, digital orientation is driven by coercive, mimetic, and normative pressures. That is, employees will respond to pressures from peers, employers, and those around them in order adjust to technological developments.

At the organizational level, Moorman and Slotegraaf (1999) define digital capability as the ability of companies to effectively harness digital technology to design and develop new products or services and develop new business processes. In the context of organisations, digital capabilities can be determined as the abilities, skills and expertise possessed by companies to manage digital technology for product development. In this research digital capability is defined as the skills, expertise, and ability of individuals/employees to manage digital technology in carrying out or supporting their jobs.

In the HRM context, training is one of the key processes for an organization to improve the skills and competencies of its employees. Employee training facilitates skills renewal, which leads to increased employee satisfaction (Acton & Golden, 2003), increases employee commitment to the organization (Bushardt et al., 1994), and strengthens organizational competitiveness (Hughey & Mussnug, 1997; Burden & Proctor, 2000). Regarding IT training, Benamati & Lederer, 2001 found that training was the most frequently used mechanisms for adapting to changing IT systems and software. IT-related skills are identified as a source of sustainable competitive advantage for a firm. Ravichandran and Lertwongsatien (2005) found that intangible IT resources such as IT skills are important determinants of how IT is used by employees in organisations, which in turn affects employee and organizational performance.

Digital infrastructure incorporates hardware and software systems that supports organizational functioning and employee performance (ITU, 2019). What is meant by digital infrastructure in this research is the existence of technology-based systems owned by organization that can support the implementation of the organization's core business online. To respond to the current developments in the online economy associated with the fourth industrial revolution (Schwab, 2016), including cloud data storage,

machine learning, big data and robotics, all sectors, including higher education, require adequate digital infrastructure. To move to online teaching and learning requires the support of hardware (internet access and computers) supported by appropriate software systems to deliver course material, teaching sessions, discussion sessions, assignments, and examinations.

In the innovation literature management support is consistently seen as an important factor in realizing the changes needed during the adoption and diffusion of an innovation (Premkumar & Potter, 1995). Management support is also believed to have an important role for the adoption and diffusion of telework or WFH. Regarding the implementation of WFH, Blake (1994) highlights the need for management's commitment to support changes in work culture, including the implementation of WFH.

The research examines, through an online survey, the employee experiences of WFH under COVID conditions, what conditions (personal and organizational) were important in supporting employee effectiveness in carrying out their jobs.

2.3. The research model

Both individual and organizational factors contributed to employees' productivity in undertaking the WFH. Specifically, we argue that both factors could affect employee productivity through facilitating employees' digital capability. IT training that is provided by an organization, for example, has been widely believed as an essential factor to enhance employee capability, which in turn affect the employees' productivity. An effective training program is required to develop the desired knowledge, skills, and abilities of the employees (Elnaga & Imran, 2013). The current WFH process, which is managed online, produces the need for skills related to digital technology and thus requires IT training as a preparation for WFH programs. Benamati & Lederer, 2001 found that training has been the most frequently applied coping and adaptation mechanism used to adjust to changing IT systems and processes.

IT supporting mechanisms provided by the organization such as IT training, management support, and digital infrastructure, could enhance employees' digital capability which will then improve employee's productivity during WFH. In addition, individual or personal factors that have contributed to the enhancement of the individual capability which in turn affect the individual productivity. The individual factor that we are focusing on in this research is a digital orientation possessed by an employee. Following on from this the research model that was tested is set out in Fig. 1.

Based on the research model, the hypotheses developed for this research are as follow:

Hypothesis 1. (H1): Organizational factors (a) IT training; (b) Digital infrastructure; and (c) Management support will have positive impact on employee's digital capability

Hypothesis 2. (H2): Individual factor (i.e., digital orientation) will have positive impact on employee's digital capability

Hypothesis 3. (H3): Employee's digital capability will have positive impact on employee's productivity during WFH

Hypothesis 4. (H4): Employee's digital capability will mediate the impact of organizational factors (a) IT Training; (b) digital infrastructure; (c) management support on employee's productivity during WFH

Hypothesis 5. (H5): Employee's digital capability will mediate the impact of individual factor (i.e. digital orientation) on employee's productivity during WFH.

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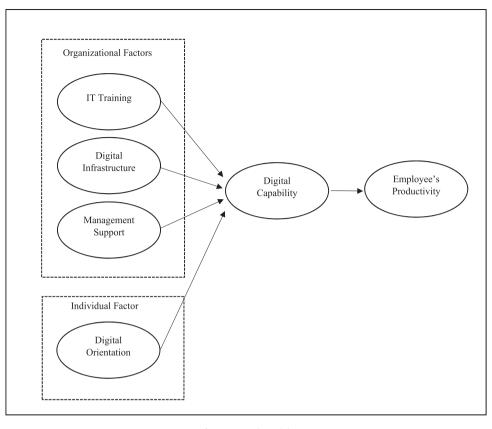


Fig. 1. Research model.

3. Research methods

This study applies a quantitative approach to statistically test the causal relationship among the identified variables through hypothesis testing. The research is explanatory research, in that it seeks to identify the key determinants of employee productivity through the introduction of WFH programs, and it is exploratory in that it collects data from one organization at one point in time. The data were gathered using structured questionnaires. An online survey was distributed to lecturers at 15 faculties in a provincial university in Indonesia. A total of 267 surveys were collected and analysed using Smart Partial Least Square (SmartPLS) version 2.0. Participation in the survey was informed and voluntary and the research required an ethics clearance from the participating university.

3.1. Measurements

All the measurements were adapted from previous research available in the literature, and as such they were all previously pretested. In this research, IT Training is defined as various forms of activities organized by University for lecturers aimed at increasing the competence of lecturers in information technology. The IT training measurement was adapted from Bradford and Florin (2003). Sample item: "My university provides various training related to the use of IT to lecturers".

Digital infrastructure is defined as hardware and software facilities provided by the university that enable the operation of information and communication systems in both the University and in private areas that facilitate lecturers to implement work from home. The digital infrastructure measurement was adapted from Byrd and Turner (2000); ITU (2019); East Ventures (2020). Sample item: "The IT department within the university provides information updates about the existence or development of IT owned by the university".

Management support is defined as all attitudes, behaviors and policies issued by leaders in the university to support the use of technology in the implementation of work from home arrangement. The measurement of management support in this study was adapted from Lee and Kim (1992). Sample items: "University leaders provide various technological resources for lecturers to be able to carry out work from home".

Digital orientation was defined as an individual's commitment toward application of digital technology to support the accomplishment of the job. The measurement of digital orientation in this study was adapted from Gatignon and Xuereb (1997); Khin and Ho (2018). Sample item: "I realized the importance of utilizing digital technology to support my work".

Digital capability was defined as the skills, expertise, and ability of lecturers to manage digital technology to carry out their duties and responsibilities. The measurement of digital capability in this study was adapted from Baker et al., 2015. Sample item: "I use various software to support my duties and responsibilities as a lecturer".

Employee's productivity was defined as lecturers' performance in completing their tasks and responsibilities by carrying out work from home with the use of digital technology. The measurement of employee productivity in this study was adapted from Aboelmaged and Subbaugh (2012). Sample item: "I can complete my duties and responsibilities as a lecturer by carrying out work from home".

All items are assessed on a five-point Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree. Participants were asked to rate the extent to which they agreed or disagreed with each item. The survey was conducted in Bahassa. Since the original

measurements were in expressed in English, a back translation was made to ensure an accurate cross-linguistic comparison of the scale items.

4. Results and discussion

4.1. Demographic information

A total of 267 surveys across 15 faculties were collected. The demographic information of the respondents is shown in Table 1. Not surprisingly all participants held a masters or PhD degree; there were slightly more females than male participants; around half of the participants had less than 10 years' service; and around half were less than 40 years of age.

4.2. Validity and reliability assessment

All items that were used to measure the targeted constructs in the first order measurement model (i.e. Table 2) meet the minimum requirement of convergence validity that are loading values above 0.70, and the average variance extracted (AVE) values above 0.50 (Hair et al., 2017), except for the fourth indicator of digital infrastructure that has an AVE of 0.482. However, according to Fornell & Larcker, 1981, the AVE may be a more conservative estimate of the validity of the measurement model, and "on the basis of composite reliability alone, the researcher may conclude that the convergent validity of the construct is adequate, even though more than 50% of the variance is due to error" (p. 46). From Table 2, the composite reliability of the constructs is above the recommended level, thus the convergent validity is adequate. In addition, reliability test (i.e. Composite Reliability) for each targeted construct were above 0.70 (Hair et al., 2017).

4.3. Hypothesis testing

Hypothesis testing was carried out through examining the tstatistics on each path of direct and indirect effects. The criteria for a significant effect require that the t-statistics of each path coefficient \geq t-table (1.96). The results of the hypothesis testing of direct and indirect effects can be seen in Tables 3 and 4, respectively.

Referring to Table 3, organizational factors (i.e., IT Training; Digital Infrastructure; and Management Support) did not have a significant effect on digital capability. This can be seen from the t-statistics values were less than t-table (1.96). Thus, Hypothesis 1 (a), (b), and (c) were not supported in this research. On the other hand, the effect of digital orientation on digital capability was found to be significant (t-statistics > t-table), which means that Hypothesis 2 was supported. Similarly, digital capability was found to have a significant effect on employee's productivity, which means that

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Hypothesis 3 was also supported.

Based on the indirect effect testing results shown in Table 4, digital capability did not mediate the effect of (a) IT Training; (b) Digital Infrastructure; and (c) Management Support on Employee's productivity. Thus, hypotheses 4 (a), (b) and (c) were not supported. On the other hand, digital capability was found to have significant mediation effect on the link between digital orientation and employee's productivity (t statistic > 1.96). This means that Hypothesis 5 was supported.

The digital orientation of the individual has a significant impact on increasing the individual's digital capability. However, IT training, digital infrastructure and management support that are categorized as the organizational factors in this research did not have a significant effect on increasing the individual capability. The COVID pandemic era that force individual lecturers to work from home and rely on digital technology to deliver online teaching and research related activities. The respondents had no other choices than to develop their own digital capability to be able to do their jobs, with or without the university organizational support. The pandemic has forced academic staff to master digital technology to support their jobs and continued employment. Moreover, by looking at the age of the respondents, most respondents are 30-35 years old (see Table 1) which are categorized as millennials. According to Kapoor and Solomon (2011), the millennial generation is unique in terms of their expertise in technology. Millennials are highly exposed to technology, they were brought up around it, and the transition to online and working from home was not a major challenge for them. The results of this research shows that it was respondent's digital orientation that affect their digital capability. not organizational factors (the IT training, digital infrastructure provided by organization, and management support) especially in this covid-19 pandemic which force almost all individual to engage in WFH. In addition, other finding of this research shows that the impact of individual's digital orientation on their productivity in doing their job by implementing WFH is mediated by their digital capability.

The surprise is that organizational support through IT training, digital infrastructure, and management support were found to have no impact on productivity in WFH. This suggests that the organizational support processes were ineffective and require further development to improve their support towards employee productivity when engaging in WFH. Transformational changes in work at short notice are difficult to manage where there are variable staff IT capabilities in managing a different work medium.

5. Discussion and conclusion

This research is one of the first studies to examine that examined digital technology related determinant factors affecting employee productivity in implementing WFH during the covid-19

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Demographic	information.

Gender	f	%	Age (year)	F	%	Work Tenure (year)	f	%	Education	f	%
Male	113	42.3	26-30	28	10.5	1-5	56	21	Master Degree	138	51.7
Female	154	57.7	31-35	62	23.2	6-10	72	27	Doctoral Degree	129	48.3
			36-40	43	16.1	11-15	42	15.7			
			41-45	46	17.2	16-20	30	11.2			
			46-50	34	12.7	21-25	21	7.9			
			51-55	14	5.2	26-30	12	4.5			
			56-60	28	10.5	31-35	24	9			
			61-65	7	2.6	36-40	7	2.6			
			66-70	3	1.1	41-45	3	1.1			
			71-75	2	0.7						
Total	267	100		267	100		267	100		267	100

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Table 2

Convergent validity and reliability assessment.

Variable	Indicator	Items	Loading Factor	AVE	Composite Reliability
IT Training		X1.1	0.727	0.745	0.851
-		X1.2	0.981		
Digital Infrastructure (X2)	X2.1	X2.1.1	0.757	0.721	0.911
		X2.1.2	0.819		
		X2.1.3	0.906		
		X2.1.4	0.906		
		X2.1.5	0.757		
	X2.2	X2.2.1	0.880	0.531	0.768
		X2.2.2	0.623		
		X2.2.3	0.657		
	X2.3	X2.3.1	0.847	0.731	0.891
		X2.3.2	0.892		
		X2.3.3	0.826		
	X2.4	X2.4.1	0.641	0.482	0.736
		X2.4.2	0.733		
		X2.4.3	0.705		
Management Support (X3)		X3.1	0.811	0.590	0.852
		X3.2	0.801		
		X3.3	0.722		
		X3.4	0.734		
Digital Orientation (X4)		X4.1	0.839	0.754	0.902
		X4.2	0.923		
		X4.3	0.840		
Digital Capability (Y1)	Y1.1	Y1.1.1	0.823	0.692	0.818
		Y1.1.2	0.841		
	Y1.2	Y1.2.1	0.873	0.770	0.870
		Y1.2.2	0.881		
Employee's Productivity (Y2)		Y2.1	0.841	0.695	0.948
		Y2.2	0.870		
		Y2.3	0.866		
		Y2.4	0.831		
		Y2.5	0.834		
		Y2.6	0.857		
		Y2.7	0.812		
		Y2.8	0.750		

Table 3

Direct effect.

Exogeneous Variables	Endogenous Variables	Path Coefficients	Standard Error	T statistics
IT Training	Digital Capability	-0.159	0.085	1.862
Digital Infrastructure	Digital Capability	0.167	0.116	1.443
Management Support	Digital Capability	0.203	0.128	1.592
Digital Orientation	Digital Capability	0.422	0.081	5.192
Digital Capability	Employee's Productivity	0.362	0.065	5.543

Table 4

Indirect effect.

Exogeneous Variables	Mediation	Endogenous Variables	Indirect Effect	Standard Error	T statistics
IT Training	Digital Capability	Employee's Productivity	-0.058	0.032	-1.773
Digital Infrastructure	Digital Capability	Employee's Productivity	0.060	0.043	1.394
Management Support	Digital Capability	Employee's Productivity	0.073	0.048	1.525
Digital Orientation	Digital Capability	Employee's Productivity	0.153	0.040	3.805

pandemic in Indonesia. The findings of this research highlight the importance for employee of having a strong digital orientation in order to be able to cope with disruption in the workplace which one of them is the need for optimizing digital technology for some aspects of the work effectively accommodate WFH arrangements. The findings suggest that organisations if contemplating working technologically intermediated WFH home should ensure that their employees have a strong digital orientation as well as sufficient digital and capability. This can be done through an optimal recruitment and selection processes to get the right employees from the very beginning. The absence of any effect for organizational programs suggests that the programs were ineffective and require further investigation on the part of the University to improve their effectiveness. Even though organizational factors had been found to have no significant effect on improving employee's digital capability that can boost employee productivity, organization still need to find appropriate programs or policies that could maintain or even increasing their existing employees' digital orientation. Given the speed and scope of the changes required post COVID it could reflect that the university was not prepared to deal with the consequences of the pandemic in the time allowed. Training, infrastructure, and management were not prepared for

dealing with the scale and speed of the pandemic. Consequently, through time there are opportunities to learn from the COVID experience and for organizational support processes to be further developed and refined to support WFH arrangements. Specific suggestions include moving towards online course offerings as a permanent feature within universities, offering staff and students the opportunity for flexible working and studying arrangements. Offering on campus and off campus programs has the potential to reach a larger student population, but it will also require universities to invest in training and IT support services to ensure that the online programs can be effectively delivered. For government, the focus should be on extending national and local IT infrastructure, together improving its reliability, to support online education for all participants, regardless of their location.

The COVID pandemic has demonstrated that many organisations, including governments, were not prepared to meet the unexpected challenges associated with IT based forms of working and service delivery. In the future and with environmental crisis such as flooding, drought, and fires recurring, organisations need to seriously plan and organise staffing and service delivery through IT systems.

The study was limited in terms of its application to one university in Indonesia at one point in time. Further research could bring in multiple universities, organisations from a range of industries, and examine the results through time, especially after organisations have had more experience in operating with WFH arrangements.

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