Original Research

Indonesian Journal of Health Administration
(Jurnal Administrasi Kesehatan Indonesia)
p-ISSN 2303-3592, e-ISSN 2540-9301
10.20473/jaki.v10i2.2022.165-176

IDENTIFYING HEALTHCARE WORKERS' INTENTION TOWARD TELEHEALTH IN INDONESIA DUE TO COVID-19 PANDEMIC

Mengidentifikasi Intensi Tenaga Kesehatan Terhadap Telehealth di Indonesia Akibat Pandemi Covid-19

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Abstract

Background: Healthcare sectors adopted various steps during the Covid-19 pandemic to prevent virus transmission, including limiting patient numbers. Telehealth can be an alternative solution since healthcare institutions can provide services without direct contact.
Aims: This research aims to analyze healthcare workers' intentions in Indonesia toward telehealth using the unified theory of acceptance and use of technology (UTAUT) framework with additional variables.
Methods: A literature review was undertaken to develop a framework tested using Partial Least Square-Structural Equation Modeling (PLS-SEM). This study was conducted with Indonesian healthcare institutions in Bandung and Surakarta. Participants consisted of doctors and nurses.
Results: Of 200 participants, this finding showed effort expectancy, social influence, facilitating conditions, self-efficacy, and technology anxiety influenced the intention to adopt telehealth (p-Value ≤ 0.05). However, performance expectancy and perceived security and data have no significant influence (p-Value > 0.05). This study discovered that performance expectancy is influenced by effort expectancy (β = 0.727), while effort expectancy is influenced by self-efficacy (β = 0.642).
Conclusion: Indonesian healthcare institutions must be concerned with factors affecting telehealth implementation, especially with data security, which has proven insignificant. Further research is required to optimize the application.

Keywords: Covid-19, pandemic, telehealth, UTAUT

Abstrak

Latar Belakang: *Berbagai langkah ditempuh sektor kesehatan selama pandemi Covid-19 untuk mencegah penularan virus, termasuk membatasi jumlah pasien. Telehealth bisa menjadi solusi alternatif karena institusi kesehatan dapat memberikan perawatan medis tanpa kontak langsung.*
Tujuan: *Penelitian ini bertujuan untuk menganalisa niat petugas kesehatan di Indonesia terhadap telehealth menggunakan kerangka teori terpadu penerimaan dan penggunaan teknologi (UTAUT) dengan variabel tambahan.*
Metode: *Tinjauan literatur dilakukan untuk mengembangkan kerangka konseptual yang diuji menggunakan model persamaan struktutal-kuadrat terkecil parsial (PLS-SEM) . Penelitian ini dilakukan dengan institusi kesehatan Indonesia di Bandung dan Surakarta. Peserta terdiri dari dokter dan perawat.*
Hasil: *Dari 200 peserta, temuan ini menunjukkan bahwa ekspektasi upaya, pengaruh sosial, kondisi fasilitasi, efikasi diri, dan kecemasan teknologi berpengaruh terhadap niat untuk mengadopsi telehealth (p-Value 0,05). Namun, harapan kinerja dan keamanan data yang dirasakan tidak memiliki pengaruh yang signifikan (p-Value > 0,05). Penelitian ini juga menemukan bahwa ekspektasi performa dipengaruhi oleh ekspektasi upaya (β = 0,727), sedangkan ekspektasi usaha dipengaruhi oleh efikasi diri (β = 0,642).*
Kesimpulan: *Institusi kesehatan Indonesia harus memperhatikan faktor-faktor yang dapat mempengaruhi implementasi telehealth, terutama terhadap keamanan data pasien yang terbukti tidak signifikan. Penelitian lebih lanjut diperlukan untuk mengoptimalkan pengaplikasian.*

Kata kunci*: Covid-19, pandemi*, telehealth, UTAUT

Indonesian Journal of Health Administration (*Jurnal Administrasi Kesehatan Indonesia*)
p-ISSN 2303-3592, e-ISSN 2540-9301, Volume 10 No.2 2022, DOI: 10.20473/jaki.v10i2.2022.165-176
Received: 2022-03-10, Revised: 2022-07-01, Accepted: 2022-07-17, Published: 2022-11-30.
Published by Universitas Airlangga in collaboration with *Perhimpunan Sarjana dan Profesional Kesehatan Masyarakat Indonesia (Persakmi)*.

How to cite :
Fathurahman, M. R., Basri, M. H. and Belgiawan, P. F. (2022) "Identifying Healthcare Workers' Intention Toward Telehealth in Indonesia Due to Covid-19 Pandemic", *Indonesian Journal of Health Administration*, 10(2), pp. 165–176. doi: 10.20473/jaki.v10i2.2022.165-176.

Indonesian Journal of Health Administration
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Introduction

As the number of Covid-19 patients increases (Ohannessian, Duong and Odone, 2020), many healthcare personnel in several countries struggle to fulfill the demand due to longer working hours than usual, stress, and psychological pressure due to fatigue, etc. However, the health and well-being of healthcare personnel are the core of any well-functioning healthcare system (Moazzami *et al.*, 2020). One of the strategies healthcare providers attempt to implement a physical distancing during the Covid-19 pandemic is limiting patient numbers. Meanwhile, non-Covid-19 patients' service demands must be fulfilled, and reducing patient numbers may result in suboptimal care delivery.

With the increasing demand for healthcare during the pandemic, telehealth was implemented in some countries, including Australia, the UK, and the USA (Fisk, Livingstone and Pit, 2020; Jeganathan *et al.*, 2020). Telehealth is described as how a healthcare system delivers care to patients without seeing them in person (Wosik *et al.*, 2020). This system began with e-health and evolved into telemedicine and telehealth in an electronic-based health service system. It allows patients to connect with healthcare via smartphones or computers. The difference between telemedicine and telehealth is that telemedicine focuses only on clinical services. Meanwhile, telehealth has a broader scope, covering online consultations between patients and healthcare providers at remote healthcare facilities and non-clinical services (Brown-Jackson, 2018).

Telehealth emerges to provide more convenient systems, such as providing access to high-quality care, saving time and cost, and optimizing collaboration between institutions (Zhou *et al.*, 2019). Telehealth has evolved into an essential aspect of the health sector. For example, in 2016, over 60 percent of healthcare institutions in the US adopted telehealth (Tuckson, Edmunds and Hodgkins, 2017). It is a cutting-edge improvement of the existing system, offering benefits such as flexibility, efficiency, and expanding service coverage (Tsai *et al.*, 2019; Jeganathan *et al.*, 2020). A previous study at the Northwell Healthcare system found that over 85 percent of healthcare workers were satisfied with this system (Jeganathan *et al.*, 2020). Healthcare workers felt no significant differences from the existing system and were satisfied. Telehealth can be an alternative strategy during the pandemic since healthcare institutions can assist without direct contact with patients. Although it delivers many benefits, telehealth has several limitations.

All stakeholders must be aware of telehealth limitations, such as a lack of data security or privacy concerns, reduced communication between patients and clinicians, and system failure (Kayyali *et al.*, 2017; Zhou *et al.*, 2019). Other obstacles discovered in the previous study are limited access to remote areas, government support, and system ease of use (Brown-Jackson, 2018; Bhatia, 2021). During the Covid-19 pandemic, healthcare institutions in Indonesia experienced the same burden as previously mentioned in other countries. Therefore, implementing telehealth in Indonesia can provide additional benefits in distributing better health services.

However, research on telehealth adoption in Indonesia is still limited, and the system has not been widely implemented (Cahya, Nugraha and Aknuranda, 2017). Thus, the factors influencing the adoption of telehealth have not been identified. In addition, limitations that have been found in the previous studies may have a different impact on healthcare institutions in Indonesia. For example, aspects such as resources from human or infrastructure,

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funds, internet coverage, data security and regulations from healthcare institutions in Indonesia may be different compared to previous studies in other countries. In addition, the existing system used in healthcare institutions in Indonesia also varies. If the current system is considered good enough and adequate to provide services to patients, healthcare workers may use the existing system instead of switching to a new one.

On the other hand, if the current system is deemed not optimal in providing services, the interest of healthcare workers in adopting telehealth may increase. Hence, the limited empirical studies analyzing factors influencing telehealth adoption in Indonesia and its limitations are the ground of this study. This study aims to analyze healthcare workers' intention toward telehealth in Indonesia if telehealth is implemented later as an alternative to assist during a pandemic and endemic situation. This study focused on healthcare workers' perspectives in order to determine which factors can impede the application of telehealth from the internal of healthcare institutions with the purpose that healthcare institutions can optimize these factors to make telehealth application faster, more effective, and more prepared before the system is applied to patients.

This study used the modified unified theory of acceptance and use of technology framework (UTAUT) to determine user acceptance of the new technology and variables that have a significant influence on the intention of healthcare workers since this framework covers the limitations in the application of telehealth. The UTAUT framework was modified by adding three additional exogenous variables from previous studies that influenced the intention to use telehealth. The Partial Least Square-Structural Equation Modeling (PLS-SEM) was used to examine the relationship between endogenous and exogenous variables in the conceptual framework.

Method

The quantitative approach was used to test the conceptual framework developed in this study. A literature review was performed to identify gaps and limitations in past healthcare studies. Existing literature is studied and analyzed to seek a conceptual framework to obtain data or output that will support this research. The survey was conducted with healthcare institutions in West Java (Bandung) and Central Java (Surakarta) in Indonesia, as both cities have implemented telemedicine in their institution, so they are familiar with how telehealth works. This study has obtained permission to conduct a survey on several healthcare institutions in those cities.

The subjects in this study were doctors and nurses who treat patients directly. Other staff who work in healthcare institutions that do not treat patients directly (office staff) are excluded from this study. Participants consisting of doctors and nurses were given all information about the purpose of this study. Two hundreds healthcare workers were willing to participate in this research. This sample size is suitable for the SEM because it met the minimum sample recommendation (Hair *et al.*, 2010). In addition, by using G*Power, the statistical power of 80%, a significance level of 2.5%, and R^2 of 0.5 from the previous study (Binyamin, 2020), the minimum sample size is 29 respondents, or by using R^2 of 0.32 (Fitrianie *et al.*, 2021), the minimum number of respondents needed is increased to 74. A cluster sample was employed using a one-shot case study as the sampling method in this study.

Online surveys consisting of 29 closed-ended questions were distributed to

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p-ISSN 2303-3592, e-ISSN 2540-9301
10.20473/jaki.v10i2.2022.165-176

healthcare workers via email through their institution and WhatsApp chat. The survey was conducted for six months, from April 2021 to September 2021. This study used a 5-point Likert scale with 1 indicating "strongly disagree" to 5 indicating "strongly agree". A total of 29 indicators were used to test the constructs in this study. Each questionnaire was made based on previous research using the UTAUT framework (Venkatesh *et al.*, 2003; Khatun, Palas and Ray, 2017; Van Houwelingen *et al.*, 2018; Binyamin, 2020). The survey results identified limitations that may impact telehealth adoption and which aspects need to be improved later. Potential solutions to optimize this implementation in the future were given based on the results of this study.

The unified theory of acceptance and use of technology (UTAUT) and technology acceptance model (TAM) (Viswanath , Venkatesh and Davis, 2000) are the most commonly used frameworks to predict individual readiness in utilizing new technology (Venkatesh, Thong and Xu, 2012). These theoretical frameworks are frequently applied in healthcare research and show significant effects (Van Houwelingen *et al.*, 2018). Moreover, variables in the model are related to telehealth limitations. However, this study used the UTAUT framework since this framework covered more telehealth limitations than the TAM framework. Therefore, this study uses the modified UTAUT framework to determine which factors influence healthcare workers' intentions towards their intention to use telehealth. This study adds three additional variables influencing the intention toward telehealth in previous studies: perceived security, self-efficacy, and technology anxiety.

The endogenous variable used in this study is the intention to use telehealth (IU). This study used seven exogenous variables, which are performance expectancy, effort expectancy, social influence, facilitating condition, perceived security and data, self-efficacy, and technology anxiety. The first variable is performance expectancy (PE), characterized as the significance of technology's role in providing benefits to users (Venkatesh, Thong and Xu, 2012). Hoque et al. reported that performance expectancy significantly impacts mHealth adoption (Hoque and Sorwar, 2017). In accordance with that result, Binyamin et al. research showed that performance expectancy has an essential role in wearable health monitoring technology for chronic disease patients (Binyamin, 2020).

The second variable is effort expectancy (EE), defined as the level of convenience that people experience when utilizing technology (Venkatesh, Thong and Xu, 2012). Effort expectancy and performance expectancy were found to significantly affect the adoption of new technologies in previous studies (Van Houwelingen *et al.*, 2018). Effort expectancy can represent the suitability of utilizing and implementing technology in daily activities. Social influence (SI) is the third variable with the definition as the degree to which a person believes that important people in their life believe they must use the system (Venkatesh *et al.*, 2003). According to the previous study, social influence is a significant indicator of the intention to use mHealth technology in older adult patients (Cajita *et al.*, 2017).

The facilitating condition (FC) is described as an individual's or customer's perception of the resource and infrastructure available to assist the technology's implementation (Venkatesh *et al.*, 2003). A previous study found that facilitating conditions influence the intention to use m-health in their research on m-

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health using the UTAUT model (Khatun, Palas and Ray, 2017). The perceived security and data (PS) variable was used because this variable is one of the most critical aspects of implementing a telemedicine system: data privacy and security (Bokolo, 2020). Healthcare institutions have a big responsibility regarding the security of patient data and their internal data. A previous study reported that older people's motivation to use telehealth is influenced by perceived security and data (Van Houwelingen *et al.*, 2018).

The sixth exogenous variable, self-efficacy (SE), is defined as the user's ability to execute work or tasks using technology (Venkatesh *et al.*, 2003). Fitrianie et al. found that self-efficacy is essential in influencing the user's behavioral intention (Fitrianie *et al.*, 2021). On the other hand, self-efficacy also predicted effort expectancy in surveys in understanding older people's readiness to accept telehealth (Van Houwelingen *et al.*, 2018). Last, the exogenous variable used is technology anxiety (TA), with the terms coming from "computer anxiety" described as "the emerging of emotional or anxious responses from the person when utilizing technology" (Venkatesh *et al.*, 2003). The findings of Tsai et al. indicate that technology anxiety influences telehealth adoption intention in Taiwan (Tsai *et al.*, 2019).

In addition, this study analyzed relationships between exogenous variables, which are EE on PE, SE on EE (Van Houwelingen *et al.*, 2018), and proves there is no relationship between TA and EE (Tsai *et al.*, 2019). The use of Cronbach alpha in this study is to check the reliability of each construct from the framework. The pilot test analysis was analyzed by using SPSS. PLS-SEM was used to examine the relationships between each construct. The survey results of 200 participants were analyzed using SmartPLS. Data from online forms that participants filled out more than once have been deleted to avoid data duplication. The categorization of participants consists of age, experience, gender, and profession.

Result and Discussion

A pilot study has been conducted with 30 healthcare workers. In this study, all loading factors' values are above 0.6, which met the recommendation value (Hair *et al.*, 2017), except for TA1 items. In the construct reliability indicated by the Cronbach's Alpha of each construct, only technology anxiety values <0.7. However, the TA1 item was not deleted in the following survey since the result met the recommendation value with more respondents.

Table 1. Sample characteristics

Characteristics	n	%
Gender		
Male	64	32
Female	136	68
Age		
21-30	66	33
31-40	47	23.5
41-50	61	30.5
>50	26	13
Profession		
Doctor	90	45
Nurse	110	55
Experiences		
1-5 year	52	26
6-11 year	46	23
12-20 year	45	22.5
>20 year	57	28.4

Table 1 shows the sample characteristics data of this study. Of the 200 participants in this study, 68% are female, and 32% are male. Four age categories were made, consisting of 21-30, 31-40, 41-50, and >50 years old, with the highest

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number of respondents in the 21-30 age group. The categorization of professions was divided into two groups, doctors (90 respondents) and nurses (110 respondents). The working experience is separated into four groups, with the majority of this survey having over 20 years of working experience. The Cronbach's alpha and composite reliability in the survey with 200 participants met the recommendation value (>0.7), ranged from 0.814 to 0.952, and composite reliability ranged from 0.875 to 0.969 (Hair *et al.*, 2017). The item validity was tested using discriminant and convergent validity tests. In the convergent validity test, all loading factors were >0.6.

Table 2. Measurement model assessment

Constructs	Indicators	Loadings	CR	AVE	Cronbach's Alpha
Performance expectancy (PE)	PE1	0.887	0.904	0.703	0.859
	PE2	0.836			
	PE3	0.854			
	PE4	0.772			
Effort expectancy (EE)	EE1	0.878	0.954	0.838	0.935
	EE2	0.943			
	EE3	0.916			
	EE4	0.923			
Social Influence (SI)	SI1	0.967	0.969	0.913	0.952
	SI2	0.951			
	SI3	0.948			
Facilitating Condition (FC)	FC1	0.698	0.875	0.638	0.814
	FC2	0.867			
	FC3	0.792			
	FC4	0.828			
Perceived Security & Data (PS)	PS1	0.935	0.961	0.893	0.940
	PS2	0.955			
	PS3	0.944			
Self-efficacy (SE)	SE1	0.860	0.917	0.735	0.878
	SE2	0.909			
	SE3	0.877			
	SE4	0.777			
Technology Anxiety (TA)	TA1	0.689	0.875	0.641	0.866
	TA2	0.922			
	TA3	0.695			
	TA4	0.870			
Intention to use telehealth (IU)	IU1	0.934	0.952	0.868	0.923
	IU2	0.904			
	IU3	0.955			

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p-ISSN 2303-3592, e-ISSN 2540-9301
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Since all loading factors were above the threshold, the reliability of each indicator is fulfilled. The average variance extracted from all variables was above the threshold (>0.5). In this research, cross-loading and the Fornell-larcker criterion were used to determine the construct's validity (Fornell and Larcker, 1981). The cross-loading results found that all loading item values have a higher value towards its indicator than the cross-loading value to another construct with a value >0.6. In the discriminant validity test, the square root AVE of each construct is greater for the construct itself than for other constructs (Fornell and Larcker, 1981; Binyamin, 2020). Thus, the construct reliability and validity fulfilled the recommendation. Table 2 presents the results of the measurement model assessment.

In the model fit test, the results of the estimated model show the standardized root mean square residual (SRMR) in this model is 0.075. This value meets the recommended value (<0.08), indicating the model is a good fit. The use of the SRMR is to prevent model specification errors. In addition, the normal fit index (NFI) value ranges from 0 to 1, with a value closer to 1 indicating the better the fit. The NFI value obtained from the estimated model in this research is 0.767. Unfortunately, this value cannot be categorized as a good fit criterion since this value is <0.9 (Henseler, Hubona and Ray, 2016).

The relationship between constructs was examined using path coefficients, *t*-values, and *p*-values. The results of a one-sided significance test with a significant level of 0.025 showed some hypotheses were supported (*p*-value < 0.05, *t*-values >1.96) (Hair *et al.*, 2010). This result indicates that EE, SI, FC, SE, and TA positively and significantly impact IU. The R^2 obtained is 0.756 for IU, 0.476 for EE, and 0.529 for PE, which means exogenous variables in this study explain 75% of the variance in the endogenous variable. The hypothesis testing result can be seen in Table 3, and the illustration is shown in Figure 1.

Table 3. Hypothesis testing

Hypothesis	β	*p*-Value	Result
PE-IU	0.101	0.083	Not Supported
EE-IU	0.347	0.000	Supported
EE-PE	0.727	0.000	Supported
SI-IU	0.126	0.012	Supported
FC-IU	0.186	0.003	Supported
PS-IU	-0.039	0.274	Not Supported
SE-IU	0.243	0.000	Supported
SE-EE	0.642	0.000	Supported
SE-EE-IU	0.270	0.000	Supported
TA-IU	0.103	0.003	Supported
TA-EE (-)	0.168	0.034	Supported

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This study analyzed factors influencing healthcare workers' intentions in Indonesia towards telehealth using the modified unified theory of acceptance and use of technology (UTAUT) framework. Surprisingly, analysis results reveal that performance expectancy does not influence the intention to use telehealth. This finding contradicts previous studies (Hoque and Sorwar, 2017; Binyamin, 2020). Moreover, a similar result was found in a previous study in France examining IoT use in e-health, in which PE has no impact on the intention to use (Arfi *et al.*, 2021). As the system has not yet been established, users could be unaware of its benefits (Dhiman and Dogra, 2019). Several factors can affect contrast results, such as the sample composition, item, and other influences. The finding indicates that the benefits of telehealth, which can improve the performance and effectiveness of the study's healthcare workers, are not the primary reason for implementing the telehealth system.

The result shows that effort expectancy has the most influence on intention to use (β value = 0.347, *p*-value = 0.000). It also found that effort expectancy positively impacts performance expectancy. This finding is in line with previous research (Van Houwelingen *et al.*, 2018). Healthcare institutions should build an easy-to-use system to motivate the adoption of telehealth by healthcare workers. The social influence factor also affects healthcare workers' intentions, which agrees with previous studies (Cajita *et al.*, 2017; Binyamin, 2020). Therefore, to increase healthcare workers' intention, healthcare institutions can implement telehealth by prioritizing top-level healthcare workers in their institution so other healthcare workers will tend to follow. Pressure or encouragement from people around them, especially those who directly influence their work activities, can affect users' decision to adopt new technology (Binyamin, 2020).

In line with previous studies, facilitating conditions have a significant impact on healthcare workers' intentions (Khatun, Palas and Ray, 2017; Binyamin, 2020; Arfi *et al.*, 2021). Training for healthcare workers is required to implement new technology to make learning the new system or technology easier. They want to implement telehealth if

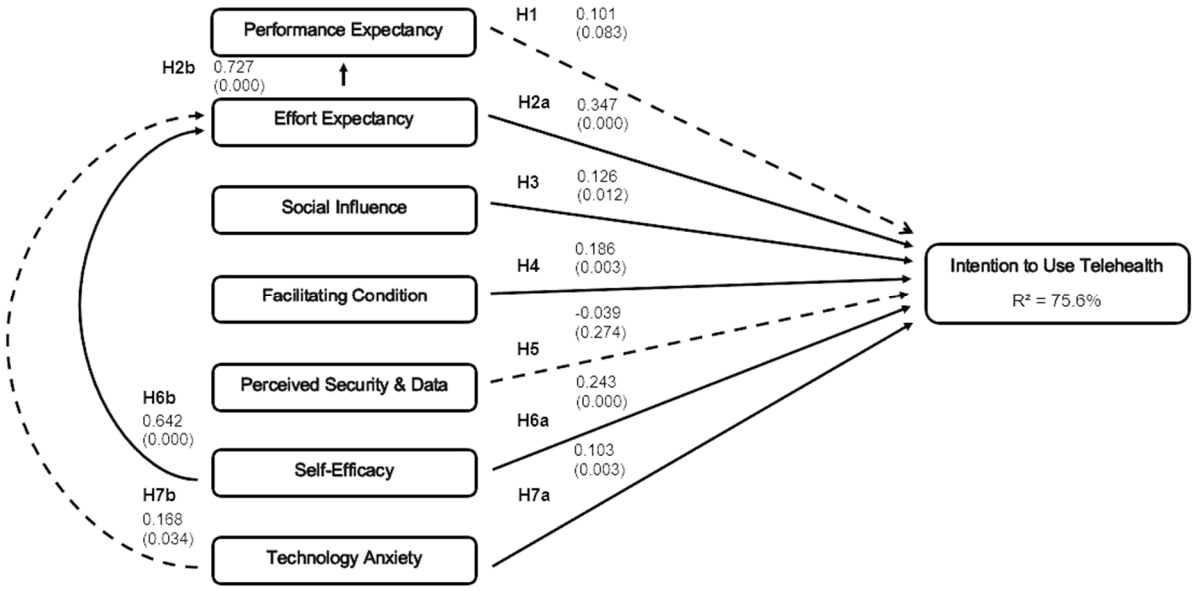

Figure 1. Hypothesis testing results illustration

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their institution has sufficient resources. Moreover, the confidence and trust of healthcare workers toward telehealth will improve as human resources in their institutions are adequate. The regulation of the system must also be clear, so it can be used optimally while following established laws and regulations.

However, it shows that perceived security and data do not affect the intention. A previous study supported this result (Zhou *et al.*, 2019). This result could be interpreted in two possibilities; healthcare workers believe their security and data system in their institution is adequate, or there is still a lack of awareness regarding data security. Previous studies show that there is still a lack of security awareness in Indonesia (Kusyanti, 2017). On the other hand, self-efficacy has an influence on motivating healthcare workers' intention (β value = 0.243, *p*-value = 0.000), supported by the previous study (Van Houwelingen *et al.*, 2018). It shows that healthcare workers believe they can successfully adjust to implement telehealth in the future. Therefore, implementing telehealth does not seem to be a significant obstacle to providing better services.

Self-efficacy is an important determinant in system users' performance and has been proven to have a behavioral and psychological impact in various research fields (Van Houwelingen *et al.*, 2018). In this research, self-efficacy also indirectly affects intention through effort expectancy. Thus, users' effort expectancy will automatically increase if their self-efficacy increases (Van Houwelingen *et al.*, 2018). Similar to self-efficacy, technology anxiety significantly affects healthcare workers' intentions. Healthcare workers feel the implementation of telehealth makes them a little uncomfortable, and they doubt the system's reliability. In addition, they worried since it could directly change their interaction with patients. This result agrees with previous studies (Tsai *et al.*, 2019). Subsequently, the result shows no relationship between technology anxiety to effort expectancy, consistent with the previous research (Tsai *et al.*, 2019).

Conclusion

The finding of this study indicates that five exogenous variables, which are effort expectancy, social influence, facilitating condition, self-efficacy, and technology anxiety, significantly influence the intention toward telehealth. The proposed framework proposed in this study is appropriate to identify the factors influencing the intention with the R^2 value and the standardized root mean square residual (SRMR) obtained in the model fit test. The study's results prove that effort expectancy has the greatest influence on intention, effort expectancy has a significant effect on performance expectancy, and self-efficacy influences effort expectancy. It is in line with Van Houwelingen et al.'s finding that users are very concerned about the convenience of the new technology (Van Houwelingen *et al.*, 2018). Furthermore, this research discovered the indirect effect of self-efficacy on intention to use telehealth through effort expectancy, which has not been mentioned in previous studies.

On the other hand, performance expectancy and perceived security and data were found to have no significant effect on the intention of healthcare workers to use telehealth. Healthcare institutions that intend to adopt telehealth should consider these issues. Although perceived security and data do not affect the intention to adopt telehealth from healthcare workers' perspective in this study, healthcare institutions should be concerned about it, especially if telehealth is developed in partnership with non-

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institutional stakeholders. In implementing telehealth in the future as an alternative during the pandemic as well as endemic, healthcare institutions should maximize factors influencing healthcare workers' intentions to accelerate adoption and benefit all parties, including healthcare institutions, stakeholders, and patients.

This research fills the gap in healthcare research as studies discussing this sector in Indonesia and developing countries are limited. Adding additional variables was proven to influence the intention except for perceived security and data. Although this study enriches previous research, it has some limitations. First, in this study, the factors of PE and PS showed no influence on the intention. Insignificant results can occur due to the items used, the number of respondents, etc. The number of respondents in this study is limited due to the pandemic leading to only a few institutions willing to participate. Therefore, further research needs to analyze with more participants. Second, this finding cannot represent healthcare workers' intention toward telehealth across Indonesia since it was only conducted in two cities on a small scale. Further research needs to cover a larger area.

Third, this study found the indirect effect of self-efficacy. However, several factors influencing intentions in previous studies are not included since this study only focused on healthcare workers' perspectives. Further research needs to analyze the possible indirect effect of other factors and use more items, with more categorization of respondents. In addition, qualitative research is required to find undiscovered factors from previous studies. Finally, future research needs to determine which factors influence the intention from the patient's perspective.

Abbreviations

Covid-19: Coronavirus Disease of 2019; UTAUT: Unified Theory of Acceptance and Use of Technology; PLS-SEM: Partial Least Square-Structural Equation Modeling; SRMR: Standardized Root Mean Square Residual.

Declarations

Ethics Approval and Consent Participant

This research has obtained institution permits from Surakarta Public Health Office (Dinas Kesehatan Kota Surakarta) as well as Permits from several private hospitals in Bandung to conduct the survey. Participants were given all information about the purpose of this study. All participants' data were protected and only used for this study.

Conflict of Interest

The authors declare that there is no significant competing financial, professional, or personal interests that might have affected the study.

Availability of Data and Materials

Data and materials in this study can be provided by request from the journal.

Authors' Contribution

MRF conceptualized the study, created the methodology, analyzed the data, and edited the manuscript; MHB and PFB reviewed and analyzed the study results.

Funding Source

Not applicable.

Acknowledgment

We would like to thank the Surakarta Public Health Office, Muhammadiyah Hospital Bandung, several healthcare institutions that granted permission and contributed to this research, and the Faculty of Public Health, Universitas Airlangga, for their technical support and all the contributors who helped in this study.

Indonesian Journal of Health Administration
(Jurnal Administrasi Kesehatan Indonesia)
p-ISSN 2303-3592, e-ISSN 2540-9301
10.20473/jaki.v10i2.2022.165-176

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Indonesian Journal of Health Administration
(Jurnal Administrasi Kesehatan Indonesia)
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