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What Factors Aaffect Continuous Usage Intention In Health Applications?

Roy William[1], Primasatria Edastama[2]
[1,2]Magister Management, Esa Unggul University, Jakarta

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ABSTRACT
The Covid-19 pandemic is proven to cause an acceleration of digitization in the health sector, as shown by the surge in the use of health applications. The transition to post-pandemic will certainly affect one's intention regarding the continuous use of these health applications. This study aims to determine the relationship between perceived usefulness and perceived ease of use on customer satisfaction as well as variables of health consciousness, EWOM, and Self efficacy in influencing continuous usage intention of health applications in Jabodetabek. This research was conducted using a survey method with an online questionnaire to 200 respondents. Data analysis using Structural Equation Modeling (SEM) method with SPSS and SmartPLS software. The results showed that perceived usefulness, perceived ease of use and customer satisfaction have a positive effect on customer satisfaction. In addition, the variables of health consciousness, E-WOM and Self efficacy were also found to have a positive effect on continuous usage intention of health applications. From a managerial perspective, it is hoped that a manager can design content and features in a health application that are tailored to user needs so as to increase the user's desire to continue using the application.

Corresponding Author:
Roy William
Magister Management, Esa Unggul University, Jakarta
dien.elbanthan@gmail.com

INTRODUCTION

In 2020, the COVID pandemic that attacked the whole world was declared a global pandemic by the World *Health Organization* (WHO) (Cucinotta and Vanelli, 2020). Apart from being a world health problem, COVID-19 also causes economic and social problems (Turbat *et al.*, 2022). The COVID-19 pandemic has also accelerated digitalization, one of which is in the health sector. Kata data research in 2020 showed a 600% increase in visits to telemedicine applications during the pandemic (Hariyanti, 2020). In addition, Bestsennyy *et al.* (2021) also recorded an increase in telehealth visits of up to 32% in April 2020. In December 2022, the government officially revoked the imposition of restrictions on community activities in all regions of Indonesia, which started a transition from pandemic to endemic (KemKes, 2022). This condition makes people's activities gradually return to normal and creates a situation where people have the choice to continue using the health application or to return to visit hospitals or other health facilities when there is a need for treatment. Previous research Chiu *et al.* (2020) found that many people who initially downloaded health apps eventually stopped using them.

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The level of desire or reluctance of a customer to continue using the application can be interpreted as continuous *usage intention* (Zhang *et al*., 2017). Research in Indonesia shows that the desire to use online platforms is influenced by factors such as perceived *ease of use*, usefulness, attitude, and group references (Warganegara dan Hendijani, 2022). Meanwhile, user satisfaction also plays a mediating role in influencing perceived *usefulness* and perceived *ease of use* (Yan *et al*., 2021). According to Alharbi *et al*. (2022), continuous usage intention can be influenced by variables such as perceived *benefits* and self-*efficacy*. In addition, the level of trust of health application users and the availability of features to search, report, and treat anywhere and anytime also influence consumers' desire to use health applications during the COVID-19 pandemic (Ibrahim *et al*., 2020).

Furthermore, research conducted by (Wu *et al*., 2022) shows that consumers' desire to continue using health applications is influenced by whether the application is useful, ease of use, social influence, reliability of the application, and the price offered. In addition, it was also found that online reviews (E-WOM) can also increase the desire to use health applications through their influence on customer satisfaction (Wu *et al*., 2022).

One of the important things related to technology adoption is consumer confidence (*self-efficacy*) in the use of this technology. Zhang *et al*. (2017) found that someone who has self-*efficacy* can use health applications optimally so that it will give them a reason to keep using the application. It is supported by Peña-García *et al*. (2020) who said that self-confidence is a key factor in consumer decisions in online shopping. Furthermore, Handayani *et al*. (2020) found that consumer awareness of health has a positive effect on routine use, which in turn influences consumer loyalty to these health applications. The opposite statement was found by Meng *et al*. (2019) where health awareness does not directly affect the routine use of the application.

A lot of research (*eg*. Akter *et al*., 2013; Alharbi *et al*., 2022; Cho, 2016; Hennig-Thurau *et al*., 2004; Ismagilova *et al*., 2019; Lu *et al*., 2022) that discusses the influence of perceived *usefulness*, *perceived ease of use*, *customer satisfaction,* and EWOM on continuous *usage intention*. In addition, several studies (*eg*. Akter *et al*., 2013; Dutta, 2007; Zhang *et al*., 2017; Meng *et al*., 2019a, 2019b; Nikou dan Economides, 2017; Peña-García *et al*., 2020; Xi Zhang *et al*., 2018) have also discussed self-*efficacy* and health *consciousness*. However, there are still rare studies that look at aspects of the two related variables: continuous *usage intention and* a health app. Moreover, most of the previous studies (*eg*. Akter *et al*., 2013; Alalwan, 2020; Alharbi *et al*., 2022; Chiu *et al*., 2020; Handayani *et al*., 2020; Ibrahim *et al*., 2020; Lu *et al*., 2022; Wang *et al*., 2019; Warganegara dan Hendijani, 2022; Wu *et al*., 2022; Yan *et al*., 2021; Xi Zhang *et al*., 2018) were carried out in post-pandemic conditions.his study aims to determine the relationship between perceived *usefulness* and perceived *ease of use* and customer *satisfaction,* which will have an effect on continuous *usage intention for* health applications in Jakarta. In addition, there are additional variables, such as health *consciousness*, *EWOM*, and self-*efficacy* that influence continuous *usage intention and* health application in Indonesia. This research is expected to provide an overview of consumer attitudes towards the continued use of online health applications after the pandemic.

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RESEARCH METHODS

Data collection was carried out using a questionnaire and, in this study, a survey method via Google Form. Variable perceived *usefulness* and perceived *ease of use* each use 4 questions adopted from Davis, 1989; Warganegara and Hendijani, 2022 (2022. Variables: customer *satisfaction* measured by 4 questions adopted from Alalwan, 2020; Lu *et al*., 2022; McLean *et al*., 2018. Variables of health *consciousness* adopted from Handayani *et al*., 2020 using 4 questions. The E-WoM variable uses four questions adopted from Alalwan, 2020; Goyette *et al*., 2010. Variable *Self-efficacy is* adapted from Nikou dan Economides, 2017; Walrave *et al*., 2020 and uses four questions. The next variable, continuous *usage intention,* also uses four questions, which are adaptations of Lu *et al*., 2022; Yan *et al*., 2021

Measurements were made using a Likert scale with a scale of 1–5, where 1 is strongly disagreeing and 5 is strongly agreeing. The study population was all individuals aged over 18 years, with the criteria of respondents living in Jabodetabek and having used health applications (Halodoc, Alodokter, Good Doctor, KlikDokter, and SehatQ) for at least 1 year, either for teleconsultation or buying medicine. The sampling method used was purposive sampling with a total sample size of 200 (Hair *et al*., 2009).

This research is quantitative and uses the method *of structural equation modeling (SEM)* as a data analysis tool. Processing techniques and data analysis using SPSS and LISREL tools The validity test was carried out with SPSS, where the Kaiser-Meyer-Olkin (KMO) and *Measure of Sampling Adequacy (MSA)* above 0.5 indicate the factor analysis is appropriate. To assess reliability, the Cronbach's Alpha measurement method was used. CR values above or equal to 0.07 indicate better reliability, and Cronbach's Alpha values are used for reliability tests with values close to 1 (Hair *et al*., 2009).

RESULTS

Research respondents were individuals aged over 18 years who had used health applications (Halodoc, Alodokter, Good Doctor, KlikDokter, and SehatQ) for at least the last year, either for teleconsultation or buying medicine. Out of a total of 200 respondents, the majority were aged 25–40 years (75.5%), with the most domiciles in Jakarta (62%) and Tangerang (24.5%). While most of the respondents' jobs were those of private employees (48.5%), followed by self-employment (20.2%), Based on the results of the questionnaire, the most widely used health application was Halodoc at 82.2%, followed by Alodokter at 10.4%. Respondent profiles can be seen in Appendix 4.

Before the questionnaires were distributed, 30 samples were pretested first to see the validity value of each indicator on the variable. The validity test was carried out with SPSS, where the values (*Measure of Sampling Adequacy*, MSA, and Kaiser-Meyer-Olkin (KMO)) were above 0.5, indicating factor analysis as recommended (Hair Jr *et al*., 2009). on variables *Perceived usefulness* and perceived *ease of use, for* each of which there is 1 invalid question out of a total of 4 questions. Variable health *consciousness* and self-*efficacy* have 2 invalid questions out of a total of 4 questions. While on variables customer *satisfaction*, *Who*, and continuous *usage intention,* all questions were declared valid. From the results of the pre-test, 24 questions were obtained, which were declared valid as questionnaires. The reliability value

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was tested using Cronbach's alpha and *composite* reliability, and the value obtained is in accordance with the recommended one.

Table 1. Result of Reliability Test

Variable	SME	Cronbach Alpha	CR
COULD	0.750	0.763	0,798
LITTLE	0.773	0.867	0,802
CS	0.795	0.912	0,883
HC	0.628	0.718	0,794
E-WOM	0.785	0.873	0,719
SE	0.630	0.633	0,827
WHICH	0.762	0.832	0,880

The research results are illustrated in the T-Value diagram as follows:

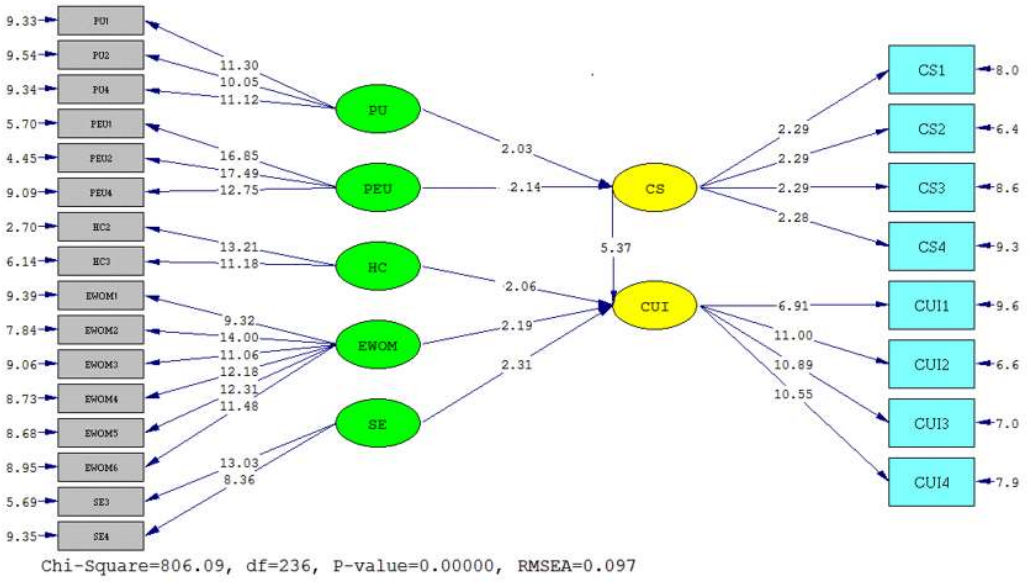

Figure 1. T-Value diagram

Based on the diagram above, the hypothesis testing can be obtained as follows:

Table 2. Hypotheses

Hypothesis	Hypothesis Statement	T-Value	Information
H1	Perceived usefulness have a positive influence on customer satisfaction	2.03	Hypothesis accepted
H2	Perceived ease of use has an influence positive to customer satisfaction	2.14	Hypothesis accepted
H3	Customer satisfaction own positive influence on Continuous usage intention health application	5.37	Hypothesis accepted
H4	Health consciousness have a positive influence on Continuous usage intention health application	2.06	Hypothesis accepted

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Hypothesis	Hypothesis Statement	T-Value	Information
H5	E-WOM has a positive influence on Continuous usage intention health application	2.19	Hypothesis accepted
H6	Self efficacy have a positive influence on Continuous usage intention health application	2.31	Hypothesis accepted

Hypothesis testing is carried out based on the t-value, where the t-value data is considered to support the hypothesis if it is greater than 1.96. Based on the hypothesis test table above, all variables obtain t-values above 1.96. The results of the variable analysis show that perceived *usefulness* and perceived *ease of use have* positive effects on customer *satisfaction* (H1 and H2). Accordingly, the results of the third hypothesis also show that there is an influence from *customer satisfaction* to *continuous usage intention* in health applications.

Furthermore, the same results were also obtained in Hypothesis 4, where health *consciousness was* found to have a positive effect on continuous *usage intention* from a health app. Likewise with hypotheses 5 and 6, it is obtained that E-*WOM* and self-*efficacy* positive effect on continuous *usage intention and* health application.

Discussion

This research was conducted to find out more about variables of continuous *usage intention* in a health application that are influenced by several factors such as health *consciousness*, *EWOM*, *self-efficacy,* and customer *satisfaction,* which are also influenced by perceived *usefulness* and perceived *ease of use of* the health application. The research results show that perceived *usefulness has a* positive effect on customer *satisfaction*. A user's satisfaction with an application, in this case a health application, will certainly be influenced by the extent to which they perceive that the application is beneficial to them. In this study, users felt that health applications could save time and make transactions more efficient. When the benefits of the application can be communicated well to users, of course, it will affect the level of satisfaction obtained by these users. This is in line with research by Lu *et al*. (2022), Wu *et al*. (2022) dan Yan *et al*. (2021) on the influence of perceived *usefulness* on customer *satisfaction*.

This research also found that perceived *ease of use has a* positive effect on customer *satisfaction*. This is in accordance with several previous studies by Cho (2016), Lu *et al*. (2022), Wu *et al*. (2022), Yan *et al*. (2021), where it was found that perceived *ease of use had a* positive effect on customer *satisfaction*. Users assess that health applications that are used are easy to operate even without the help of other people, and in relation to health applications, this ease of use will certainly reduce user effort and obstacles in using health applications, which in itself will increase satisfaction with the application itself.

In line with the results on the two previous variables (*perceived usefulness and perceived ease of use),* the next hypothesis also finds that there is a positive effect of customer *satisfaction* on continuous *usage intention*. Customer satisfaction, in this case, is a description of how the user experience is when using health applications. These results indicate that users will continue to use the application because they are satisfied and feel that

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it meets their expectations. The results of this study support several previous studies (Alalwan, 2020; Lu *et al*., 2022; Venkatesh *et al*., 2012; Yan *et al*., 2021), which also found that customer *satisfaction has a* positive effect on continuous *usage intention*.

This study also found that health *consciousness* has a positive influence on continuous *usage intention* and supports previous research by Handayani *et al*. (2020) and Yan *et al*. (2021), who found that health *consciousness* and continuous *usage intention* are closely related concepts. As people become more aware of the importance of staying healthy, they are increasingly turning to technology to help them achieve their health goals. The health app provides users with easy access to a wide range of health-related information, tools, and services on their smartphone or tablet. The COVID-19 pandemic has made many people more aware of their health, along with existing digital developments. This will affect a person's decision to continue using these health applications.

Furthermore, this study also strengthens research by Alalwan (2020), Ismagilova *et al*. (2019) dan Mehyar *et al*. (2020), which shows EWOM's positive effect on continuous *usage intention*. The results of this study indicate that online reviews support the decision to use health applications. *EWOM* can significantly influence a user's continued use of mobile apps by providing social proof, influencing perception, building trust, cultivating engagement and community, generating awareness, and facilitating feedback and improvement. *EWOM's* positive feedback contributes to users' belief in the value and benefits of the app, thereby encouraging them to continue using it over time.

The same result is obtained from the variable self *efficacy,* where a positive influence is obtained on the continuous usage intention of a health application. *Self-efficacy at* high levels leads to increased self-confidence, perceived ease of use, persistence, effort, self-regulation, expectation of positive results, and user engagement, all of which contribute to user motivation to continue using the app over time. Related research results *Self efficacy* This is in line with several previous studies that show that self-efficacy plays an important role in shaping the user's intention to continue using an application (Alharbi *et al*., 2022; Hsu dan Chiu, 2004; Tsarenko dan Strizhakova, 2013; Walrave *et al*., 2020)

CONCLUSION

This study found that there was a positive influence of variables such as perceived *usefulness* and perceived *ease of use* on customer *satisfaction,* which in turn also shows a positive influence on continuous *usage intention.* Variable *health consciousness was* also found to have a positive influence on a person's intention to continue using a health application. Positive influence is also found in the relationship between E-*WOM* and self-*efficacy* for continuous *usage intention of* a health app. This research certainly has limitations, one of which is the number of samples that can still be expanded and the scope of the research that can be expanded. Additionally, variables related to health *consciousness* can still be investigated more deeply in relation to their relationship with age, work, or lifestyle and how they affect the continuous *usage intention of* a health application. Suggestions for further research in order to enlarge the sample and scope of research Additionally, related to health *consciousness,* We all know that a person's awareness of health can be affected by age, occupation, lifestyle, and income, including illness, so future research can better evaluate

this in relation to the use of health applications. These results also have implications for marketing management, where one of the strongest influences is shown by variables ranging from customer *satisfaction* to continuous *usage intention for* a health app. Application developers can design an application that is easy to use, for example, with easy registration or a simple and easy-to-understand interface, and easy to access anywhere and anytime. In addition, applications can be designed to have certain functions so that they can trigger someone to use the application; for example, health applications can be integrated with gadget products such as smartwatches. These two things will certainly provide satisfaction for users and can be an attraction for people who are just about to try using a health application. As previously mentioned, the COVID pandemic has also made awareness of one's health even higher. Therefore, developers can create an application in which there is a platform or forum for users where they can exchange ideas or share experiences in their health lives. Apart from being a trigger for user health awareness, this will, of course, also be a strong promotional tool for the application

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