Digital Application Usage: Factors Influencing Perceived Value in Using Medical Apps in Indonesia

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ABSTRACT

This study aims to identify the factors influencing the intention to continuously use medical applications through variables such as perceived value, convenience, design, trustworthiness, price, and a variety of medical doctor choices. By enhancing the intention to continuously use, medical applications can remain competitive in the increasingly challenging healthcare industry. This research is a causal study, with a sample size of 110 respondents, consisting of Alodokter application users in Indonesia. The findings revealed that all six hypotheses are significant, indicating that strengthening the intention to continuously use provides marketers with a competitive advantage in both monetary and non-monetary aspects. This is especially crucial as people today are becoming more critical in selecting the most appropriate healthcare services. Therefore, it is essential for marketers to enhance the intention to continuously use, particularly in the healthcare industry, where competition arises not only domestically but also globally. Healthcare services must maintain their competitive advantage by increasing perceived value. Among the factors contributing to perceived value, the price variable emerges as the most critical factor for society when choosing online healthcare services.

Keywords: Convenience, design, trustworthiness, price, various medical doctor choices, perceived value, intention to continuously use.

1. INTRODUCTION

The development of the Internet has helped a lot of people and business actors in Indonesia, one of the ways is with the existence of online businesses that are growing quite rapidly. Amelia et al., (2022) provided a focus on business research intended to give an in-depth study regarding the use of information technology. This statement is further strengthened by the ease of communication and interaction carried out by producers and their consumers which is getting easier in a business. The number of people who use the internet in Indonesia is quite high. In the past few years, Indonesia has been ranked fifth as the country with the most internet users. This shows that millions of people have used the internet and made the internet a human lifestyle that is closely related to using online

applications and will make a statement that the potential of using the internet as a means of doing business is very high. Various online applications have been provided and can be accessed using the internet connected to smartphones and laptops/computers. One of the online applications that has been widely found is the digital health application.

Apps have now become something that almost everyone has on their smartphones (Purwanto et al.*,* 2023). With the use of the internet as a means to access information for humans, digital health applications are developing rapidly in various countries, especially in Indonesia. This is shown by Dailysocial.id data in 2020 which states that in Indonesia there has been a development in digital health services. Therefore, there is a fairly high percentage of internet use in Indonesia of 5% as a means of health services. Through the results of this data, application developers in Indonesia predict opportunities in the world of digital health services to be developed. So that currently various digital health services have emerged, including Alodokter, Halodoc, KlikDokter, GoDok, Dokter.id, TanyaDok, Konsula, Medika App, Medicabo, Dokter Sehat, Homescare, and so on. The emergence of digital health services has given a new color to Indonesia because it makes good use of the internet.

Competition will be even tighter due to the emergence of these various digital health services. In the competition, each application should start to increase interest in using the application and show its existence. This means that when a person performs a behavior, it has been based on the considerations they have. Meanwhile, the interest that must be aroused is that when someone uses a technology, they will continue to use it if they like the system of the application. This is because the application has the information needed by them. Based on this phenomenon, this study wants to find out the significant and positive factors of the interest of Alodokter application users.

This research will examine several variables that influence the intention to continuously use Alodok users in Indonesia. The variables under study include Convenience, Design, Trustworthiness, Price, and Various Medical Doctor Choices, which affect Perceived Value and ultimately influence the intention to continuously use the Alodok application.

This study is important as it focuses on Alodok users, considering that Alodok is the largest digital healthcare service provider in Indonesia. Alodok has also demonstrated its resilience by maintaining its existence since 2014. Therefore, the results of this research aim to identify the significant and positive factors perceived by Alodok users that contribute to their intention to continuously use the platform. This research is crucial for the healthcare industry to gain a deeper understanding of how information technology is used to expand market share. Ultimately, on a global scale, this study can advance knowledge regarding the use of technology media for high-involvement products, such as those in the healthcare industry. It is hoped that the findings will contribute to the development of digital marketing management, particularly with regard to the influence of critical marketing strategies.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1 The Influence of Convenience on Perceived Value

Bagher et. al., (2018) found that convenience has a positive and significant influence on perceived value. It is also reinforced by the findings of the research of Cho et al., (2019), which show a positive and significant relationship between convenience and perceived value. In addition, these findings are consistent with the findings in a study conducted by Pham et al., (2018), which also found that convenience has a significant effect on perceived value.

As a result, current research postulates the following hypothesis regarding the relationship between convenience and perceived value:

H1: Convenience significantly affects perceived value

2.2 The Influence of Design on Perceived Value

Several previous studies have emphasized the importance of design attributes in influencing perceived value. Cho et al. (2019) prove that there is a significant relationship between mobile application design and the value felt by customers. Likewise, there are several researchers who have conducted research and proven a positive and significant relationship between design and perceived value. In addition, Bagher et al., (2018), who share a similar position, note that mobile app design has a significant impact on perceived value.

As a result, current research formulates the following hypothesis for the relationship between design and perceived value:

H2: Design significantly influences perceived value

2.3 The Influence of Trustworthiness on Perceived Value

Trustworthiness was found to be the most significant and positive quality attribute for increasing perceived value from online food delivery apps (Cho et al., 2019). Because of its important role, the study recommends fostering trustworthiness among all stakeholders in the food delivery business process, which includes food delivery applications and vendors. In addition, according to Bagher et al. (2018) and Ponte et al. (2015), trustworthiness has a positive and significant relationship with perceived value. Similarly, Olise et al. (2015) hypothesize that trustworthiness has a significant impact on the perceived value by consumers in the food industry.

As a result of this, the current research hypothesizes the following hypothesized hypotheses for the relationship between trustworthiness and perceived value:

H3: Trustworthiness significantly affects perceived value

2.4 The Influence of Price on Perceived value

In the context of food delivery applications, the price of a product affects the perceived value by consumers (Cho et al., 2019). Several studies have confirmed a positive and significant relationship between price and perceived value, as well as its contribution to the success of mobile food apps (Cho et al., 2019). In addition, other studies support the idea that price is an important element of perceived value in the food service industry (Qin et al., 2009).

Therefore, the current research develops the following hypothesis for the relationship between price and perceived value:

H4: Price significantly affects Perceived value

2.5 The Influence of Various Medical Doctor Choices on Perceived value

Bagher et al. (2018) showed that various food choices have a significant influence on the perceived value of consumers among young working adults who use food delivery apps in Shah Alam. Cho et al., (2019) emphasized a similar point of view, namely that various food choices have a positive and significant influence on perceived value. Berger et al. (2007) also stated that businesses that offer a variety of options will appear to have a high level of competence that can increase the perception of value and willingness to buy. In addition, Othman et al. (2013) noted that various food choices can improve the consumer experience, thereby increasing perceived value.

Therefore, current research develops the following hypothesis for the relationship between various food choices and perceived value:

H5: Various medical doctor choices significantly affect Perceived value

2.6 The Influence of Perceived value on Intention to continuously use
When it comes to online purchases, it has been proven that perceived value has a significant impact on intention to continuously use (Pham et al., 2018). Because when customers feel a higher level of value, their interest in continuing to use the service in the future increases automatically (Pham et al., 2018). Several studies have also confirmed that perceived value has a positive and significant influence on intention to continuously use (Bagher et al., 2018; Cho et al., 2019). In addition, it is supported by research conducted by Kim et al., (2019) regarding the adoption of accommodation applications that users' interest in continuing to use the application depends on the value perceived by customers. In terms of food delivery applications, Hapsari (2017) then emphasized that the perceived value tends to stimulate customer interest in continuing to use food delivery applications.

Therefore, the current study develops the following hypothesis for the relationship between perceived value and intention to use continuously:

H6: Perceived value significantly affects Intention to continuously use

3. RESEARCH ISSUES AND METHODOLOGY

3.1 Research Issues
This study adopts the conceptual framework depicted in Figure 1 to examine the factors of Convenience, Design, Trustworthiness, Price, and Various Medical Doctor Choices as they influence Perceived Value, which, in turn, affects the Intention to Continuously Use. The control variables employed in this research are gender and age. Data was collected from 110 Alodok health application users in Indonesia. Of the total 110 respondents, 47 were male and 63 were female. In terms of age, 45 were between 21-35 years old, 38 were between 36-50 years old, and 27 were between 51-60 years old.

To determine the appropriate data sources for this research, the sampling technique used was purposive sampling. The respondents were selected based on specific characteristics that were relevant to answering the research questions. The questionnaire was distributed online to Alodok users who had used the application at least twice in the past two years for personal use. Data collection took place over a period of three months, and only those respondents who completed the questionnaire fully and met the required characteristics were used for subsequent data analysis.

The research instruments were delivered to respondents within Indonesia. Potential respondents were instructed to complete a self-administered questionnaire that probed their perception of Convenience, Design, Trustworthiness, Price, Various Medical Doctor Choices. The respondents completed the questionnaire voluntarily.

4. FINDINGS

One important aspect that influences differences in individual views, behavior, and preferences is gender and age.

Table 1 Characteristics of Respondents Based on Gender

No	Description	Qty	Percentage
1	Male	47	42.73%
2	Female	63	57.27%
Total Qty		110	100%

Source: Questionnaire respondents, 2024

Based on Table 1, out of a total of 110 respondents, 42.73% are men and 57.27% are women, indicating that the majority of customers in this study are women. The majority of online consumers in Indonesia are women due to their preference for shopping (https://lifestyle.kompas.com/).
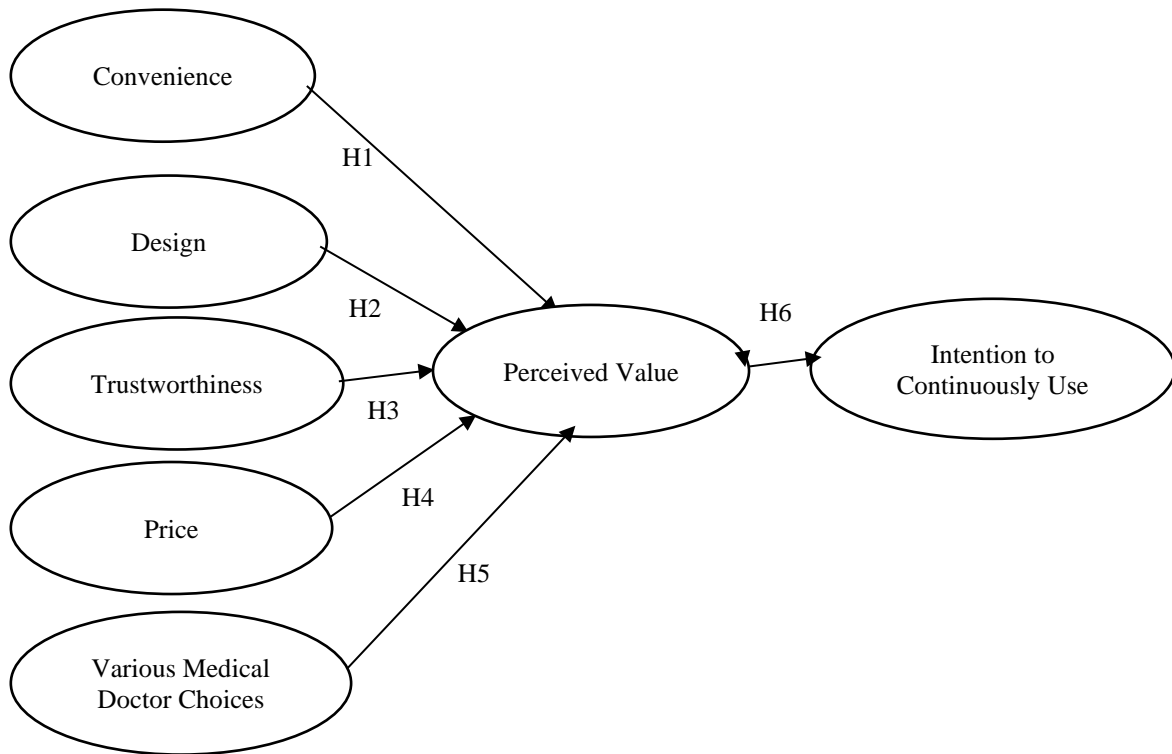

Figure 1. Research Model

Table 2 Characteristics of Respondents Based on Age

No	Description	Qty	Percentage
1	21 – 33	45	41%
2	36 – 50	38	35%
3	51- 60	27	25%
Total Qty		110	100%

Source: Questionnaire respondents, 2024

Based on Table 2, all respondents are of productive age according to Indonesian society. The study is predominantly composed of individuals aged 21-30 years, who make up 42% of the sample. In terms of age, 45 were between 21-35 years old, 38 were between 36-50 years old, and 27 were between 51-60 years old.

Table 3 Results of Validity Test on Convenience

Variable	Item Code	r	rtable	Criterion
Convenience	C1	.667	.187	Valid
	C2	.800	.187	Valid
	C3	.570	.187	Valid

From Table 4, it is evident that all regressions have a Cronbach Alpha value higher than 0.6, so it can be said that all variables are reliable/consistent.

Table 4 Reliability Test

Variable	Alpha Cronbach Based on Standard Items	Critical Numbers	N of Items	Description
Convenience	.827	.600	3	Reliable
Design	.838	.600	3	Reliable
Trustworthiness	.812	.600	3	Reliable
Price	.771	.600	3	Reliable
Various medical doctor choices	.782	.600	3	Reliable
Perceived value	.818	.600	3	Reliable
Intention to continuously use	.779	.600	3	Reliable

The Kolmogorov Smirnov (K-S) non-parametric statistical test was used to determine normality in this study.

Table 5 Kolmogorov Smirnov Test Sample

Equation	Asymplect. Sig. (2-ekor)	Critical Numbers	Description
C, D, T, P, VC * PV	.200c,d	>0.05	Normally Distributed
PV*ICU	.200c,d	>0.05	Normally Distributed

Table 6. Tolerance and VIF Values

Variable	Tolerance	VIF	Description
Convenience	.381	2.625	Free of Multicollinearity
Design	.226	4.421	Free of Multicollinearity
Trustworthiness	.264	3.790	Free of Multicollinearity
Price	.243	4.122	Free of Multicollinearity
Various medical doctor choices	.405	2.467	Free of Multicollinearity
Perceived value	1.000	1.000	Free of Multicollinearity

Below is the information obtained from the data in Table 6:
- The VIF value for Perceived value in multiple linear regression is below 10 (VIF<10), so it can be concluded that no multicollinearity occurs between

independent variables in the regression model. Likewise, the VIF values for Convenience, Design, Trustworthiness, Price, and Various medical doctor choices obtained also fell below 10 (VIF<10), which then assumed no multicollinearity occurred between these independent variables in multiple linear regression.

- The tolerance value for Intention to continuously use on simple linear regression is greater than 0.1 (tolerance >0.1), so it can be concluded that no multicollinearity occurs between independent variables in the regression model. Likewise, the VIF value for the perceived value obtained becomes greater than 0.1 (tolerance >0.1), which then assumes no multicollinearity occurs between these independent variables in simple linear regression.

The results for t-test shows that H1, H2, H3, H4, H5 and H6 are supported. From Table 7, the biggest positive influences on Perceived Value are Price (0.226), Various medical doctor choices (0.218), Trustworthiness (0.201), Design

Table 7. Multiple Regression Test Results, Simple Regression, t Test

Regression	Coefficient Regression	t test
Convenience → Perceived Value	.191	.034
Design → Perceived Value	.198	.040
Trustworthiness → Perceived Value	.201	.028
Price → Perceived Value	.226	.014
Various medical doctor choices → Perceived Value	.218	.021
Perceived Value → Intention to continuously use	.545	.004

5. CONCLUSION

The development of the internet that is present today has helped a lot of people and business actors in Indonesia, one of the ways is with the existence of online businesses that are growing quite rapidly. This statement is further strengthened by the ease of communication and interaction carried out by producers and their consumers which is getting easier in a business. The number of people who use the internet in Indonesia is quite high. With the use of the internet as a means to access information for humans, digital health applications are developing rapidly in various countries, especially in Indonesia. The emergence of digital health services has given a new color to Indonesia because it makes good use of the internet.

In this study, the researcher chose the Alodokter application as the object of research on its perceived value and intention to use continuously. First, Convenience is a factor that affects the perception of value to users. Therefore, efforts can be made to create simple but complete features so that users can use the application easily. Second, the design of the Alodokter application is a factor that affects the perception of value to users. Development or improvement efforts can be made in the application, for example such as fixing some designs that may not be suitable in the application. Third, trustworthiness is one of the factors that affect the perception of value towards users. It is recommended

that the Alodokter application be made as comfortable and private as possible. Do not share users' personal data and doctors can also serve users well. This effort can increase user trustworthiness in the use of the Alodokter application. Fourth, price is one of the other factors in perceived value. Where in this case, users are certainly looking for a price that suits their pockets. It is better not to give a price higher than the market price. Finally, various medical doctor choices are certainly another factor in the use of this digital health service application. This is due to differences in the type of disease and gender owned by users. Maybe they will be more comfortable if they can choose which medical doctor will handle their disease.

This study focuses on Alodok, the largest digital health application in Indonesia, both in terms of its user base and service reach. Additionally, while each health application in Indonesia may have its own unique features, they share common characteristics, particularly in terms of their target user base. Therefore, the findings of this research can be generalized to other health application platforms in Indonesia, with the goal of enhancing Perceived Value, enabling them to sustain and remain competitive in the increasingly crowded digital health application market.

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