



Acceptance of Halodoc's Online Teleconsultation During Covid-19

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ABSTRACT

This research aims to analyse the positive effect of performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, and perceived usefulness on behaviour intention, the positive effect of behaviour intention on usage behaviour. This study used quantitative research and data collection was collected using questionnaire. The target population of this research were people that have done online teleconsultation at Halodoc and willing to be respondents of this research. The number of samples were determined to be which 224 samples. The sampling technique use was purposive sampling. Partial Least Square-Structural Equation modelling (PLS-SEM) is applied to this study. The results of data analysis showed all of the hypothesis supported that performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, and perceived usefulness have positive effect on behaviour intention. Lastly, behaviour intention has a positive effect on usage behaviour in acceptance of Halodoc's online teleconsultation during COVID-19.

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1. Introduction

Technology has changed over time, the improvement of internet technology has changed the whole world including business operations and services in all sectors (Rahi, 2021). Especially in the health sector, telemedicine is a digital technology that is rapidly evolving. According to the World Health Organization (WHO), telemedicine is defined as a delivery of health services by professionals where distance is a critical factor by using information and communication technology for the exchange of information for diagnosis, treatment, and prevention of disease and injuries (World Health Organization, 2010). Based on data from Pusparisa (2020) Indonesia is ranked 3rd globally using health applications. Telemedicine cost efficient, time efficient, healthcare more accessible, increases patient engagement, and promotes better patient care (Pusparisa, 2020).

Now the whole world is facing and struggling to overcome the COVID-19 pandemic (Alhasan et al., 2020). WHO on March 11, 2020 declared COVID-19 as a pandemic. As of March 2022, Indonesia had a total cases 5,998,953 cases with 154,670 deaths and 5,714,662 recovered cases (Coronavirus Update, 2022). Many people during the COVID-19 pandemic were afraid to go to the hospital, this was obtained based on Yuswohady et al. (2021) with the results of a study found that 80.3% of people are still afraid to go to a hospital or clinic or health center or doctor for treatment because fear of the COVID-19 virus. The same results were found as many as 71.8% of people claimed to have never visited a hospital or clinic again since COVID-19.

Telemedicine can be a solution based on Yuswohady et al. (2021) 70.5% stated that they rely more on telemedicine than visiting hospitals or doctors or clinics or health centers for treatment. Based on the survey results, 65-80% of respondents will continue to use telemedicine, which will continue to be in demand and will continue to increase even though the COVID-19 pandemic ends (Burhan, 2021).

Halodoc is one of the health service platforms in Indonesia, that provides telemedicine services such as health teleconsultation (Halodoc, 2016). During COVID-19, Halodoc users increase doubled, doctor consultation services increased by ten times, online drug purchase services increased by five times, and doctor appointment services increase tripled (Burhan, 2021).

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a theory and model of technology acceptance that has been used in various health fields to discuss individual behavior and behavior to assess the ability of acceptance to adopt new technologies (Lu et al., 2019). UTAUT is designed to have three direct effects on the three determinants of behavior intention is performance expectancy, effort expectancy, and social influence. In addition, the direct effect on behavior intention is attitude toward using technology, perceived ease of use, and perceived usefulness. Therefore, this study aims to analyze the effect of performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, and perceived usefulness on behavior intention. Then, the influence of behavior intention on usage behavior on the acceptance of Halodoc's online teleconsultation service.

2. Methods

The purpose of this study is to analyse the positive effect of performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, and perceived usefulness on behaviour intention, the positive effect of behaviour intention on usage behaviour. This study have 8 variables: performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, and perceived usefulness as independent variable, behaviour intention as mediating variable, and usage behaviour as dependent variable. Before that pretest has been carried out on 60 respondents, all variables meet the criteria and no variable is deleted, and then the questionnaire distributed for actual test. The results outerloading of pretest values ranged from 0.718 to 0.956 and all variable meet the rule of thumb value >0.7 . Pretest AVE values ranged from 0.625 to 0.810 and all variable meet the rule of thumb value >0.5 . Pretest composite reliability values ranged from 0.892 to 0.945 and all variable meet the rule of thumb value >0.7 . Pretest discriminant validity ranged from 0.808 to 0.90, all variable meet Fornell-Larcker criteria, the square root value of AVE must be greater than the correlation value between variables (Ghozali & Latan, 2015). All variables meet the outerloading, AVE, discriminant validity, and composite reliability values means that all variables are valid and can be used.

This study was quantitative research. Data collection was collected using questionnaire. The unit of analysis is individual, which the data obtained from individual taken from each respondent. The target of population of this study are people who have done online teleconsultation at halodoc and willing to be a respondent. The purpose sampling technique was used for sampling technique and the number of samples of this study is 224 samples. The measurement scale used is Likert scale. All data were analyzed using PLS-SEM with the help of software SmartPLS for MAC version 3.3.

3. Result and Discussion

3.1 Result

Table 1 presents the respondent's criteria, where based on gender, it can be seen that in this study have more female respondents than male with a percentage of 70.83% and 29.17%. Meanwhile, the age group range from <18 years to >55 years, with the most respondents in the 26-41 year age range with 53.79% and the least respondents are >55 years with 0.76%. For education background in this study most of respondents is undergraduate at 74.62%, followed by high school at 14.77%, diploma at 6.82% , and s2/s3 at 3.79%. Furthermore, the occupations of the respondents comes from students, government employees, private employees, entrepreneur, freelance, medical doctor and

others. The location of most respondents in Jakarta with 65.91% and outside Jakarta 34.09%. The marital status in this study, 64.77% are single and 35.23% are married.

TABLE 1
PROFILE RESPONDENTS

Profil	Items	Frequency	Percentage (%)
Gender	Male	77	29.17%
	Female	187	70.83%
Age	<18 years	6	2.27%
	18-25 years	95	35.98%
	26-41 years	142	53.79%
	42-55 years	19	7.20%
	>55 years	2	0.76%
Education	High school	39	14.77%
	Diploma	18	6.82%
	S1	197	74.62%
	S2/S3	10	3.79%
	Specialist Physician	0	0%
	Others	0	0%
Profession	Student	22	8.33%
	Government Employees	3	1.14%
	Private Employees	65	24.62%
	Entrepreneur	44	16.67%
	Soldier/Police	0	0%
	Freelance	5	1.89%
	Medical Doctor	103	39.02%
	Others	22	8.33%
Location	Jakarta	174	65.91%
	Others	90	34.09%
Marital Status	Single	171	64.77%
	Married	93	35.23%

Evaluation of measurement model is test used to asses the validity and reliability of the model (Ghozali and Latan, 2015). Test of convergent validity, discriminant validity, and composite reliability were applied in this study. The indicator's convergent validity test is seen from value of loading factor for each construct indicator. The criteria for convergent validity are loading factor >0.7 ; average variance extracted (AVE) >0.5 ; and the discriminant validity must meet Fornell-Lacker criteria (Ghozali and Latan, 2015). The results of test can be seen in Table 2 and all indicators have an outer loading value >0.4 , AVE value >0.5 , and composite reliability (CR) value >0.7 .

TABLE 2
MEASUREMENT OF VALIDITY AND RELIABILITY

Constructs & item	Outer Loading
Performance expectancy (PE) (CR=0.929/AVE=0.765)	
[PE1]: Online teleconsultation with physicians in Halodoc useful for checking my health.	0.891
[PE2]: Online teleconsultation with physicians in Halodoc can improve my life quality.	0.862
[PE3]: Online teleconsultation with physicians in Halodoc increases my ability for self-care.	0.867
[PE4]: Conducting an interaction with physicans in online teleconsultation Halodoc makes me become healthier.	0.879
Effort expectancy (EF) (CR=0.934/AVE=0.740)	
[EF1]: Teleconsultation with physicians in Halodoc is clear.	0.887
[EF2]: Teleconsultation with physicians in Halodoc is understandable.	0.849
[EF3]: Is easy for me to become skillful at online teleconsultation with physicians in Halodoc.	0.864

Constructs & item	Outer Loading
[EF4]: Teleconsultation with physicians in Halodoc is easy to do.	0.848
[EF5]: Is easy for me to learn to use Halodoc’s application.	0.852
Social influence (SI) (CR=0.90/AVE=0.750)	
[SI]: People who influence my behavior think that I should conduct an online teleconsultation with physicians in Halodoc.	0.878
[SI2]: People who are important to me think that I should conduct an online teleconsultation with physicians in Halodoc	0.873
[SI3]: I will feel uneasy if my friends conduct an online teleconsultation with physicians in Halodoc but I do not.	0.846
Attitude toward using technology (ATT) (CR=0.931/AVE=0.773)	
[ATT1]: Online teleconsultation with physycians in Halodoc is a good thing.	0.906
[ATT2]: Online teleconsultation with physycians in Halodoc makes healthcare more easily to understand.	0.894
[ATT3]: Online teleconsultation with physycians in Halodoc is useful.	0.868
[ATT4]: I like to conduct online teleconsultation with physycians in Halodoc.	0.846
Perceived ease of use (PEU) (CR=0.921/AVE=0.794)	
[PEU1]: It is easy to use Halodoc’s application.	0.897
[PEU2]: It is easy to learn how to use Halodoc’s application.	0.909
[PEU3]: It is easy to perform my a health check using Haldoc.	0.868
Perceived usefulness (PU) (CR=0.942/AVE=0.764)	
[PU1]: Halodoc will positively affect my treatment plan.	0.853
[PU2]: Halodoc is possible to provide more comprehensive care service.	0.881
[PU3]: Halodoc is efficient for diagnosing patients.	0.880
[PU4]: Halodoc is efficient for scheduling.	0.881
[PU5]: Halodoc can precisely monitor the patient’s condition.	0.876
Behavioural intention (BI) (CR=0.934/AVE=0.779)	
[BI1]: I am willing to use Halodoc.	0.897
[BI2]: I have a positive intention to adopt telemedicine service in Halodoc.	0.860
[BI3]: I will try to replace my current physical measurement tools with Halodoc.	0.902
[BI4]: I will keep checking my health through Halodoc services.	0.872
Usage behaviour (UB) (CR=0.918/AVE=0.736)	
[UB1]: Recently, I plan to conduct an online teleconsultation with physicians in Halodoc.	0.885
[UB2]: I am willing to conduct an online teleconsultation with physicians in Halodoc if available.	0.871
[UB3]: I think I will be willing to conduct an online teleconsultation with physicians in Halodoc if I have known some.	0.896
[UB4]: I will conduct an online teleconsultation with physicians in Halodoc in the future..	0.776

Notes: CR= Composite Reliability; AVE= Average Variance Extracted.

The results of the convergent validity test shown in Table 2, where composite reliability values ranged from 0.90 to 0.942, AVE values ranged from 0.736 to 0.794, and outerloading values ranged from 0.776 to 0.909. All variables meet the criteria values mean that all variables are valid and can be used.

TABLE 3
FORNELL-LARCKER CRITERIA

	ATT	BI	EF	PEU	PU	PE	SI	UB
ATT	0.879							
BI	0.598	0.883						
EF	0.504	0.654	0.860					
PEU	0.473	0.673	0.560	0.891				
PU	0.605	0.756	0.673	0.674	0.874			
PE	0.474	0.674	0.560	0.544	0.718	0.875		
SI	0.537	0.723	0.515	0.610	0.668	0.584	0.866	
UB	0.295	0.586	0.424	0.592	0.480	0.518	0.609	0.858

Notes: ATT (Attitude toward using technology), BI (Behaviour intention), EF (Effort expectancy), PEU (Perceived ease of use), PU (Perceived usefulness), PE (Performance expectancy), SI (Social influence), UB (Usage behaviour)

The results of discriminant validity test shown in Table 3, overall results of measurement model have meet the Fornell-Lacker criteria.

TABLE 4
MULTICOLLINEARITY TEST (VIF) RESULTS

	ATT	BI	EF	PEU	PU	PE	SI	UB
ATT	-	1.695	-	-	-	-	-	-
BI	-	-	-	-	-	-	-	1.000
EF	-	1.995	-	-	-	-	-	-
PEU	-	2.062	-	-	-	-	-	-
PU	-	3.484	-	-	-	-	-	-
PE	-	2.216	-	-	-	-	-	-
SI	-	2.118	-	-	-	-	-	-
UB	-	-	-	-	-	-	-	-

Notes: ATT (Attitude toward using technology), BI (Behaviour intention), EF (Effort expectancy), PEU (Perceived ease of use), PU (Perceived usefulness), PE(Performance expectancy), SI (Social influence), UB (Usage behaviour)

The multicollinearity test by observing the results of the Variance Inflation Factor (VIF) to detect the presence of collinearity in the independent construct. VIF value <5, results of this study shown in Table 4, which there is no multicollinearity.

TABLE 5
R-SQUARE VALUE

Variabel Testing	r-square adjusted
Behaviour Intention	0.709
Usage Behaviour	0.341

R-square will describe the independent construct describe the dependent construct. The R-square results shown in Table 5, behaviour intention can be explain by performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, perceived usefulness 70.9% and 29.1% can be explained by other variables that not mention in this study. Usage behaviour can be explained by behaviour intention 34,1% and 55.9% can be explained by other variables that not mention in this study.

Hypothesis testing in this study used path coefficient by looking at parameter coefficient values, p-values, and t-statistical significance. Ghozali and Latan (2015) t-statistic and p-value can indicate supported hypothesis, hypothesis supported when t-statistic values >1.65 with significance 5% and p-value <0.05 with observing the coefficient path. Based on Table 6, all the hypothesis was supported.

TABLE 6
HYPOTHESIS TESTING

Hypothesis	Original Sample	t-Statistik	P values	Result
H1 Performance expectancy has a positive effect on behaviour intention	0.153	2.160	0.031	Supported
H2 Effort expectancy has a positive effect on behaviour intention	0.155	2.440	0.015	Supported
H3 Social influence has a positive effect on behaviour intention	0.272	3.266	0.001	Supported
H4 Attitude toward using technology has a positive effect on behaviour intention	0.116	2.225	0.027	Supported
H5 Perceived ease of use has a positive effect on	0.158	2.756	0.006	Supported

Hypothesis	Original Sample	t-Statistic	P values	Result
behaviour intention				
H6 Perceived usefulness has a positive effect on behaviour intention	0.184	2.192	0.029	Supported
H7 Behaviour intention has a positive effect on usage behaviour	0.586	9.761	0.000	Supported

3.2 Discussion

The first hypothesis state that performance expectancy has a positive effect on behavior intention (t-statistic $2.160 > 1.65$ and p-value $0.031 < 0.05$). In this study the first hypothesis was supported. Performance expectancy in telemedicine is an indication of consumer expectations of technology in a problem-solving setting. Performance expectancy shows subjective assessment that using Telehealth will improve the quality of their health (J. M. Tsai et al., 2019). Performance expectancy is the main factor that drives individuals to adopt telehealth services. Performance expectancy can increase behaviour intention to use telemedicine services. The results of this study were supported by Rahi (2021) research that conducted on 350 respondents using telemedicine in Pakistan, Lu et al. (2019) research was conducted on 378 respondents drawn from online health communities (OHCs) in China, Ahadzadehet et al. (2021) studied 374 mobile telemedicine users in Malaysia, and Chao (2019) studied on 1,562 respondents of mobile learning users in Taiwan. The results of all studies show that performance expectancy has a significant and positive effect on behavior intention.

The second hypothesis state that effort expectancy has a positive effect on behavior intention (t-statistic $2.440 > 1.65$ and p-value $0.015 < 0.05$). In this study this hypothesis was supported. Effort expectancy an important component in the Technology Acceptance Model (TAM). In this analysis, Effort expectancy represents the user's subjective judgment that telemedicine will be easy and effortless. The results of this study were supported by Lu et al. (2019) and Ahadzadeh et al. (2021), the result of the study which states that effort expectancy has a significant and positive effect on behavior intention.

The third hypothesis state that social influence has a positive effect on behavior intention (t-statistic $3.266 > 1.65$ and p-value $0.001 < 0.05$). In this study this hypothesis was supported. Positive social influence to use technology will increase user acceptance and intention to use technology (Venkatesh et al., 2003). It means that individuals can adopt a new system because of other people's views rather than their personal perception (Ifinedo, 2016). The results of this study were supported by Kamal et al. (2020) and Ahadzadeh et al. (2021), the result of all the study which states that social influence has a significant and positive effect on behavior intention.

The fourth hypothesis state that attitude toward using technology has a positive effect on behavior intention (t-statistic $2.225 > 1.65$ and p-value $0.027 < 0.05$). In this study this hypothesis was supported. One of the factors that influence individual behavior is attitude. So, the attitude toward using technology has an effect on behavior intention. The results of this study were supported by Alhasan et al. (2020) research conducted on telemedicine users during the COVID-19 pandemic in Iraq, Pikkemaat et al. (2021) study conducted on 198 doctors as telemedicine users in several hospitals in Sweden, Tsai et al. (2019) research on 365 telehealth user respondents in Taiwan, and Ramírez-Rivas et al. (2020) study that conducted on 100 respondents in Brazil. All the result of study which states that attitude toward using technology has a significant and positive effect on behavior intention.

The fifth hypothesis state that perceived ease of use has a positive effect on behavior intention (t-statistic $2.756 > 1.65$ and p-value $0.006 < 0.05$). The easier the telemedicine application and the less effort users have to put in using telemedicine, which includes teleconsultation services, the more positive their behavioral intention to use the system will be. In this study this hypothesis was supported. The results of this study were supported by Alexandra et al. (2021) conducted with 534 telemedicine users in several hospitals in Indonesia, Kamal et al., (2020) the study was conducted on 275 patients with the aim of knowing the factors affecting influence patients in rural areas to use telemedicine, and Tsai (2014) the study was conducted on 365 respondents using telemedicine in

Nantou County, Taiwan. All the results of the study which states that perceived ease of use has a significant and positive effect on behavior intention.

The sixth hypothesis state that perceived usefulness has a positive effect on behavior intention (t-statistic $2.192 > 1.65$ and p-value $0.029 < 0.05$). In this study this hypothesis was supported. adopting telemedicine services is beneficial because telemedicine services provide faster healthcare, cost savings, better documentation, and time savings (Kamal et al., 2020). User acceptance of teleconsultation, where the perceived benefits have been shown to have a significant effect on behavior intention to use. The results of this study were supported by Alexandra et al. (2021), Kamal et al. (2020), and Tsai (2014). All the results of the study which states that perceived usefulness has a significant and positive effect on behavior intention.

The seventh hypothesis state that behavior intention has a positive effect on usage behavior (t-statistic $9.761 > 1.65$ and p-value $0.000 < 0.05$). In this study this hypothesis was supported. In the study, the aim of behavioral intention is to use the Halodoc's online teleconsultation. Based on the TAM concept, the actual use of a system depends on the intention to use it. The results of this study were supported by Hoque et al. (2016) showed that there was a relationship between patient interest in use and the actual use of e-health applications, Rahi (2021) research conducted on 350 respondents using telemedicine in Pakistan, Alexandra et al. (2021) research that conduct 534 telemedicine users in several hospitals in Indonesia, Lee et al. (2021) researched 371 participants in Taiwan, and Ahadzadehet al. (2021) studied 374 mobile telemedicine users in Malaysia. All the results of the study which states that behaviour intention has a significant and positive effect on usage behaviour.

4. Conclusions

Based on the results of data analysis in this study, it can be concluded that performance expectancy, effort expectancy, social influence, attitude toward using technology, perceived ease of use, and perceived usefulness have a significant and positive effect on behavioural intention. Behaviour intention as mediating variable, has a significant and positive effect on usage behaviour in acceptance of Halodoc;s online teleconsultation. To increase the performance expectancy in acceptance of Halodoc's online teleconsultation, Halodoc should be useful for checking up health, should be improving life quality, should be increasing ability for self-care, and making healthier. To increase effort expectancy, physician of Halodoc should make teleconsultation clear, understandable, easy to become skillful, easy to do, and easy to learn the application. To increase social influence in acceptance of Halodoc's online teleconsultation, Halodoc should make people who influence behaviour think that should conduct an online teleconsultation in Halodoc, should make people who are important think that should conduct an online teleconsultation in Halodoc, and should make feel uneasy if other friend conduct an online teleconsultation but they do not. To increase attitude toward using technology, Halodoc should make an online teleconsultation became a good thing, healthcare more easily to understand, useful, and likeable.

To increase perceived ease of use, Halodoc's application should be easy to use, easy to learn, and easy to to perform a health check. To increase perceived usefulness, Halodoc should be positively affect treatment plan, provide more comprehensive care service, efficient on diagnosing, efficient on scheduling, and precisely monitor patient's condition. To increase behaviour intention in acceptance of Halodoc's online teleconsultation, Halodoc should make people willing to use it, positive intention to adopt, replace current physical measument with Halodoc, and make people keep checking health. Lastly, to increase usage behaviour, Halodoc should make people plan to conduct an online teleconsultation in Halodoc, make Halodoc's online teleconsultation always available, make people know that other people use Halodoc and make people conduct a Halodoc's online teleconsultation in future.

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