JOURNAL MEDICAL INFORMATICS TECHNOLOGY
medinftech.org ISSN 2988-7003 (online)

Measuring User Acceptance Of ALODOKTER Application With Technology Acceptance Model To Enhance Health Service Quality

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ARTICLE HISTORY
Received: 11 July 24
Final Revision: 25 July 25
Accepted: 12 August 25
Online Publication: 30 September 25

KEYWORDS
ALODOKTER, Healthcare Application, Perceived Usefulness, Technology Acceptance Model, User Acceptance

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DOI
10.37034/medinftech.v3i3.47

A B S T R A C T

ALODOKTER is one quickly evolving application in the healthcare services sector. The purpose of this application is to help medical professionals carry out their jobs more effectively by giving the community rapid and easy access to healthcare services. This study aims to measure user acceptance of the ALODOKTER application using the Technology Acceptance Model (TAM) approach to improve the use and quality of health services. A survey method with a quantitative approach was employed to analyze perceived ease of use (PEU), perceived usefulness (PU), attitude towards use (ATU), behavioral intention to use (BIU), and actual use (AU) of the application. The study involved 41 respondents from various demographic backgrounds. Results show significant relationships between user perception variables, attitudes, and actual use. Correlation analysis revealed strong relationships between PEU, PU, and ATU, with a very strong correlation between ATU and BIU. Linear regression analysis indicated that BIU was the strongest predictor of actual use of the app ($\beta = 1.066$, $p < 0.01$), followed by PU ($\beta = 0.628$, $p < 0.01$). The regression model explained 38.7% of the variance in actual use. Cronbach's Alpha coefficients for all scales exceeded 0.9, indicating high reliability of the instruments used. This research suggests that ALODOKTER developers should focus on enhancing the perceived usefulness and ease of use of the application to increase acceptance and use. The study's limitations include a small sample size and reliance on self-reporting, suggesting the need for further research with larger samples and more diverse methods.

1. Introduction

Healthcare services must now more than ever deliver optimal treatment and rapidly and properly report data due to technological advancements. ALODOKTER is one quickly evolving application in the healthcare services sector. The purpose of this application is to help medical professionals carry out their jobs more effectively by giving the community rapid and easy access to healthcare services. It is anticipated that using the ALODOKTER application would enhance patient data management and raise the standard of medical care.

Information technology research has made extensive use of Davis's 1989 introduction of the Technology acceptability Model (TAM) to explain user behavior and technology acceptability in certain groups [1], [2]. Perceived Usefulness, Perceived Ease of Use, Attitude Towards Use, Behavioral Intention to Use, and Actual Use are some of the elements that make up TAM. Lack of information for users or systems that do not satisfy their demands are common causes of several implementation failures of comparable health apps. When putting a new system into place, human resources must be taken into account as system information consumers.

In addition to the technology employed, the degree of user acceptability of ALODOKTER also plays a role in its execution. The degree to which the community and medical professionals accept and use the ALODOKTER application may be ascertained by measuring user

acceptability levels. The degree of user acceptability and preparedness for a new system has a big impact on how well or poorly it implements [3], [4].

Through the use of the TAM approach, this research seeks to gauge user approval of the ALODOKTER application. It is anticipated that the study's findings will show which factors significantly affect information technology adoption and which ones have little to no impact. As a result, actions may be taken to improve the ALODOKTER application's adoption and usage in healthcare services. The purpose of the study is to determine the factors that affect users' intentions to use the ALODOKTER application and look into the connection between these intentions and actual application use in everyday life [5], [6].

2. Research Method

To find out how users feel about the ALODOKTER application, this study uses a survey method in conjunction with a quantitative methodology. This study's primary goal is to examine the variables that affect users' real application usage by examining their views of an application's usefulness, convenience of use, attitude toward use, and actual usage.

Users of the ALODOKTER application make up the population in this study, and responders who willingly complete the survey form make up the sample. A questionnaire including demographic questions (gender, age, education level, and occupation) and statements graded on a Likert scale is the tool used to gather data. Respondents' impressions of the ALODOKTER application's usability (Perceived Usefulness, PU), attitude toward usage (Attitude Towards usage, ATU), and actual use (Actual Use, AU) are assessed using the Likert scale [1], [2], [5], [7].

In order to determine the frequency distributions, means, and standard deviations of the demographic variables and the Likert scale, the gathered data is examined using descriptive statistical techniques. The links between user perception factors are investigated by correlation analysis. Furthermore, a linear regression model is constructed to determine the variables impacting the real application utilization. To make sure that the Likert scale being used properly measures the target constructs, the construct validity of the measuring tool is evaluated. In order to verify the internal consistency of the scales being used, reliability coefficients, such as Cronbach's Alpha, are also calculated to examine the dependability of the instrument [6], [8].

Users of the ALODOKTER application are given the questionnaire, and answers from a range of user demographics are gathered in order to collect data. Following collection, the data is processed and analyzed to provide a broad overview of the correlations between the variables. An overview of the responder distribution based on their demographics and opinions about the application is given via descriptive statistical analysis. Relationships between user impressions may be found using correlation analysis, and important factors impacting actual program usage can be found using a linear regression model [9], [10].

It is anticipated that the study's findings will contribute to a better understanding of how users view the ALODOKTER application and the variables affecting how often they use it. These results may be applied to create more potent marketing campaigns as well as enhance the application's features and services.

2.1. Method

The population in this study were ALODOKTER users within the community. Researchers distributed open questionnaires to carry out calculations and used the solving formula. Based on calculations from the solvency formula, 41 samples were obtained to be used. Sampling was carried out using questionnaires that were distributed generally. This study compares the variables in the modified TAM model by Vakantesh and Davis, which can be seen in Figure 1, a measuring instrument for testing variables using the partial least square algorithm.

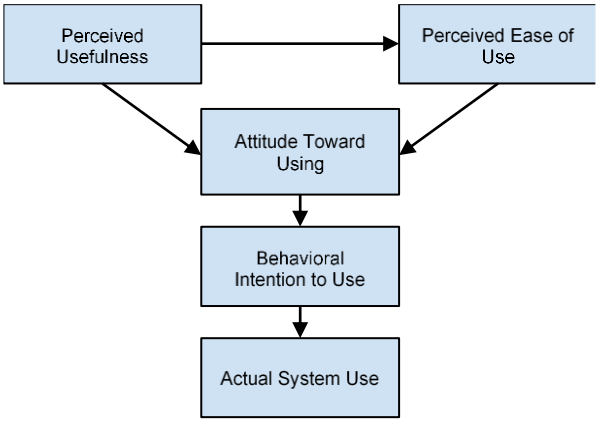

Figure 1. The Variable of Technology Acceptance Model

The Technology Acceptance Model (TAM) remains a widely used framework for understanding user acceptance of new technologies in various fields, including healthcare. The core TAM includes the following key variables:

1. Perceived Usefulness (PU): The extent to which a person believes that using a particular system would enhance their job performance [6].
2. Perceived Ease of Use (PEU): The degree to which a person believes that using a specific system would be free from effort [6].
3. Attitude Toward Using (ATU): An individual's overall affective reaction to using a system [11].
4. Behavioral Intention to Use (BIU): The degree to which a person has formulated conscious plans to perform or not perform some specified future behavior [12].

5. Actual System Use (AU): The actual usage behavior of the system [12].

These variables are interconnected, with PU and PEU influencing ATU, which in turn affects BI, leading to AU. Recent studies have applied and extended this model in healthcare technology acceptance research [7], [8].

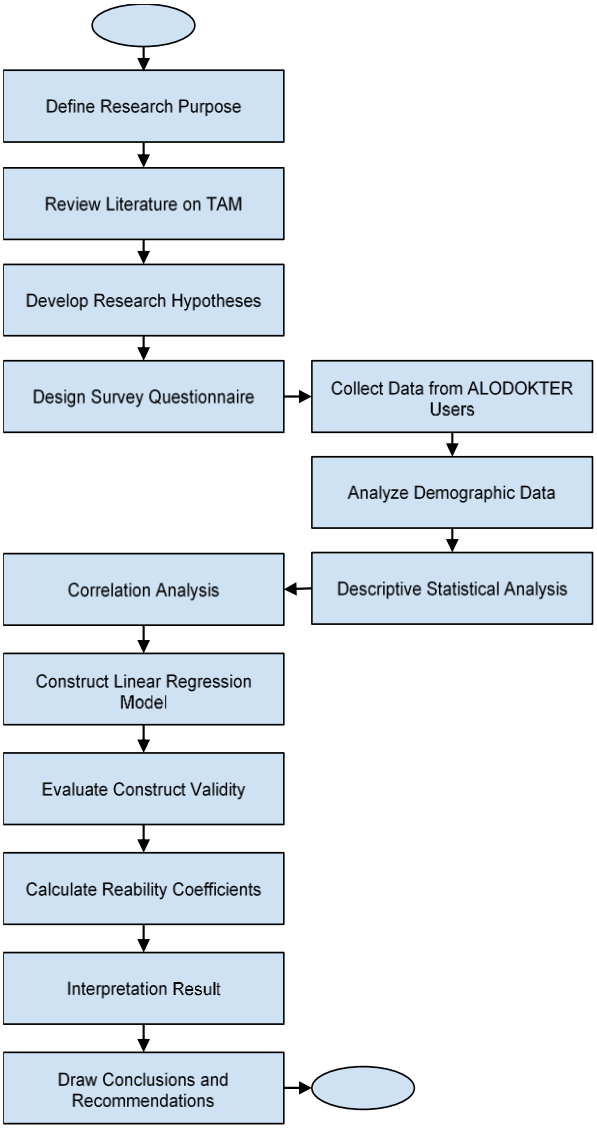

Figure 2. Research Flow

The procedures involved in applying the Technology acceptability Model (TAM) to lower user acceptability of the ALODOKTER application are shown in Figure 2. To understand the elements driving technological progress, the research method starts with setting the study objectives and continues with an analysis of pertinent literature on TAM. Following that, a survey questionnaire is utilized to assess assertions graded on a Likert scale and demographic questions. Hypothesis testing is then carried out. Next, information is gathered from users of the ALODOKTER application, and demographic information is examined. To comprehend frequency distribution, mean distribution, and standard deviation, descriptive statistical analysis is used.

Correlation analysis is used to examine the link between user perception components, and a linear regression model is created to determine the variables that have a direct impact on the use of the program. Achieving the measurement instrument's internal consistency seeks to improve reliability coefficients like Cronbach's Alpha and the assessed measurement instrument's construct validity. The data analysis findings are analyzed, and comments and recommendations are given to boost the ALODOKTER application's quality and user base. A thorough report detailing the whole investigation is presented when the research comes to a close.

2.2. Data Analysis Methods

In this study, we employed several statistical methods to analyze the collected data:

2.2.1. Descriptive Analysis

Descriptive statistics were used to summarize the demographic characteristics of the respondents and the central tendencies of the TAM variables. This includes measures such as frequency, percentage, mean, and standard deviation [10].

2.2.2. Pearson Correlation Analysis

Pearson correlation analysis was conducted to examine the strength and direction of the linear relationships between the TAM variables. This method is widely used in TAM studies to assess the associations between constructs [4].

2.2.3. Linear Regression Analysis

Multiple linear regression analysis was performed to identify the variables that directly influence the actual use of the ALODOKTER application. This method allows us to determine the relative importance of each independent variable in predicting the dependent variable [4].

2.2.4. Validity and Reliability

To ensure the quality of our measurement instrument, we conducted validity and reliability analyses. Construct validity was assessed through factor analysis, while reliability was measured using Cronbach's alpha coefficient. These methods are crucial for establishing the psychometric properties of the scales used in TAM research [2].

2.2.5. Interpretation of Results

The results of data analysis are interpreted to provide an understanding of the relationship between user perceptions and use of the ALODOKTER application. These findings are expected to provide insights for better application development and more effective marketing strategies.

3. Result and Discussion

3.1. Respondent Description

The study involved 41 respondents with the following demographic composition. Based on Table 1, most respondents were male (68.30%). The majority held a bachelor's degree (46.30%), while the largest age group was 21–25 years (43.90%). In terms of occupation, most respondents worked as employees (39.00%).

Table 1. Demographic Distribution of Respondents

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	28	68.30%
	Female	13	31.70%
Education Level	Bachelor's	19	46.30%
	High School	16	39.00%
	Master's/PhD	5	12.20%
	Diploma	1	2.40%
Age	21-25 years	18	43.90%
	26-30 years	9	22.00%
	>=36 years	8	19.50%
	31-35 years	6	14.60%
Occupation	Employee	16	39.00%
	Student	12	29.30%
	Self-employed	10	24.40%
	Civil servant	3	7.30%
Gender	Male	28	68.30%
	Female	13	31.70%

3.2. Descriptive Analysis of Research Variables

The descriptive analysis shows that respondents generally have positive perceptions towards the ALODOKTER application, as shown in Table 2.

Table 2. Descriptive Statistics of Research Variables

Variable	Mean Range	Interpretation
PEU	4.07 - 4.34	High perceived ease of use
PU	4.12 - 4.39	High perceived usefulness
ATU	4.05 - 4.22	Positive attitude towards using
BIU	3.76 - 4.02	Strong intention to use
AU	3.41 - 4.17	Moderate to high actual use

3.3. Correlation Analysis

Table 3. Correlation Matrix of Research Variables

	PEU	PU	ATU	BIU	AU
PEU	1.000	0.902	0.684	0.529	0.131
PU	0.902	1.000	0.646	0.541	0.237
ATU	0.684	0.646	1.000	0.810	0.075
BIU	0.529	0.541	0.810	1.000	0.395
AU	0.131	0.237	0.075	0.395	1.000

The correlation analysis, as shown in Table 3, reveals significant relationships among the research variables. Perceived ease of use (PEU) and perceived usefulness (PU) show a very strong correlation (r = 0.902), indicating that ease of use is closely related to usefulness. Attitude towards using (ATU) also has strong correlations with both PEU (r = 0.684) and PU (r = 0.646), suggesting that ease of use and usefulness contribute to positive user attitudes. Furthermore, behavioral intention to use (BIU) has a very strong correlation with ATU (r = 0.810), which demonstrates that positive attitudes strongly influence the intention to use. Meanwhile, actual use (AU) shows a moderate correlation with BIU (r = 0.395) but only weak correlations with other variables, implying that other factors may also affect actual usage.

3.4. Regression Analysis

Table 4. Linear Regression Results

Variable	Coefficient
PEU	-0.280
PU	0.628
ATU	-1.035
BIU	1.066
R-Squared	0.387

The results of the linear regression analysis, as presented in Table 4, indicate that behavioral intention to use (BIU) has the strongest positive influence on actual use ($\beta = 1.066$), followed by perceived usefulness (PU) ($\beta = 0.628$). In contrast, perceived ease of use (PEU) ($\beta = -0.280$) and attitude towards using (ATU) ($\beta = -1.035$) show negative influences, which may be explained by multicollinearity among the independent variables. Overall, the regression model accounts for 38.7% of the variation in actual use (R-squared = 0.387), implying that other factors also contribute to usage behavior.

3.5. Reliability Test

Table 5. Cronbach's Alpha Reliability Coefficients

Variable	Cronbach's Alpha
PEU	0.950
PU	0.950
ATU	0.964
BIU	0.934
AU	0.943

The reliability test using Cronbach's Alpha shows excellent internal consistency for all variables, with all values above 0.9 as presented in Table 5. This indicates a high reliability of the research instrument, ensuring that the data collected are consistent and dependable across the measured constructs such as PEU, PU, ATU, BIU, and AU.

3.6. Discussion

The results indicate that users have positive perceptions of the ALODOKTER application's ease of use and usefulness. These positive attitudes strongly correlate with usage intention, which is consistent with previous studies that identified perceived ease of use and perceived usefulness as key predictors of behavioral intention in health technology adoption [13], [14]. This supports the continued applicability of the Technology Acceptance Model (TAM) in explaining user acceptance of health applications.

However, the relationship between intention and actual use is more moderate, suggesting that while users have strong intentions, other factors may influence actual application usage. This finding aligns with research by Alexandra, Handayani, and Azzahro, who found that although perceived usefulness and ease of use

significantly affected users' intention to adopt teleconsultation services in Indonesian hospitals, factors such as facilitating conditions and social influence did not significantly impact actual usage. Moreover, their study highlights the importance of practical aspects such as information quality, detailed doctor profiles, payment options, and perceived health safety as crucial factors influencing the actual use of telemedicine applications [15]. These elements may help explain why strong intentions do not always lead to actual use in the Indonesian context.

The strong correlation between perceived ease of use and perceived usefulness emphasizes the importance of maintaining and improving the application's ease of use to enhance its perceived usefulness. Nevertheless, the regression results in this study showing negative influences of perceived ease of use and attitude toward use on actual use warrant further investigation. This unexpected finding may be caused by multicollinearity among variables or other unidentified factors within the model, especially considering the relatively small sample size (n=41), which may affect the stability and generalizability of the results [16].

The high reliability of the research instrument provides confidence in the internal consistency of the collected data. However, future research should consider increasing the sample size, incorporating additional factors such as information quality, trust, and facilitating conditions, which have been shown to influence usage decisions in prior studies [13], [17]. More advanced statistical techniques such as Structural Equation Modeling (SEM) are also advised to help disentangle complex relationships and identify possible mediating or moderating variables that explain actual usage behavior more comprehensively.

4. Conclusion

This research analyzed the factors influencing the acceptance and use of the ALODOKTER application using the Technology Acceptance Model (TAM). The results demonstrate that perceived usefulness (PU) and behavioral intention to use (BIU) are the main predictors influencing actual use of the application, followed by perceived ease of use (PEU) and attitude towards use (ATU). These findings confirm that users tend to use applications more frequently when they find them useful and have a strong intention to use them.

The study revealed strong correlations between PEU, PU, and ATU, indicating that the ease of use and perceived usefulness of the application significantly contribute to users' positive attitudes. The very strong correlation between ATU and BIU suggests that positive attitudes towards the application strongly influence users' intentions to use it.

However, the moderate correlation between BIU and AU, and the relatively low R-squared value of the regression model (0.387), suggest that there are other factors influencing actual use that were not captured in this model. This presents an opportunity for future research to explore additional variables that may affect the adoption and use of health applications.

The research instruments used were proven to be highly reliable with high Cronbach's Alpha coefficients across all scales. This provides confidence in the internal consistency of the data collected and the robustness of the findings.

Based on these results, it is recommended that ALODOKTER application developers focus on increasing the perception of usefulness and ease of use of the application to enhance acceptance and use among users. Additionally, marketing campaigns highlighting the app's benefits and ease of use could help increase acceptance and intention to use.

This research has limitations in terms of sample size and survey methods that rely on self-reporting from respondents. Therefore, further research is needed with larger samples and more varied methods to test this model more comprehensively. Future studies could also consider incorporating qualitative methods to gain deeper insights into user motivations and barriers to adoption.

Moreover, future research could explore the impact of social and environmental factors on the acceptance and use of health apps, as well as investigate how different demographic groups may vary in their adoption patterns. Longitudinal studies could also provide valuable insights into how user perceptions and usage patterns change over time.

In conclusion, while this study provides valuable insights into the factors influencing the acceptance and use of the ALODOKTER application, it also highlights the complexity of user behavior in adopting health technologies. Continued research in this area will be crucial for improving the design, implementation, and adoption of health applications, ultimately contributing to better healthcare delivery and outcomes.

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