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CONSUMER BEHAVIOR | RESEARCH ARTICLE

The Antecedents of Intention to Use Telemedicine

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Abstract: The Covid-19 pandemic has accelerated the adoption of technology in various sectors, one of which is the healthcare industry. Telemedicine users increased during the Covid-19 pandemic, but only 10% of Indonesia's population. This study aims to analyze the factors influencing the intention to use telemedicine. This research uses a descriptive quantitative method. The sampling technique used non-probability sampling with a voluntary sampling technique. Data analysis applied Structural Equation Modeling using LISREL version 8.8. Data were obtained from 225 respondents in Greater Jakarta and Greater Bandung from January to March 2022, but only 192 were included in the analysis. The results showed that the intention to use telemedicine was directly influenced by attitude (A) and indirectly influenced by interrelated variables such as trust (T), perceived ease of use (PEU), perceived usefulness (PU), information quality (IQ), service quality (SrQ), and system quality (SQ). Implications that telemedicine service providers can apply to increase the use of telemedicine are to create the best experience, user friendly, provide complete information, and increase the reliability of information systems.

Keywords: health services, structural equation modeling, technology adoption, telemedicine, usage intention

JEL Classification: I11, O14, O33

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PUBLIC INTEREST STATEMENT

In the last two decades, research related to the acceptance of information technology and systems has increased along with the development of digitalization. The covid-19 pandemic also accelerates the adoption of technology in various industrial sectors, including the health services industry. Telemedicine is expected to be a solution for health services in the current and future.

Understanding characteristics and factors that influence intentions to use telemedicine is important when expanding the use of telemedicine. This research elaborates TAM (Technology Acceptance Model), IS Success Model, and perceived risk in analyzing the factors that influence the intention to use telemedicine from the end-user side.

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1. Introduction

The Covid-19 pandemic has disrupted various industrial sectors, including the healthcare industry, which is at the forefront of dealing with the pandemic. The health service industry in Indonesia is still facing various problems, in terms of infrastructure, health resources, supply chains, and fragmented health data. Regarding infrastructure, the ratio of hospitals in Indonesia is 1.2, with a bed ratio of 1.4 per 1000 population (Ministry of Health, 2021). This ratio has met the WHO standard because the ratio is more than 1 per 1000 populations, but the distribution in each region is still not even. Meanwhile, the number of doctors per capita in Indonesia has only reached 0.4 per 1000 population, still below the standard set by WHO, which is 1 per 1000 population (Katadata, 2020). This ratio is the second lowest in Southeast Asia, after Cambodia, as shown in Figure 1.

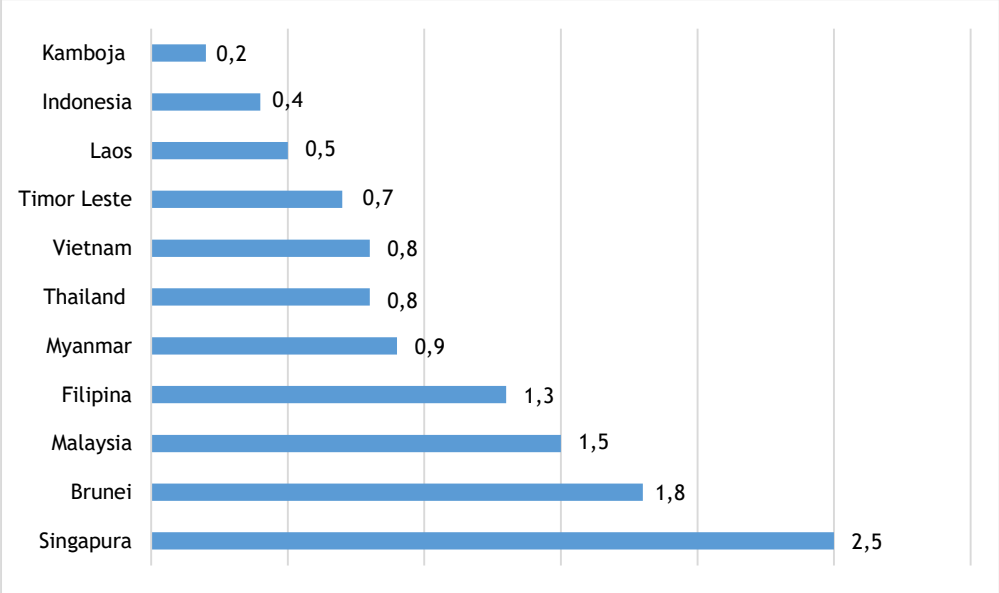

Figure 1. The ratio of the number of doctors per capita

There is a shortage of doctors at a national level of 19.97%. Three provinces with a shortage of doctors above 50% are West Papua Province at 63.27%, Papua at 58.22%, and Maluku at 51.66% (Ministry of Health, 2021). As a result, patients from remote areas must travel long distances to get specialist doctors, which can cause delays and high costs in accessing health services (Indria, Alajlani, & Fraser, 2020). *Telemedicine* can be an alternative solution to overcoming the limitations of infrastructure and human health resources, which cause limited access to health services for the community. *Telemedicine* refers to the use of information and communication technology (ICT) embedded in software programs with high-speed telecommunications systems for delivering, managing, and monitoring health services (Bokolo, 2021).

The application of telemedicine after the COVID-19 pandemic is timely and provides great potential to protect medical practitioners and patients, as well as limit the social mobility of patients who contribute to reducing the spread of the virus (Bokolo, 2020; Gariboldi, Lin, Bland, Auplish, & Cawthorne, 2021; Petrovski et al., 2020; Pappan et al., 2021). This can be seen from a renewed interest in searching for telemedicine through the trend of visits to telemedicine applications during the Covid-19 pandemic has increased by up to 600% (CNN Indonesia, 2020). The use of telemedicine provided by the Indonesian government has also increased significantly to reach 300,000 users (Kompas.com, 2020). Halodoc's vice president of marketing noted that more than 20 million people used the Halodoc platform during the second quarter of 2020, and in general, users of this service in Indonesia increased ten times (Katadata, 2020). The data illustrates that although there is an increase in the use of telemedicine in Indonesia, this is only about 10% of the total Indonesian population of 270.20 million people (BPS, 2021). This shows that there are still challenges in expanding the adoption of telemedicine in Indonesia.

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Davis (1989) initiated research on technology acceptance by introducing a model called the Technology Acceptance Model (TAM), which states that there are two key factors in adopting information technology: perceived ease of use and perceived usefulness. To determine the extent to which individuals are willing to use telemedicine, research is needed to examine the intention to use *telemedicine*. Usage intention is a variable commonly used to analyze the factors influencing the acceptance of information technology (Yang, Mamun, Mohiuddin, Nawi, & Zainol, 2021). Furthermore, the intention to use information technology is influenced by one's attitude towards the technology to be used (An, You, Park, & Lee, 2021). Therefore, attitudes positively affect intentions to use telehealth services (Ghaddar, Vatcheva, Alvarado, & Mykyta, 2020). In addition, use intention is also influenced by perceived risk, perceived usefulness, and ease of use (Prakosa and Sumantika, 2020). This is in line with the research results, which states that perceived ease of use and perceived usefulness have a significant effect on the intention of doctors in health institutions to use e-Health services(Saigi-Rubio, Jimenez-Zarco, & Torrent-Sellens, 2016).

On the other hand, studies are limited to only examining variables in the Technology Acceptance Model (TAM) theory or variables in the IS Success Model theory. No research has combined the two theories, even though the TAM and IS Success Model are theories that underlie the acceptance of information and communication technology. Intention to use an information system is influenced not only by perceived usefulness and perceived ease of use but also by the underlying theory of TAM. Intention to use information systems is also influenced by information quality, system quality, and service quality (Kaium, Bao, Nature, & Hoque, 2020). Perceived usefulness, system quality, service quality, and attitude affect the intention to use social network kits (Kwon, Park, & Kim, 2014).

Research that examines the factors that influence the intention to use telemedicine from the end user side needs to be considered in expanding the adoption of telemedicine in Indonesia. This study has novelty in elaborating the variables contained in the Technology Acceptance Model (TAM) theory, IS Success Model theory, and variable perceived risk, which is thought to have a positive and significant effect on the intention to use telemedicine. This study aims to complement previous research on the factors influencing the intention to use telemedicine services from the end-user side. In particular, it examines the level of influence and interrelationships between factors and their implications for expanding the adoption of telemedicine in Indonesia.

2. Literature Review

2.1 Relationship between System Quality and Perceived Ease of Use

System quality is an essential dimension in the tricomponent IS Success Model, and when a feature in the system crashes, is delayed, lost, or lacks security and reliability, users are less likely to use the system again (Liou, Hsu, & Chih, 2015). System quality is measured in terms of ease of use, functionality, reliability, portability, integration, and importance (DeLone & McLean, 2003). In addition, system quality affects the user's intention to continue using the mHealth services (Kaium, Bao, Alam, 2020). If users have a perception that the quality of the system is valuable, they will tend to have the intention to use the system (Özlena & Djedovic, 2017).

H1. System quality has a significant effect on perceived ease of use

2.2 Relationship between Information Quality and Perceived Ease of Use

In addition to system quality, information quality also plays a vital role in the success of an information system (DeLone & McLean, 2003). Information quality implies inherent qualities in information, such as accuracy, reliability, and completeness (Demoulin & Coussement, 2018). Information quality indirectly affects intentions to use food delivery applications (Lee, Choi, & Sawng, 2019). Information quality, task technology fit, and accessibility directly affected perceived usefulness and perceived

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ease of use and indirectly affected the adoption of the e-health laboratory system in Indonesia (Riana, Hidayanto, Hadianti, & Napitupulu, 2021).

H2. Information quality has a significant effect on perceived ease of use

2.3 Relationship between Information Quality and Perceived Usefulness

System quality, information quality, and service quality are variables of information system quality (Liou, Hsu, & Chih, 2015). Information quality positively affects perceived usefulness (Priyadarshini, Sreejesh, & Anusree, 2017). Research results on Information quality, task technology fit, and accessibility directly affected perceived usefulness and ease of use and indirectly affected the adoption of the e-health laboratory system in Indonesia (Riana, Hidayanto, Hadianti, & Napitupulu, 2021).

H3. Information quality has a significant effect on perceived usefulness

2.4 Relationship between Service Quality and Perceived Usefulness

Perception of service quality is the quality of service provided by service providers that meet customer expectations (Ghobehei, Sadeghvaziri, Ebrahimi, & Bakeshloo, 2019). In the IS Success model, service quality is measured in terms of reliability, responsiveness, and empathy (DeLone & McLean, 2003). Research shows that student satisfaction can be achieved by increasing positive perceptions of service quality in the era of e-learning and information technology orientation (Chaudhary, Chaudhary, & Ali, 2020). Perceived service quality acted as a significant moderator but had a negative effect on the relationship between ICT orientation and student satisfaction. In addition, service quality affects users' intention to continue using mHealth services (Kaium, Bao, & Alam, 2020).

H4. Service quality has a significant effect on perceived usefulness

2.5 Relationship between Perceived Ease of Use and Trust

Perceived ease of use of a technology directs potential users to make a decision and significantly affects behavioral intentions to use mobile health (Shim, Moon, Song, & Lee, 2021). Perceived ease of use significantly impacts intentions, so complicated electronic procedures need to be avoided so that users feel comfortable and willing to adopt electronic system-based services (Prakosa & Sumantika, 2020). In addition, perceived ease of use affects the intention to use mobile payments with trust as an intervening variable (Lin, Yang, & Chang, 2020).

H5. Perceived ease of use has a significant effect on trust

2.6 Relationship between Perceived Usefulness and Trust

Perceived usefulness positively and significantly affects the decision to use Gopay in Surabaya with trust as an intervening variable (Nurzanita & Marlena, 2020). Furthermore, perceived usefulness positively affects trust and buying interest (Faradila & Soesanto, 2016). This means that the higher the perceived usefulness, the higher the trust of technology users. Meanwhile, perceptions of usefulness perceived ease of use, and trust simultaneously positively and significantly affect interest in using e-commerce (Nangi & Sukaatmadja, 2015). This position was stated in research that perceived usefulness, perceived ease of use, and trust influence intentions to use mobile payments (Lin, Yang, & Chang, 2020). Furthermore, perceived usefulness significantly affects behavioral intentions to use mobile health (Akdur, Aydin, & Akdur 2020).

H6. Perceived usefulness has a significant effect on trust

2.7 Relationship between Perceived Risks and Trust

Perceived risk positively and significantly affects online usage intentions (Balogh & Mészáros, 2020). In addition, it has a positive relationship with trust in forming online purchase intentions (Guru, Nenavani, Patel, & Bhatt, 2020). On the other hand, some research results indicate that the perceived risk negatively influences the intention to use technology (Lv, 2021; Pan & Gao, 2021; Akdur, Aydin, & Akdur, 2020). Perceived risk had no significant effect on behavioral intention to use mobile nursing applications (Pan & Gao, 2021). Likewise, there is no significant relationship between

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perceived risk and behavioral intention to use the mHealth application (Akdur, Aydin, & Akdur, 2020).

H7. perceived risk has a significant effect on trust

2.8 Relationship between Trust and Attitude

Perceived usefulness, perceived ease of use, and trust affect online purchasing attitudes (Prakosa & Sumantika, 2020). The same was stated in research that perceived usefulness, perceived ease of use, and trust affect use intentions with attitudes that moderate the relationship (Lin, Yang, & Chang, 2020). The dimensions of information quality directly affect perceived playfulness and perceived usefulness, then have an indirect effect on attitudes with e-trust as an intervening variable (Priyadarshini, Sreejesh, & Anusree, 2017).

H8. Perceived trust has a significant effect on attitude

2.9 Relationship between Attitude and Usage Intention

Attitudes towards behavior are assumed to be a function of beliefs that can produce possible behavioral consequences that will lead to specific outcomes or provide certain experiences (Ajzen, 1991; 2020). Attitudes positively affect the adoption of mobile health services in China (Zhang, Liu, Zhang, & Wang, 2020). Mobile health service as a new platform and service channel is an interesting object to explore the attitudes and behavior of users to use the service, perception of the quality of information, and the perception of the quality of the health system affects user attitudes (Guo, Chen, Zhang, Ju, & Wang, 2020). Intention to use information technology is influenced by one's attitude towards the technology to be used (An, You, Park, & Lee, 2021). In addition, usage intentions are also influenced by perceived usefulness and ease of use (Prakosa & Sumantika, 2020).

H9. Perceived attitude has a significant effect on usage intention

3. Conceptual Framework

Based on the empirical studies reviewed above, it is safe to opine that system quality and information quality affect perceived ease of use, while information quality and service quality affect perceived usefulness. Furthermore, there is no doubt that perceived ease of use, perceived usefulness, and perceived risks affect trust. Furthermore, trust affects usage intention through attitude. The conceptual framework of this research can be seen in Figure 2.

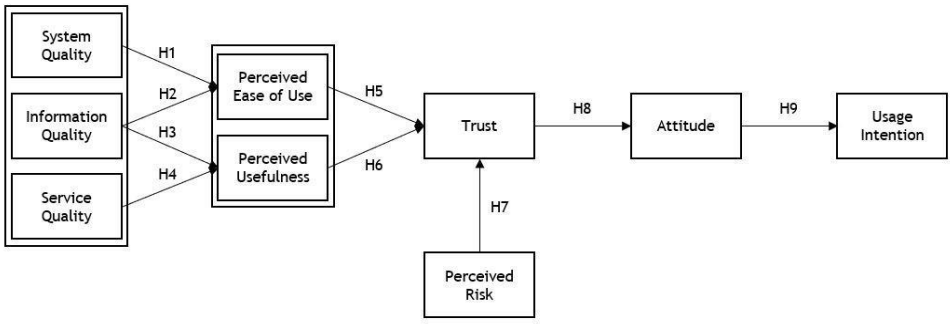

Figure 2. Conceptual framework

Based on Figure 2, the hypotheses in this study include:

H1. System quality has a significant effect on perceived ease of use
H2. Information quality has a significant effect on perceived ease of use
H3. Information quality has a significant effect on perceived usefulness
H4. Service quality has a significant effect on perceived usefulness
H5. Perceived ease of use has a significant effect on trust
H6. Perceived usefulness has a significant effect on trust
H7. Perceived risk has a significant effect on trust

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H8. Perceived trust has a significant effect on attitude
H9. Perceived attitude has a significant effect on usage intention

4. Methods

4.1 Participants

This research applied a descriptive quantitative method. The research was conducted through an online survey from January to March 2022.The sampling technique used non-probability sampling with a voluntary sampling technique. Data were obtained from 192 respondents who had used telemedicine and lived in Greater Jakarta and Greater Bandung. Data analysis applied Structural Equation Modeling using LISREL version 8.8.

4.2 Measurement

Data were collected utilizing an online survey using a questionnaire containing a list of relevant questions with the information needed to analyze the characteristics, behaviors, and factors that influence the intention to use telemedicine. The survey was conducted through a Google form distributed online to potential respondents in Greater Jakarta and Greater Bandung. The data obtained were processed and analyzed with the Structural Equation Modeling (SEM) using LISREL version 8.8. The indicators in each question measured the variables of this study filled out using a Likert scale of 1 to 5, which represented that 1 = strongly disagree, 2 = disagree, 3 = quite agree, 4 = agree, and 5 = strongly agree. As a result, this research revealed nine latent variables, four exogenous latent variables, and five endogenous latent variables, as listed in Table 1.

Table 1. Variable operational definition and indicators

Variable	Definition	Code	Indicator
System Quality (DeLone & McLean, 2003)	The extent to which the system can provide ease of use, functionality, reliability, portability, integration, and accessibility	SQ1 SQ2 SQ3 SQ4	System response time Accessibility Integration Information security reliability
Information Quality (DeLone & McLean, 2003; Zhao, 2019)	The extent to which the system provides appropriate, useful, complete, and accurate information to users	IQ1 IQ2 IQ3 IQ4	Accuracy Completeness Suitability Easy to understand
Quality of Service (DeLone & McLean, 2003)	The extent to which service providers meet user expectations in terms of reliability, responsiveness, and empathy	SrQ1 SrQ2 SrQ3	Responsiveness Empathy Service reliability
Risk Perception (Lv, 2021)	A sense of uncertainty caused by the uncertainty of using a service and the results that will be obtained while using the service	PR1 PR2 PR3 PR4	Financial risk Performance risk Risk of misdiagnosis Information security risk

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Table 1. Variable operational definition and indicators (continue)

Variable	Definition	Code	Indicator
Perceived ease of use (Davis, 1989)	The degree to which an invention is deemed not too difficult to understand, study, or operate	PEU1 PEU2 PEU3	Understandable Less effort Easy to use (Venkatesh, 2016)
Perceived Usefulness (Davis, 1989)	The extent to which a person believes that using a particular system will improve their job performance	PU1 PU2 PU3 PU4	Work More Quickly Increase Productivity Makes Job Easier Useful (Davis, 1989)
Trust (Yang & Lin, 2014)	The willingness of a person who is obedient to an entity with the expected results	T1 T2 T3 T4	Ability Kindness Integrity According to the code of ethics (Mayer et al., 1995)
Attitude (Ajzen, 1991; 2010)	Functions of beliefs that can produce possible behavioral consequences that will lead to specific outcomes or provide certain experiences	A1 A2	Belief Outcome evaluation
The intention of Use (Yang et al., 2021)	The potential user's desire to use something he perceives will give results that follow the needs after actual use	UI1 UI2 UI3	Intent of use The intention of recommended use The intention of sustainable use

The research model design is presented in Figure 3, which explains that there are four independent variables: system quality, information quality, service quality, and perceived risk variables, and five dependent variables: perceived ease of use, perceived usefulness, trust, attitude, and usage intention.

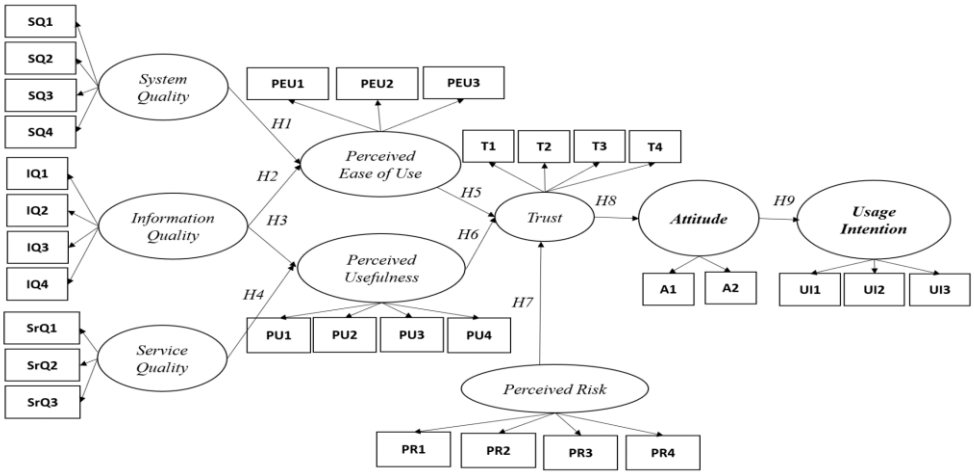

Figure 3. Research model design

4.3 Analysis

The data used in this study are primary data obtained from an online survey using a google form distributed to potential participants in Greater Jakarta and Greater Bandung. The resulting data were analyzed using Structural Equation Modeling (SEM)

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with LISREL software version 8.8. This study has nine variables with 31 indicators, so 155 to 310 respondents are needed. Although 225 respondents filled out the questionnaire, only 192 of the questionnaires were filled out and were used for analysis.

The SEM model is divided into two main parts: measurement models that describe the relationship between latent variables and their indicators and structural models that describe the relationship between endogenous latent variables or between exogenous latent variables and endogenous latent variables. Testing measurement models using validity and reliability tests. Validity testing can be seen from the loading factor value.

Table 2. The goodness of fit result

Fit Size	The results	Test Criteria
Absolute		
- Root Mean Square Error of Approximation (RMSEA)	RMSEA < 0.08	Good Fit
	0.08 RMSEA 0.10	Marginal Fit
	RMSEA > 0.10	Poor Fit
- Goodness-of-Fit Index (GFI)	GFI > 0.90	Good Fit
	0.80 GFI 0.90	Marginal Fit
	GFI < 0.80	Poor Fit
- Comparative Fit Index (CFI)	CFI > 0.90	Good Fit
	0.80 CFI 0.90	Marginal Fit
	CFI < 0.80	Poor Fit
Incremental		
- Normal Fit Index (NFI)	NFI > 0.90	Good Fit
	0.80 NFI 0.90	Marginal Fit
	NFI < 0.80	Poor Fit
- Incremental Fit Index (IFI)	IFI > 0.90	Good Fit
	0.80 < IFI < 0.90	Marginal Fit
	IFI < 0.80	Poor Fit
- Relative Fit Index (RFI)	RFI < 0.80	Good Fit
	0.80 < RFI < 0.90	Marginal Fit
	RFI < 0.80	Poor Fit
Parsimony		
- Adjusted Goodness of Fit Index (AGFI)	AGFI > 0.90	Good Fit
	0.80 < AGFI < 0.90	Marginal Fit
	AGFI < 0.80	Poor Fit

Based on Lisrel's output, it can be seen in the path diagram on the standardized parameters. An indicator is considered valid if the loading factor is greater than 0.5. Reliability testing in this study uses two measurements: Average Variance Extract (AVE) and Construct Reliability (CR). The test results are reliable if the AVE value is 0.5 and the CR value is 0.7. The fit of the structural model was assessed based on the significance of the path coefficients. The level of significance used is 0.05 with a confidence level of 95 percent, so the variable has a significant effect if the t-value is 1.96 (at =0.05). Meanwhile, testing the model's overall fit *(overall model fit)* is done by assessing various Goodness-of-Fit indicators based on the absolute fit model, incremental fit model, and parsimony fit model, as listed in Table 2.

5. Findings

5.1 Characteristics of Respondents

Respondents in this study were adjusted to the needs of the sample in each domicile area located in Greater Jakarta and Greater Bandung. The gender of the respondents in this study was dominated by women, as much as 60.94 percent. Based on marital status dominated by single respondents (65.10%). Based on age, the largest proportion were respondents aged 18-26 (70.31%), followed by respondents aged 27-40 (26.04%). This shows that the research respondents are dominated by generation Z and the millennial generation (gen Y), who tend to understand technology. Based on education level, respondents are dominated by undergraduate graduates (71.35%), followed by postgraduate graduates (15.10%), diplomas (7.81%), and high school graduates

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(5.73%). The education level of the respondents will affect their understanding and thinking about using telemedicine-based health services. Based on the type of work, respondents in this study were dominated by private employees (28.13%) and civil servants/TNI/POLRI (27.08%). Meanwhile, respondents with the largest proportion of income were in the range of Rp. 3.500.000.- to Rp. 7.000.000.- (32.81%) followed by respondents with incomes in the Rp range. 7.000.000.- to Rp. 14.000.000.- (29.69%). This shows that to use telemedicine services, users must have a gadget that can support the use of the service so that sufficient income is needed to buy the gadget. Respondents have used the internet for more than five years (95.31), showing that they are familiar with internet access in their daily lives.

Respondents used telemedicine in the last two years (93.23%), which shows that the COVID-19 pandemic has encouraged individuals to access health services through telemedicine. Respondents chose to access telemedicine through mobile applications (88.54%) rather than through websites (9.90%), social media (1.04%), or other media (0.52%). This is related to the largest proportion of technological tools used to access telemedicine: smartphones (97.92%). Respondents know about telemedicine services from social media (63.54%), friends or relatives (18.75%), Youtube ads (6.77%), TV ads (5.21%), and outdoor media (1.04%), and Google search (4.69%). The existence of telemedicine technology is currently considered to have met the expectations of 86.46 percent of respondents. While 13. Another 54 percent think that the presence of telemedicine technology has not met their expectations. This contributed to 8.33 percent of respondents who did not intend to continue using telemedicine technology after the Covid-19 pandemic.

5.2 Measurement Model Fit Test

The suitability of the measurement model was determined by testing the validity and reliability of the constructs. Validity testing can be seen from the loading factor value. Based on Lisrel's output, it can be seen in the path diagram on the standardized parameters. An indicator is said to be valid if the loading factor is greater than 0.5, as listed in Table 3.

Table 3. Validity test results

Latent Variable	Indicator Variables	Loading Factor	t-value	Notes.
System Quality (SQ)	SQ1	0.70	2.58	Valid
	SQ2	0.76	2.60	Valid
	SQ3	0.23	-	Not Valid
	SQ4	0.83	3.65	Valid
Information Quality (IQ)	IQ1	0.72	9.38	Valid
	IQ2	0.89	11.40	Valid
	IQ3	0.77	9.87	Valid
	IQ4	0.73	9.36	Valid
Service Quality (SrQ)	SrQ1	0.81	12.07	Valid
	SrQ2	0.84	12.67	Valid
	SrQ3	0.73	11.04	Valid
Perceived Risks (PR)	PR1	0.61	7.14	Valid
	PR2	0.84	8.27	Valid
	PR3	0.79	8.03	Valid
	PR4	0.64	8.69	Valid
Perceived Ease of Use (PEU)	PEU1	0.93	4.15	Valid
	PEU2	0.47	-	Not Valid
	PEU3	0.83	4.50	Valid

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Table 4. Validity test results (continue)

Latent Variable	Indicator Variables	Loading Factor	t-value	Notes.
Perceived Usefulness (PU)	PU1	0.77	11.26	Valid
	PU2	0.82	12.90	Valid
	PU3	0.85	12.47	Valid
	PU4	0.78	10.69	Valid
Trust (T)	T1	0.66	8.80	Valid
	T2	0.67	8.92	Valid
	T3	0.64	8.78	Valid
	T4	0.46	-	Not Valid
Attitude (A)	A1	0.72	5.30	Valid
	A2	0.89	7.61	Valid
Usage Intention (UI)	UI1	0.91	15.40	Valid
	UI2	0.80	13.84	Valid
	UI3	0.86	15.31	Valid

A reliability test is used to assess the reliability and consistency of the measured indicators representing latent constructs. Reliability testing in this study used two measurements: Average Variance Extract (AVE) and Construct Reliability (CR). The test results are reliable if the AVE value is 0.5 and the CR value is 0.7, as listed in Table 4.

Table 5. Reliability test results

Latent variables	Variable Indicators	Reliability Test		Notes.
		AVE>0.5	CR>0.7	
System Quality (SQ)	SQ1-SQ4	0.58	0.81	Reliable
Information Quality (IQ)	IQ1-IQ4	0.61	0.86	Reliable
Service Quality (SrQ)	SrQ1-SQ3	0.63	0.84	Reliable
Perceived Risks (PR)	PR1-PR4	0.61	0.86	Reliable
Perceived Ease of Use (PEU)	PEU1-PEU3	0.56	0.89	Reliable
Perceived Usefulness (PU)	PU1-PU4	0.61	0.88	Reliable
Trust (T)	T1-T4	0.61	0.80	Reliable
Attitude (A)	A1-A2	0.79	0.87	Reliable
Usage Intention (UI)	UI1-UI3	0.74	0.90	Reliable

5.2.1 System Quality

The results of the measurement model test show that the SQ4 indicator is more meaningful than SQ1 and SQ2. Respondents considered that the reliability of information security in the telemedicine system is more important than the system response time and the accessibility of the telemedicine system. The stronger the reliability of information security, the better the quality of the telemedicine system, making it more difficult to hack. In addition, the reliability of information security can also guarantee telemedicine users that the user's medical record data is safe in the system.

5.2.2 Information Quality

The results of the measurement model test show that IQ2 is a more meaningful indicator than IQ1, IQ3, and IQ4. Respondents considered that the completeness of information in a telemedicine system was more important than the accuracy, suitability, and ease of information. The more complete the information provided by the telemedicine system, the better the quality of telemedicine information. The completeness of information in the telemedicine system makes it easier to use telemedicine-based health services.

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5.2.3 Service Quality

The results of the measurement model test show that the SrQ2 indicator is more critical than SrQ1 and SrQ3. Respondents considered that the doctor's empathy in providing services on the telemedicine system was more important than the responsiveness and reliability of the service. Doctor's empathy is the first thing that users consider in assessing the quality of telemedicine services before assessing the responsiveness and reliability of doctors' services in the telemedicine system. The results of the measurement model test also prove that empathy is an essential indicator in improving the quality of telemedicine services, followed by the responsiveness and reliability of telemedicine services.

5.2.4 Perceived Risks

The results of the measurement model test show that PR2 is a more important indicator than PR1, PR3, and PR4. Respondents considered that the performance risk of the telemedicine system was more important than the risk of misdiagnosis, information security risk, and financial risk. Performance risk is closely related to the risk of misdiagnosis and the risk of causing financial loss. From the results of this study, it was found that financial risk was not the indicator that contributed the most to shaping the perception of risk.

5.2.5 Perceived Ease of Use

The results of the measurement model test show that the PEU3 indicator is more important than the PEU1 indicator. Respondents considered an easy-to-use telemedicine system more critical than an understandable one. Easy-to-use telemedicine systems have the greatest contribution to increasing perceived ease of use. Ease of using the telemedicine system refers to the ease with which users can access telemedicine-based health services in terms of appearance, features, and service process schemes. In addition, telemedicine systems are easy to understand and contribute to shaping perceptions of ease of use.

5.2.6 Perceived Usefulness

The results of the measurement model test show that the PU2 indicator is a more important indicator than PU1, PU3, and PU4. Respondents consider telemedicine can increase productivity, work more quickly, make the job easier, and be functional. The telemedicine system allows everyone to access health services anytime and anywhere, even during other activities. In addition, the use of telemedicine can also save time because the service is much faster without having to queue. The use of telemedicine makes it easier for users to get health services and is undoubtedly very beneficial for telemedicine users.

5.2.7 Trust

The measurement model test results show that T2 is a more meaningful indicator than T1 and T3. In addition, respondents considered that the doctor's kindness in providing services in the telemedicine system was more important than ability and integrity in building trust. Meanwhile, additional indicators according to the health code of ethics are invalid.

5.2.8 Attitude

The results of the measurement model test show that the indicator A2 is more meaningful than A1. Respondents considered that the outcome evaluation of the telemedicine system was more important than belief in the use of the telemedicine system. The best experiences that users get to contribute to shaping potential users' attitudes in growing intentions to use telemedicine.

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5.2.9 Usage Intention

The results of the measurement model test show that the UI1 indicator is a more meaningful than UI3 and UI2. Respondents considered that the intention to use the telemedicine system was more important than the intention to continue use and the intention to use recommendations. Continuing use intentions will appear after use, while recommended use intentions appear after continuous use.

5.3 Structural Model Fit Test

The structural model fit test aims to evaluate the relationship between the hypotheses built on the theory and the empirical data obtained from the research results. The fit of the structural model was assessed based on the significance of the path coefficients. The level of significance used is 0.05 with a confidence level of 95 percent, so the variable has a significant effect if the t-value is 1.96 (at =0.05). The t-value value for each hypothesis can be seen in Table 5.

Table 6. Path coefficient value and hypothetical t-value

Hypothesis	Coefficient	t-value	Conclusion
System Quality→Perceived Ease of Use	0.52	4.57	Significant
Information Quality→Perceived Ease of Use	0.10	0.96	Not significant
Information Quality →Perceived Usefulness	0.32	2.47	Significant
Service Quality →Perceived Usefulness	0.21	1.68	Not significant
Perceived Ease of Use→Trust	0.16	2.54	Significant
Perceived Usefulness →Trust	0.92	7.40	Significant
Perceived Risk →Trust	-0.04	-0.82	Not significant
Trust →Attitude	0.83	6.89	Significant
Attitude →Usage Intention	0.81	9.42	Significant

Table 5 shows the t-value and load factor coefficients for each path. The significance test results on the path coefficients show that three hypotheses are rejected because the t-value value is less than 1.96 (at = 0.05), namely the relationship between information quality and perceived ease of use, service quality, and perceived usefulness and risk perception and trust. Meanwhile, the other six hypotheses were accepted because the t-value value was 1.96 (at =0.05), namely the relationship between system quality and perceived ease of use, information quality with perceived usefulness, perceived ease of use with trust, perceived usefulness with trust, trust with attitude, and attitudes with the intention to use. The description of the suitability of the structural model in this study can be seen in Figure 4.

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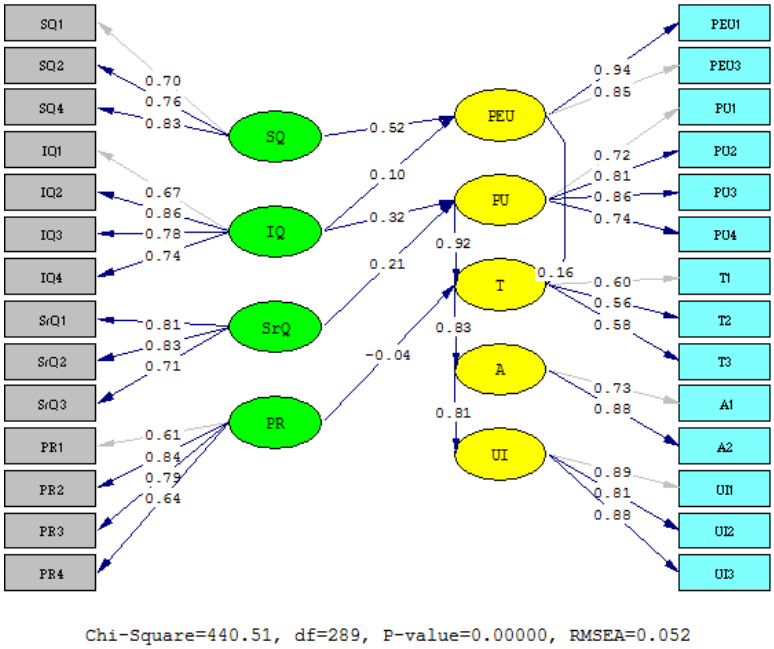

Figure 4. SEM structural model test results

5.4 Overall Model Fit Test

The overall model fit test is carried out by assessing various Goodness-of-Fit indicators based on the absolute, incremental, and parsimony fit models. The indicators assessed in the absolute fit model test include RMSEA and GFI. The indicators assessed in the incremental fit model include CFI, NFI, IFI, and RFI. Meanwhile, the indicator assessed in the parsimony fit model test is AGFI. The data processing results regarding the measure of Goodness of Fit in this study are listed in Table 6.

Table 7. The results of the overall fit of the model

Fit Size	Results	Critical Value	Test Criteria
Absolute Fit Model			
- Root Mean Square Error of Approximation (RMSEA)	0.052	0.08	Good Fit
- Goodness-of-Fit Index (GFI)	0.859	0.90	Marginal Fit
Incremental Fit Model			
- Comparative Fit Index (CFI)	0.981	0.90	Good Fit
- Normal Fit Index (NFI)	0.946	0.90	Good Fit
- Incremental Fit Index (IFI)	0.981	0.90	Good Fit
- Relative Fit Index (RFI)	0.929	0.90	Good Fit
Parsimonious Fit Model			
- Adjusted Goodness of Fit Index (AGFI)	0.801	0.90	Marginal Fit

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6. Discussion

The findings show that the COVID-19 pandemic encourages individuals to access health services through the telemedicine system. This is evidenced by the research results, which state that 93.23% of respondents have been new telemedicine users in the last two years. This study aims to analyze the factors influencing the intention to use telemedicine. There are nine hypotheses tested in the study to prove the existence of a relationship between the factors that are thought to influence a person's intention to use telemedicine.

This study shows that the system's quality positively and significantly affects perceptions of ease of use. This shows that the higher the system's quality, the higher the perceived ease of use. The most considerable proportion that builds the system's quality is the reliability of information security. Telemedicine users feel safe using a telemedicine system if the system has reliable information security so that it is not easily hacked and there is no leakage of user medical record data. The results of testing this hypothesis align with previous research, which state that system quality has a significant effect on perceived ease of use (Kaium, Bao & Alam, 2020; Liou, Hsu, & Chih, 2015; Aszlena & Djedovic, 2017). When the system is perceived as quality, the ease of use of telemedicine also increases. Therefore, the system's quality can affect the user's perceived ease of use of telemedicine.

Hypothesis testing regarding the effect of information quality variables on perceived ease of use resulted in a path coefficient value of 0.10 and a t-value of 0.96. This shows that the hypothesis is rejected; the information quality variable has a positive but insignificant effect on perceptions of ease of use. These results differ from previous research results, which state that the information quality has a direct and significant effect on the perceived ease of use of the e-health laboratory system (Riana, Hidayanto, Hadianti, & Napitupulu, 2021). However, the results of this study are consistent with the IS Success Model theory, which states that information quality indirectly affects usage intentions (DeLone & McLean, 2003; Lee, Choi, & Sawng, 2019; Riana, Hidayanto, Hadianti, & Napitupulu, 2021).

The study's results showed that the information quality variable positively and significantly affected perceived usefulness. The largest proportion that builds the construct of information quality is the completeness of the information. Therefore, telemedicine users feel that the more complete the information they receive, the higher the quality of the information provided by telemedicine. Meanwhile, the suitability, accuracy, and ease of information are essential in assessing the quality of information after availability in the telemedicine system. These results are in line with previous research results, which state that information quality has a positive and significant effect on the perceived usefulness of the e-health laboratory system (Riana, Hidayanto, Hadianti, & Napitupulu, 2021).

Hypothesis testing regarding the effect of service quality variables on perceived usefulness resulted in a path coefficient value of 0.21 and a t-value of 1.68. This shows that the hypothesis is rejected; the service quality variable has a positive but insignificant effect on perceived usefulness. These results differ from previous research results, which state that service quality is a significant moderator of perceived usefulness (Chaudhary, Chaudhary & Ali, 2020). However, it is still in line with other previous research results, which state that service quality indirectly affects user intentions to continue using mHealth services, although it does not significantly affect perceived usefulness (Kaium, Bao, Alam, & Hoque, 2020).

In this study, trust is influenced by perceived ease of use and perceived usefulness but not by the perceived risk variable. Perceived ease of use has a positive and significant effect on trust. This shows that the more useful and easier telemedicine is, the more confidence new users will have. Furthermore, the interface and features of telemedicine that are easy to use are contributed greatly to telemedicine's perceived ease of use. These results are in line with previous research results, which

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state that the perceived ease of use affects the intention to use with trust as an intervening variable (Prakosa & Sumantika, 2020; Akdur, Aydin, & Akdur, 2020; Lin, Yang, & Chang, 2020). The results of this research, which show that perceived usefulness has a positive and significant effect on trust, are also in line with previous researches results which states that perceived usefulness has a positive and significant effect on trust (Nurzanita & Marlena, 2020; Faradila & Soesanto, 2016; Lin, Yang, & Chang, 2020). Meanwhile, the results of this research, which showed that the perceived risk variable had a negative and insignificant effect on trust, contradicted previous researches results which state that perceived risk has a positive relationship to trust in forming usage intention (Balogh & Mészaros, 2020; Phongsata & Jirawottirote, 2018; Guru, Nenavani, Patel, & Bhatt, 2020). However, it is still in line with other previous research results, which said there was no significant relationship between perceived risk and behavioral intention to use the mHealth application (Akdur, Aydin, & Akdur 2020).

Hypothesis testing regarding the influence of the belief variable on the attitude variable shows that the trust variable has a positive and significant effect on the attitude variable. The kindness of doctors in providing services to the telemedicine system is an important indicator in growing the trust of telemedicine users. In addition, ability and integrity also play a role in increasing user trust so that telemedicine users can determine their attitude in forming intentions to use telemedicine. These results align with previous research, which states that trust affects the intention to use attitude as an intervening variable (Lin, Yang, & Chang, 2020).

Furthermore, the attitude variable positively and significantly influences the intention to use telemedicine. This matter shows that user attitudes can increase the intention to use telemedicine. Evaluation of the experience of using telemedicine contributes the most to shaping attitudes that directly affect usage intention. These results are in line with previous research results, which state that attitudes positively affect the adoption of mobile health services (Zhang, Liu, Zhang, & Wang, 2020).

This research is limited to only looking at the health care sector, not all health industry sectors. Although, in addition, the study also has limited area coverage, so it cannot generalize the results of the study to a larger population, further research can expand the scope of the research area, which does not only focus on Greater Jakarta and Greater Bandung so that it can be more comprehensive in seeing the factors that influence the intention to using telemedicine.

7. Conclusions

Based on the results of this research, it can be concluded that the characteristics of respondents who are telemedicine users are dominated by Generation Z and the millennial generation (aged 18-40 years), who tend to be more adaptive to technology with an undergraduate education level. Furthermore, 62.5% of respondents have income above Rp 3.500.000 for the level of income.

The attitude directly influences the usage intention of the telemedicine system. System quality affects perceived ease of use, and information quality affects perceived usefulness. Then perceived ease of use and perceived usefulness affect trust. Furthermore, trust affects usage intention through attitude.

Managerial implications that telemedicine service providers can apply to increase the use of telemedicine are to create the best experience, be user-friendly, provide complete information, and increase the reliability of information systems.

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8. Recommendations

The health industry should adopt telemedicine as a strategy to improve health services so they can be accessed anytime and anywhere. Government should incorporate telemedicine into the health sector policy to improve access in hard-to-reach areas. For future research, given its importance to the overall health sector. There is a need to expand the research location area beyond Jakarta Bogor, Depok, Tangerang, Bekasi, and Greater Bandung so that comprehensive projections on telemedicine acceptability can be put forth and the collective health of citizens in Indonesia can be improved.

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