Original Article

Intention to Use Halodoc E-Health Services in Indonesia

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Abstract: This study analyzes the effect of E-Health literacy, perceived information quality, trust, perceived competence, and perceived price on purchase intention. The research method is quantitative, and primary data was collected through an online questionnaire. Participants in this research consisted of 238 individuals who intended to use Halodoc E-Health services in Indonesia during the COVID-19 pandemic. The method of analysis in this study is Structural Equation Modeling (SEM). AMOS 22.0 For Windows is used to filter and analyze data. The findings reveal that the higher customers' E-Health literation, perceived information quality, trust, and perceived price, the level of purchase intention on Halodoc will increase. Meanwhile, perceived competence has a negative effect on purchase intention. This is due to the absence of supporting information and information related to doctor qualifications, such as educational background, experience, and track record, which can affect customer perceptions of doctors' competence in using the Halodoc apps. Practical advice in this research is that service providers on the Halodoc apps can develop strategies to improve the reputation of doctors on their apps so that users can recognize and have a good perception of competence towards the doctors available in their apps, which in turn can increase the purchase intention of the Halodoc apps.

Keywords: E-health literacy; perceived information quality; trust; perceived competence; price; COVID-19 pandemic.

1. Introduction

Healthcare is one of the many service industries that are continuously being shaped by advances in internet-based technology. Electronic health (E-Health) applications are the latest healthcare revolution that can underpin the entire healthcare process for the general public. E-Health refers to a collection of software applications consisting of tools, processes and communication systems to support electronic healthcare practices. The proliferation of E-Health applications opens up spaces and opportunities to improve patient care, empower patient responsibility for their own health care, and encourage patient-provider communication. These days, people are constantly concerned with health-related issues, especially due to the ongoing COVID-19 pandemic. In the current situation, reducing interaction and avoiding physical contact with many people is a must. However, people must continue to monitor their health conditions. So, E-Health applications are one of the solutions. Indonesia is ranked 3rd globally in utilizing health apps with 57%. One of the growing E-Health applications in Indonesia is Halodoc. Halodoc was first launched in 2016 in Jakarta by

Jonathan Sudharta under PT Media Dokter Investama. With this application, a patient can access health services that were previously convoluted to be more concise while being able to choose to connect with doctors as needed only through a smartphone without the need to bother to come directly to the hospital. In order to interact directly with the doctor, users can top-up the balance on the Halodoc application account through various payment methods.

In this Halodoc application, people can consult with a doctor 24 hours, buy medicine online, make an appointment to the hospital, as well as a new feature in collaboration with Gojek related to COVID-19, namely COVID-19 telemedicine check. The existence of features in the Halodoc application related to the pandemic is Halodoc's effort to adapt and show its flexibility in innovating crisis management. Thus, the Government of Indonesia through the Ministry of Health of the Republic of Indonesia (Kemenkes RI) made the Halodoc application a government partner that provides consultation services to the provision of free medicines for COVID-19 patients to further accelerate the breaking of the pandemic chain. Based on information from katadata.co.id (March 2021), Halodoc experienced a doubling of users throughout 2020 on an annual basis. As of 2021, Halodoc has 27 million monthly active users, with a rating of 4.9 from 177,037 users who act as participants in the play store and app store. There are more than 4,000 service providers ranging from hospitals to pharmacies and more than 20,000 doctors available in this application. In addition to Halodoc, there are several other E-Health applications such as Alodokter, KlikDokter, Getwell, Good Doctor, KlikGo, Link Sehat, Milvik Dokter, ProSehat, SehatQ, and YesDok which are also government partners to help provide health services to the public in reducing the spread of COVID-19 in Indonesia.Among the many E-Health applications that have developed in Indonesia, Halodoc is the main E-Health application and is the most interested by users, followed by Alodokter and KlikDokter.

In the knowledge factor, one of them includes literacy. E-Health literacy is likely to assist a person in identifying diseases and appropriate online health service providers, which will then influence their willingness to purchase online health services, as literacy about products or services influences consumer purchasing behavior (Jae & Delvecchio, 2004). E-Health literacy will also enable people to fully participate in assessing the quality of information available on E-Health resources, which will ultimately impact their health decision-making (Norman & Skinner, 2006). Therefore, it is expected that a person's E-Health literacy will influence his/her perception of the quality of information provided by online healthcare providers (Mannan et al., 2019). One of the factors that influence purchase intention is consumer perception, which includes consumer perceptions of the service provider's ability to meet their expectations. Xue et al. (2020) found that perceived competence has a greater effect on purchase intention. Therefore, forming a good perception of competence towards consumers can build a positive brand relationship with consumers which will ultimately increase their purchase intention (Johnson et al., 2018).

In addition to perceived competence, consumers' perceptions of price also determine their willingness to buy a service. According to Andersen (1995), perceived price influences individuals' use of health care services, as price is always identified as a barrier to the use of health services. Therefore, a positive price perception of online health services can increase consumers' willingness to purchase online health services. The novelty of this research is in the research time where this research will be carried out when the COVID-19 pandemic takes place. As far as the author has found, there are not many studies in the field of marketing that discuss E-Health services during the current pandemic because most of the existing research focuses on how this virus can be controlled so that the pandemic does not last too long and does not have a prolonged economic impact on society both in Indonesia and in the world. Although there are some studies on E-Health services, most of them take a medical or social perspective, and there are still few studies focusing on the marketing or business aspects of E-Health services.

Thus, this study aims to predict customer intention to purchase E-Health services, influenced by E-Health literacy, perceived information quality, trust, perceived competence, and perceived price. The reason researchers raise this E-Health topic is because the current COVID-19 pandemic affects public interest in using E-Health services, this is evidenced by the very rapid increase in visits to the E-Health application in 2020 by 600%, so the topic of E-Health is very interesting to research at this time. In addition, the reason for choosing the Halodoc application is because Halodoc is currently the most popular and most widely used application in Indonesia compared to other E-Health applications. The difference between this research and previous research conducted by Das et al. (2019) is the existence of additional variables, namely the Trust variable and there are differences in the objects studied. In previous studies, the object studied was E-Health services which only focused on the website of one health sector, namely mental health, while this study will focus on the entire service in one of the E-Health applications, namely Halodoc.

The findings of this study will make a significant contribution to the literature and build a path for future research on E-Health services from a marketing perspective during the pandemic in Indonesia. The scope of this research focuses on Halodoc customers who make purchases and transactions on various services in the application in 2020-2021 with a customer age range between 18 years and 55 years. The purpose of this study is to obtain empirical evidence of the effect of E-Health Literacy on Perceived Information Quality of customers in purchasing Halodoc E-Health services, to obtain empirical evidence of the effect of E-Health Literacy on customer intentions in purchasing Halodoc E-Health services, to obtain empirical evidence of the effect of Perceived Information Quality on customer intentions in purchasing Halodoc E-Health services, to obtain empirical evidence of the effect of Trust on customer

intention in purchasing Halodoc E-Health services, to obtain empirical evidence of the effect of Perceived Competence on customer intention in purchasing Halodoc E-Health services, to obtain empirical evidence of the effect of Perceived Price on customer intention in purchasing Halodoc E-Health services.

2. Materials and Methods

This research design uses quantitative methods. Research with quantitative methods is an empirical study approach to collect, analyze, and display data in numerical rather than narrative form (Sekaran & Bougie, 2016). Quantitative research is a tool for testing objective theories by examining the relationship between variables. Researchers use this type of research in order to determine the effect of existing variables. The type of research used is a type of non-experimental research with a cross-sectional study. Cross sectional non-experimental research does not involve manipulation by researchers, and instead focuses on finding relationships or associations between variables. The research design used in this study is a survey research design. A survey is a system for collecting information from or about people to describe, compare, or explain their knowledge, attitudes, and behavior. In this study, the independent variables used are E-Health Literacy (X1), Trust (X2), Perceived Competence (X3), and Price Perception (X4). The dependent variable used in this study is Purchase Intention (Z). In this study there is also an intervening variable, namely Perceived Information Quality (Y). The operational definition is carried out by looking at the dimensions of behaviour, facets, or properties denoted by concepts. This concept is then translated into elements that can be observed and measured to develop a concept measurement index (Sekaran & Bougie, 2016). The following is a table of operational definitions used by researchers.

Table 1. Operational Definition

Variable	Dimensions	Indicator	Source
E-Health Literacy, is a person's ability to search, find, evaluate and assess, integrate, and apply what is obtained in an electronic environment to solve health problems during the COVID-19 pandemic.	Technology knowledge. (Indicators 1-4) Skill in using technology (Indicator 5-8)	Know how to find useful health resources on the internet. Know how to use the internet to answer health questions. Knowing what health resources are available on the internet. Know where to find useful health resources on the internet. Knowing how to use health information found on the internet. Have the skills needed to evaluate health resources found on the internet. Be able to distinguish the quality of health resources on the internet. Feel confident in using information from the internet to make health decisions.	Norman & Skinner (2006)
Trust is the consumer's belief in the integrity, benevolence, ability, and predictability of the online health information provider.	Reliable. (Indicator 1,2) Integrity. (Indicator 3,4)	The service on the app is reliable. Service on the application is consistent in providing services. Service on the application is transparent about the use of consumer data. The service in the application has integrity.	Kim et al. (2008)
Perceived Competence, is the consumer's assessment of the extent to which the doctor or service provider is able to meet their expectations during transactions.	Qualification. (Indicator 1,2) Expertise. (Indicator 3,4)	The doctors or service providers are well trained. The doctors or service providers are experts in their field. The doctors or providers are skilled enough.	Mannan et al. (2019)

		The doctors or service providers are competent.	
Price Perception, is the customer's assessment of the average price of the service compared to its competitors.	Price and quality ratio. (Indicators 1-3)	Includes a reasonable price. Affordable. In accordance with the quality.	Mannan et al. (2019)
Perceived Information Quality, is the customer's assessment of information, which is characterized by the level of precision, how much the information is actually able to inform something, and the relevance of the available information.	Accuracy. (Indicators 1,2) Completeness. (Indicators 3,4)	Accurate information. Reliable information Up-to-date information. Concise information.	Mannan et al. (2019)
Purchase Intention, is a person's desire or willingness to buy something that adds value to them.	Interests. (Indicators 1,2) Desires. (Indicators 3-5)	Intend to purchase healthcare services during the COVID-19 pandemic. Interested in trying types of health services in an application during the COVID-19 pandemic. Willing to buy health services in an application during the COVID-19 pandemic rather than another application. Will use health services during the COVID-19 pandemic, when finding a preferred service. Would consider purchasing healthcare services in the near future.	Teng et al. (2023)

The measurement scale used in this study is a Likert scale. The Likert scale is designed to test how strongly the subject agrees or disagrees (Sekaran & Bougie, 2016). The scale used is a 5-point scale with 1 stating strongly disagree, 2 stating disagree, 3 stating neutral, 4 stating agree, and 5 stating strongly agree. In this study, researchers determined population segmentation according to demographics and time period. In demographic segmentation, the population is divided based on the characteristics of age, family life cycle, household size, gender, occupation, income, education, and social class (Alfansi et al., 2022).The reason researchers choose demographic segmentation-based samples is because this segmentation is easier to measure than other segmentations. In this case, the population taken by researchers is people between the ages of 18 and 55 who intend to buy Halodoc services from early January 2020 to January 2022. The population size is unknown because there is no exact data from credible sources on how many people buy Halodoc services in Indonesia.

In this study, researchers used non-probability sampling techniques with snowball sampling as the sampling method because the population size in this study was not known specifically. In non-probability sampling techniques, the sample does not have a known or predetermined opportunity to be selected as a subject (Sekaran & Bougie, 2016). The reason the researcher used this method is because the researcher does not have access to a wide enough data source, so this method makes sampling easier. In this study, the total number of indicators is 28. This means that the minimum value of the number of respondents received in this study is 140 and the maximum value of the number of respondents received in this study is 280 respondents. A total of 260 respondents were collected on this research questionnaire, but only 238 results met the criteria and could be used at the data analysis stage. This value fulfills the minimum requirement for the number of respondents.

The researcher had limited access to respondents over the age of 40, hence the first samples were selected based on age. Respondents who filled out this research questionnaire were obtained through family / colleagues / closest relatives who had previously filled out this research questionnaire and then spread it to other colleagues. This method will help in distributing the questionnaire online. The data source used by researchers is primary data sources where data is obtained directly from the results of research through online questionnaires with google forms distributed

online. Primary data sources are sources of data information obtained by interviewing people, observation, or by giving questionnaires to individuals (Sekaran & Bougie, 2016). The data collection method used by researchers is data collection using a survey method with a questionnaire as a tool to obtain the data needed by researchers with a questionnaire scheme distributed online with google form. For this research, the authors used an analysis method with the Structural Equation Modeling method. According to Hair et al. (2017), Structural Equation Modeling (SEM) is a technique that allows separate relationships for each set of dependent variables.

3. Results

This study aims to determine how people's behavior towards the intention to use the Halodoc E-Health application in Indonesia is influenced by E-Health literacy variables, trust, perceived competence, perceived price, and perceived information quality. The results of the research can be seen based on the following explanation. The objects in this study are the general public who use the Halodoc application and are spread throughout Indonesia with various characteristics. The following is a description of the characteristics of respondents or research objects described in Table 2.

Table 2. Characteristics of Respondents (Demography)

Characteritics of Respondents	Frequency	Percentage
Gender		
Male	109	45,8%
Female	129	54,2%
Age		
18-25 tahun	68	28,6%
26-35 tahun	81	34%
36-45 tahun	40	16,8%
46-55 tahun	49	20,6%
Domicile (Pulau)		
Jawa	123	51,7%
Sumatera	104	43,7%
Sulawesi	3	1,3%
Kalimantan	6	2,5%
Nusa Tenggara	2	0,8%
Job		
Profesional	54	22,7%
Manager	8	3,4%
Employee	63	26,5%
Entrepreneur	28	11,8%
Digital Fields	15	6,3%
Student	67	28%
housewives	3	1,3%
Income		
<Rp2.500.000	71	29,8%
Rp2.500.001-Rp5.000.000	75	31,5%
Rp5.000.001-Rp7.500.000	65	27,3%
Rp7.500.001-Rp10.000.000	12	5%
Rp10.000.001-Rp15.000.000	7	3%
>Rp15.000.000	8	3,4%
Types of Disease		
Mild	169	71%
Acute	53	22,3%
Chronic	16	6,7%
Types of Medical Service		
Doctor Consultation	93	39,1%
Medicine Purchase	49	20,6%
Make an Appointment to the Hospital	61	25,6%

Characteritics of Respondents	Frequency	Percentage
COVID-19 Check	35	14,7%
Total	238	100%

Table 2 shows the characteristics of the respondents can be produced which shows that most respondents are women as many as 129 people or 54.2% of respondents, while men are only 45.8%. This is in line with the data reported on dataindonesia.id which states that since the COVID-19 pandemic took place, the percentage of consumers shopping online has now been dominated by 53% women and 47% men in research conducted in 2021. The history of illness suffered by respondents; it shows that most respondents who use the Halodoc application have a history of mild illness with a healing period of less than 1 month. This shows that the majority of Halodoc applications are used for minor health needs because they are quite easy to use with instant and fast services so that they are more efficient in helping patients' disease management. Respondents' interest in consuming green products shows very high results, namely 90.6%. This is in line with the increasing awareness of Indonesian consumers to protect the environment. Based on data from katadata.co.id, consumer awareness of the responsibility to protect the environment is predominantly dominated by young consumers, namely millennials and Gen Z. More than 73 percent of consumers said they are ready to switch to more environmentally friendly products and 41 percent stated that they prefer products made from natural and organic ingredients.

Table 3. Characteristics of Respondents (Lifestyles)

Lifestyles	Percentage
Exercise Intensity 1-10 times per month	85,8%
Sleep Intensity Above 12 p.m. 1-10 times per month	73%
Respondents Activity (Indoor)	67%
Smoker Respondents	60,7%
Intensity Caffeine Consumption >10x per month	59,9%
Intensity Fast Food Consumption >10x per month	75,7%
Intensity Fat Food Consumption >10x per month	79%
Respondents limit sugar	74,9%
Water consumption 2L/day	85%
Consumption of supplements / day	65,5%
Interest in Green Product Consumption	90,6%

The questions in this study consisted of 28 questions which were used as primary data. The research questions on the research questionnaire consisted of E-Health Literacy (X1) as many as 8 questions, Perceived Information Quality (X2) as many as 4 questions, Trust (X3) as many as 4 questions, Perceived Competence (X4) as many as 4 questions, Price Perception (X5) as many as 3 questions and Purchase Intention (Y) as many as 5 questions. From this analysis, the average value of each question can be known. The class determination of the average value of respondents' questions on the research variables is as follows:

Lowest value = 1 x 1 = 1
Highest value = 5 x 1 = 5
Class Interval = (5-1)/5 = 0.80
So that the class distribution for each question on this research variable is as follows.
1.00 - 1.80 = Very Low
1.81 - 2.61 = Low
2.62 - 3.42 = Normal
3.43 - 4.23 = High
4.24 - 5 = Very High

4. Discussion

4.1. The Effect of E-Health Literacy on Perceived Information Quality

Based on Theory Reasoned Action (TRA), a person's behavior is motivated by intentions that are influenced by attitudes towards the results of evaluating the positive or negative impact of individuals in doing something (Fishbein & Ajzen, 1977). The results of this evaluation are the forerunner of knowledge, in this case E-Health literacy. When someone has high knowledge about health problems, it will have an impact on decisions or identification of health problems. So that E-Health literacy is an indispensable ability to solve health problems. This is related to the perception of information quality, which is a person's cognitive belief in assessing the accuracy, completeness and relevance of

information when carrying out an activity. Respondents' responses on the E-Health literacy variable fall into the very high category, which can also explain that respondents in this study have quite good experience and health literacy in using the Halodoc application. On the perceived information quality variable, respondents' responses also fell into the very high category, this means that respondents can understand information and assess the quality of information available when using the Halodoc application. This study reveals that E-Health literacy and consumer perceptions of information quality are very important for online health service providers such as Halodoc. Most respondents in this study who already have good E-Health literacy are younger generations such as millennials and generation Z, but for age levels above these two generations the majority still have low E-Health literacy. Thus, Halodoc must take the initiative to improve consumer E-Health literacy. Halodoc can be a partner that campaigns on how E-Health literacy can help consumers to self-identify the early symptoms of the diseases they suffer.

4.2. The Effect of E-Health Literacy on Purchase Intention

Based on Theory Reasoned Action (TRA), E-Health literacy can be said to be a personal factor which is the result of a person's evaluation or knowledge that influences attitudes in carrying out an activity, in this case the intention to buy the use of health applications. So that if the person's E-Health literacy level is high, the person's intention to use the health application will be wiser and better. This is also in line with the high responses of respondents on the E-Health literacy variable and the purchase intention variable, which shows that respondents in this study have good literacy in using the internet which will increase their intention to make purchases on the Halodoc application. Various studies have reported that patients with inadequate E-Health literacy are less likely to use online health services, especially people with acute illnesses. Based on the findings from this study, E-Health literacy is an important concept in the context of online healthcare. If online health service providers take the initiative to improve E-Health literacy among the public, it will help reduce one's health risks and there will be an improvement in quality of life. The results of this study also show that a person with high E-Health literacy is more likely to have a higher intention to use and purchase services in the Halodoc application.

4.3. The Effect of Perceived Information Quality on Purchase Intention

In the perceived information quality variable and the purchase intention variable, respondents' responses fall into the very high category, this means that respondents in this study have the ability to understand information and assess the quality of information on Halodoc which will significantly increase consumer intention to use various services at Halodoc. The results of this study reveal that perceived information quality has a significant influence on the purchase intention variable. This is in line with research conducted by Mannan et al. (2019) and Cao et al. (2005) which found that perceived information quality is positively related to several aspects of consumer behavior in online transactions, one of which is purchasing behavior. In the perceived information quality variable and the purchase intention variable, respondents' responses fall into the very high category, this means that respondents in this study have the ability to understand information and assess the quality of information on Halodoc which will significantly increase consumer intention to use various services at Halodoc. The results of this study reveal that perceived information quality has a significant influence on the purchase intention variable. This is in line with research conducted by Mannan et al. (2019) and Cao et al. (2005) which found that perceived information quality is positively related to several aspects of consumer behavior in online transactions, one of which is purchasing behavior.

4.4. The Effect of Trust on Purchase Intention

Based on Theory Planned Behavior (TPB), the control of a decision's belief is related to the activities carried out, so this can be related to the Trust variable because according to Lending & Chervany (2002), trust includes three beliefs, namely ability, integrity, and benevolence. Ability refers to the knowledge, skills, and competence of the trusted person to perform the expected action. This study found that Trust has a significant effect on purchase intention. This is in line with research conducted by Deng et al. (2015) and Kim et al. (2008) that trust is the strongest predictor of consumer purchase intention in online services, followed by perceived benefits, and perceived risk. Therefore, when trust increases, consumers tend to perceive less risk than if trust does not exist, which in turn will have an impact on increasing consumers' intention to buy. Thus, increased trust will directly and positively affect purchase intentions.

4.5. The Effect of Perceived Competence on Purchase Intention (H5)

Perceived competence can be classified as the perception of the level of confidence of E-Health application users regarding the expertise / competence of services offered in E-Health application services, in this case such as doctors and other medical personnel. In this study, the results show that perceived competence has no influence on purchase intention in using the Halodoc application. This is because there is no supporting information and information related to

doctor qualifications such as educational background, experience, and doctor track records that can influence customer perceptions in using the Halodoc application, so the majority of respondents do not have good information regarding the reputation of doctors available at Halodoc. These Halodoc users can only rely on a few doctor names that they already know and ratings submitted by previous users. This is in line with the results of the average value of respondents' responses to the perceived competence variable which is still relatively low.

4.6. The Effect of Price Perception on Purchase Intention (H6)

Respondents' responses to the price perception variable were in the very high category. This explains that respondents have a good perception of the prices offered for services in the Halodoc application. Most respondents considered that the price of health services at Halodoc was reasonable, affordable, and in accordance with the quality provided. This study found that price perception has a significant effect on purchase intention. This is in line with research conducted by Chang & Wildt (1994), Zeithaml (1988), Maxwell (2002) and Andersen (1995) which explain that price perceptions affect the use of individual health care services, because price is always identified as a barrier to the use of health services. Therefore, positive price perceptions of online health services can increase consumers' desire to purchase online health services. When consumers feel that the price of a service is high or unfair, they are less likely to purchase the service.

5. Conclusions

This study concludes that E-Health Literacy variable has a significant effect on Perceived Information Quality. If a consumer has a high level of E-Health literacy, the consumer's perception of the quality of information available will also increase. The E-Health Literacy variable has a significant effect on Purchase Intention. If a consumer has a high level of E-Health literacy, the purchase intention formed in him will increase. The Perceived Information Quality variable has a significant effect on Purchase Intention. If a consumer has a good perception of the quality of the information available, it will increase their intention to make a purchase. The Trust variable has a significant effect on Purchase Intention. If a consumer has a high level of trust, the purchase intention formed in him will increase. The Perceived Competence variable does not have a significant effect on Purchase Intention. This is due to the absence of supporting information and information regarding the doctor's qualifications so that most respondents do not have good information regarding the reputation of the available doctors. The Price Perception variable has a significant influence on Purchase Intention. If a consumer has a good perception of price, the purchase intention formed in him will increase.

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