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Acceptance Analysis and Application Success Bicarakan.id using Utaut and DeLone & McLean

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ABSTRACT

The advancement of digital-based mental health services offers practical and flexible solutions for the public—especially the millennial generation—in accessing psychological support. One of the platforms providing online counseling services in Indonesia is the Bicarakan.id application, which has shown a relatively high adoption rate. However, user feedback across various platforms has revealed several issues, including suboptimal app performance and slow responses from service providers. These shortcomings can hinder users from effectively accessing the mental health services they need. This study aims to investigate the factors influencing the acceptance and successful usage of the Bicarakan.id application by integrating two analytical frameworks: the Unified Theory of Acceptance and Use of Technology (UTAUT) and the DeLone & McLean Information Systems Success Model. The research employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) method using the SmartPLS 4 software, with data collected from 403 respondents. The results revealed that Information Quality, Service Quality, and Effort Expectancy have a significant and positive influence on User Satisfaction. In turn, User Satisfaction was found to significantly affect Continuance Intention, indicating that satisfied users are more likely to continue using the application. On the other hand, System Quality and Performance Expectancy were found to have no significant effect on User Satisfaction, as shown by the Path Coefficient analysis which did not meet the required significance thresholds.

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1. Introduction

Digital-based mental health services have grown rapidly in recent years, driven by the increasing public awareness of the importance of mental health. Millennials, who are prone to social pressure due to social media use, are one of the groups most open to digital solutions in dealing with psychological problems. Platforms such as Bicarakan.id present an easily accessible, affordable, and convenient alternative to psychological services, especially for individuals who are reluctant to seek help face-to-face [1]. Previous research shows that digital interventions such as *Cognitive Behavioral Therapy* (CBT) are effective in treating depression and anxiety in university students [2]. In addition, internet-based mental health services

also help overcome access limitations in low-income countries such as Indonesia, which lack mental health professionals [3].

The Bicarakan.id application has received a rating of 4.5 out of 5 on the App Store with more than 150 thousand downloads. The predominantly positive user reviews indicate good acceptance, although there are also complaints related to application performance and features, indicating the need for evaluation of system and service quality [4]. The success and acceptance of information technology (IT) systems in healthcare is critical to ensure the effectiveness and sustainability of their use [5]. The DeLone & McLean model is used to assess the success of information systems through aspects of information quality, system quality, and service quality [6], while the *Unified Theory of Acceptance and Use of Technology* (UTAUT) model is used to explain the factors that influence the adoption of technology by users [7].

Several studies reveal that the quality of information and the quality of Service have a significant influence on the level of user satisfaction. Such satisfaction then becomes an important factor that encourages users to maintain continuous use of the service in the future. These findings suggest that if the information provided is accurate, relevant, and easy to understand, and supported by a responsive and professional service, then users are likely to feel satisfied and motivated to continue using the application or platform in question. [8]. By integrating the DeLone & McLean and UTAUT models, this study aims to identify various factors that influence the acceptance rate and successful use of applications Bicarakan.id. The analysis is done by considering a number of important variables, such as *Information Quality, System Quality, Service Quality, Performance Expectation*, *Effort Expectation, User Satisfaction,* and *Continuance Intention.* This approach allows researchers to evaluate how these variables provided contribute to *User Satisfaction*, which in turn impacts their intention to continue using the application in the long term. The integration of these two models provides a comprehensive analytical framework in understanding user behavior towards digital-based mental health service technologies [9].

2. Research Method

2.1 Conceptual Model

This study adopts a conceptual show that coordinating the DeLone & McLean system with the UTAUT show to assess different variables that influence the acknowledgment rate and effective utilize of applications Bicarakan.id.this demonstrate is planned altogether by covering seven primary factors, four of which are sourced from the DeLone & McLean show, specifically *Information Quality, System Quality, Service Quality,* and *User Satisfaction.* These four factors are utilized to degree the degree to which the quality of the framework utilized, the completeness and exactness of the data given, the quality of administrations given by the application, and the level of client fulfillment can make a genuine commitment to the fruitful usage of the application, particularly within the setting of digital-based mental wellbeing administrations. By combining these two hypothetical approaches, the study looks to construct a more in-depth and comprehensive understanding of the key variables driving mechanical victory within the online mental administrations division. This approach provides a strong analytical basis in understanding the user's experience and perception of the technology used. [10] and three from the UTAUT model: *Effort Expectancy, Performance Expectancy,* and *Continuance Intention* [11].

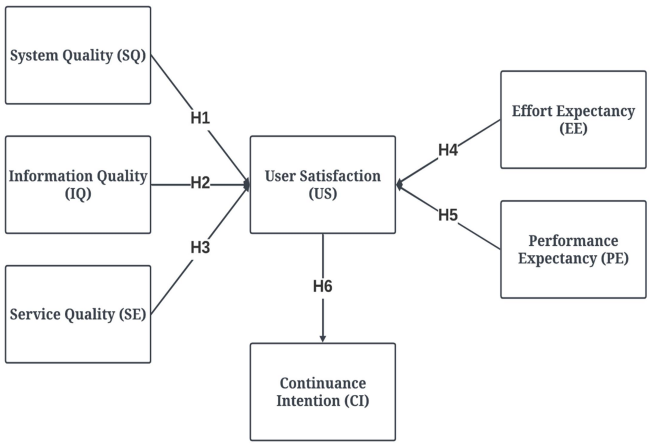

Figure 1. Conceptual Model

2.2 Research Hypothesis

Based on the conceptual model in Figure 1, this study proposes 6 hypotheses. The following are the hypotheses proposed:

Tabel 1. Hypothesis

	Hypothesis
H1	*System Quality* has a positive and significant effect on *User Satisfaction* in using the Bicarakan.id application.
H2	*Information Quality* has a positive and significant effect on *User Satisfaction* in using the Bicarakan.id application.
H3	*Service Quality* has a positive and significant effect on *User Satisfaction* in using the Bicarakan.id application.
H4	*Effort Expectancy* has a positive and significant effect on *User Satisfaction* in using the Bicarakan.id application.
H5	*Performance Expectancy* has a positive and significant effect on *User Satisfaction* in using the Bicarakan.id application.
H6	*User Satisfaction* has a positive and significant effect on *Continuance Intention* in using the Bicarakan.id application.

A. Population and Sample

The targeted population in this study are users of the Bicarakan.id application in Indonesia. According to recent sources, the Bicarakan.id application has been downloaded by more than 150,000 users across Indonesia [12]. Thus, the populace in this ponder incorporates all dynamic clients of the application Bicarakan.id to decide the least required number of tests, a calculation based on the Slovin equation is utilized. This study employs the Probability Sampling method, which ensures that every member of the population has an equal opportunity to be selected as a sample. The choice of this procedure is planning to guarantee that the sample taken is genuinely an agent of the complete populace, so that the comes about can be generalized more precisely. The calculation of the least number of tests was carried out utilizing the Slovin equation at a certainty level of 95% and sampling error of 5%. Based on the results of these calculations, a least test of 398.93 respondents was gotten. In any case, to extend the legitimacy and unwavering quality of the data obtained, the number was afterward adjusted up and extended to 400 respondents who effectively taken part within the information collection handle of this think about. This approach gives a solid factual premise in back of the investigated discoveries. .

$$\boldsymbol{n} = \frac{\boldsymbol{N}}{\boldsymbol{1+N.e^2}}$$

$$n = \frac{150.000}{1 + (150.000\ x\ 5\%^2)} \quad (1)$$

$$n = \frac{150.000}{1 + (150.000\ x\ 0.0025)}$$

$$n = \frac{150.000}{1 + (375)}$$

$$n = \frac{150.000}{376}$$

$$n = 398.93$$

Description:

n = Number of samples
N = Total population
e = error tolerance = 5%

This research uses quantitative data collection methods, because the data collected is in the form of numbers and analyzed using statistical techniques. Data was obtained through distributing questionnaires online using Google Form, aimed at users of the Bicarakan.id application who live in various regions in Indonesia. From this distribution, 403 respondents were collected.

B. Research Instrument

Table 2. Research Instruments

Variable	Items	Factors
System Quality (SQ)	SQ1	I feel that Bicarakan.id rarely experiences errors when operated.
	SQ2	I feel that Bicarakan.id is available all the time, 24 hours.
	SQ3	I feel that Bicarakan.id can be used on all types of devices (HP/Laptop, Computer).
	SQ4	I feel that Bicarakan.id is able to respond quickly when run.
	SQ5	I feel that Bicarakan.id always innovates and updates the system regularly.
Information Quality (IQ)	IQ1	I feel that Bicarakan.id provides information clearly.
	IQ2	I feel that Bicarakan.id provides the information needed.
	IQ3	I feel that Bicarakan.id provides up-to-date information.
Service Quality (SeQ)	SeQ1	I feel that Bicarakan.id provides facilities to contact technicians (helpdesk) if there are problems related to the application.
	SeQ2	I feel that Bicarakan.id is quick to respond when contacted through the helpdesk.
	SeQ3	I feel that Bicarakan.id technicians are quick to overcome the obstacles faced by users.
	SeQ4	I feel that my personal data is safe when using Bicarakan.id
	SeQ5	I feel that Bicarakan.id provides a guide to using the service
Effort Expectancy (EE)	EE1	I easily understand the menu on Bicarakan.id.
	EE2	I feel that Bicarakan.id has a display that is easy to understand.
	EE3	I feel that Bicarakan.id is easy to use.
	EE4	I feel that the language used in Bicarakan.id is easy to understand.
Performance Expectancy (PE)	PE1	I feel that Bicarakan.id is very effective because it can be accessed from anywhere and at any time.
	PE2	With Bicarakan.id, it helps me to get mental health services faster without having to wait a long time when doing an examination to a psychologist.
	PE3	With the Bicarakan.id application, I find it helpful to register with health facilities without having to come in person.

Variable	Items	Factors
	PE4	I feel that the Bicarakan.id application improves performance when accessing health services.
User Satisfaction (US)	US1	I feel that the Bicarakan.id application helps in administrative activities without coming in person.
	US2	I feel that the Bicarakan.id application helps when looking for information about health services.
	US3	I feel satisfied with Bicarakan.id.
	US4	I feel comfortable operating Bicarakan.id without experiencing problems.
Continuance Intention (CI)	CI1	I will continue to use Bicarakan.id to book appointments with psychologists.
	CI2	I will use Bicarakan.id more often to make appointments with a psychologist.
	CI3	I will always use the Online Psychology service in the Bicarakan.id application if the service is provided.
	CI4	I am willing to recommend Online Psychology services in the Bicarakan.id application to friends, neighbors and relatives.
	CI5	I will continue to use the Online Psychology service at Bicarakan.id instead of using other similar applications (Riliv, Psikologimu, etc).

3. Result and Discussion

3.1. Demographic Information Of Respondents

This study analyzed demographic information which includes information related to gender, age, domicile owned by respondents. This Data shows information from the results of data processing through 403 respondents with the following results:

a. Gender Of Respondent
   Respondents in this study are dominated by application users Bicarakan.id female, with a total of 221 people or about 54.%. This indicates that the application user Bicarakan.id most of them come from women.
b. Age Of Respondent
   Application users Bicarakan.id In this study the majority were in the age range of 1-23 years, with a total of 195 people or about 4.4%. This indicates that the user application Bicarakan.id most of them come from young people, especially in the age group of 1-23 years.
c. Respondent's Domicile
   The majority of respondents in this study are domiciled in East Java, with a total of 190 people or about 47.15%. This indicates that East Java is domiciled with application users Bicarakan.id highest in this study.

3.2 Inferential Analysis

Inferential examination in this think about points to assess both the estimation show (Outer Model) and basic demonstration (*Inner Model*) by utilizing information gotten from 403 respondents who are dynamic clients of the application Bicarakan.id. The investigation handle was carried out utilizing *Partial Least Square Structural Equation Model* (PLS-SEM), which was chosen since of its capacity to handle complex models and information that are not entirely ordinarily dispersed. This approach permits analysts to test the legitimacy and unwavering quality of builds and relationships between factors within the inquire about show in a comprehensive way.

3.2.1 Outer Model

Outer Model testing was conducted to assess the legitimacy and unwavering quality of the information. The validity of the measurement was examined using *Convergent* and *Discriminant Validity*, whereas reliability was evaluated through *Cronbach's Alpha* and *Composite Reliability*. The pointer is

considered substantial in case the *Outer Loadings* is over 0.70 and AVE esteem is more than 0.50. *Discriminant validity* is expressed to be satisfied on the off chance that the AVE esteem of an marker is higher for the variable it measures than for other factors, and on the off chance that the square root of AVE is more prominent than the relationship between inactive factors. In the mean time, the information is considered solid in the event that the esteem of *Cronbach's Alpha* and *Composite Reliability* quality surpasses 0.70. Underneath is the esteem of *Outer Loadings* and AVE on each marker and variable in this think about.

Table 3. Convergent Validity Value

Variabel	Indikator	*Outer Loading*	AVE
System Quality	SQ1	0.824	0.740
	SQ2	0.905	
	SQ3	0.908	
	SQ4	0.820	
	SQ5	0.841	
Information Quality	IQ1	0.890	0.803
	IQ2	0.905	
	IQ3	0.894	
Service Quality	SeQ1	0.904	0.757
	SeQ2	0.860	
	SeQ3	0.843	
	SeQ4	0.860	
	SeQ5	0.883	
Performance Expectancy	PE1	0.758	0.678
	PE2	0.781	
	PE3	0.994	
	PE4	0.734	
Effort Expectancy	EE1	0.914	0.813
	EE2	0.912	
	EE3	0.882	
	EE4	0.897	
User Satisfaction	US1	0.917	0.781
	US2	0.863	
	US3	0.857	
	US4	0.896	
Continuance Intention	CI1	0.897	0.766
	CI2	0.909	
	CI3	0.813	
	CI4	0.859	
	CI5	0.896	

Reliability testing is utilized to guarantee that an instrument utilized in investigate can deliver steady comes about when utilized more than once to the same Question [13]. In this consider, analysts utilized *Cronbach's Alpha* strategy as an instrument to test the level of unwavering quality of the survey instrument utilized. The choice within the unwavering quality test is based on the esteem of *Cronbach's Alpha*, where an instrument is announced dependable in case the coming about esteem of *Cronbach's Alpha* is more prominent than or break even with to 0.70. On the other hand, on the off chance that the esteem is less than 0.70, at that point the instrument is considered questionable [14]. This means that each thing within the survey is considered steady and doable to utilize in the event that it meets these limits, since it is able to reflect solidness and unwavering quality within the estimation of the factors considered. This test is critical to ensure that the information collected is solid and substantial for encourage investigation.

Table 4. Reliability Test Results

Variabel	*Cronbach's Alpha*	*Composite Reliability*
System Quality	0.920	0.934
Information Quality	0.878	0.925
Service Quality	0.920	0.940
Effort Expectancy	0.923	0.945
Performance Expectancy	0.908	0.892
User Satisfaction	0.906	0.934
Continuance Intention	0.923	0.942

Based on the table of *reliability* test results, all variables in the model have *Cronbach's Alpha* and *Composite Reliability* values above 0.7. Thus, all the variables in this study are appropriate and meet the established reliability criteria.

3.2.2 Inner Model

Inner model tests were conducted to assess the relationship between idle factors in basic models, which included *R-Square* and *F-Square* Tests. The esteem *R-Square* is utilized to degree the degree to which the variety within the subordinate variable can be clarified by the autonomous variable within the show. The higher the esteem of *R-Square,* the more prominent the extent of the impact of the free variable on the subordinate variable. In common, a demonstrate is considered to have solid prescient control on the off chance that the esteem of *R-Square* reaches 0.75 or more, is categorized as medium in the event that it is within the run of 0.50, and is considered frail on the off chance that the esteem is as it were 0.25. This appraisal is imperative to decide how well the show can clarify the phenomenon beneath think about and ended up the premise for drawing conclusions on the relationship between develops within the investigate demonstrate.

Table 5. R-Square Value

Variable	*R-square*
User Satisfaction	0.612
Continuance Intention	0.708

The esteem *F-Square* is utilized to degree the greatness of the impact of each free variable on the subordinate variable within the auxiliary show. This marker appears the particular commitment of an autonomous variable to the enhancement of the prescient capabilities of the demonstrate as a entirety. A variable is said to have a huge impact in case the esteem of its *F-Square* reaches 0.35 or more, is classified as medium in the event that it is worth almost 0.15, and is considered to have a little impact in case the esteem is as it were 0.02 to the subordinate variable. This assessment is imperative to decide how critical the part of each autonomous variable is in clarifying the subordinate variable, and to guarantee that the demonstrate built is able to precisely and seriously speak to the relationship between develops.

Table 6. *F-Square Value*

Variabel	*F-Square*
System Quality → *User Satisfaction*	0.001
Information Quality → *User Satisfaction*	0.022
Service Quality → *User Satisfaction*	0.176
Effort Expectancy →	0.149

User Satisfaction	
Performance Expectancy → User Satisfaction	0.001
User Satisfaction → Continuance Intention	2.426

3.3 Hypothesis Testing

Hypothesis testing was conducted using the help of software SmartPLS 4.0 through bootstrapping techniques. According to the analysis of the bootstrapping process are presented in the following figure.

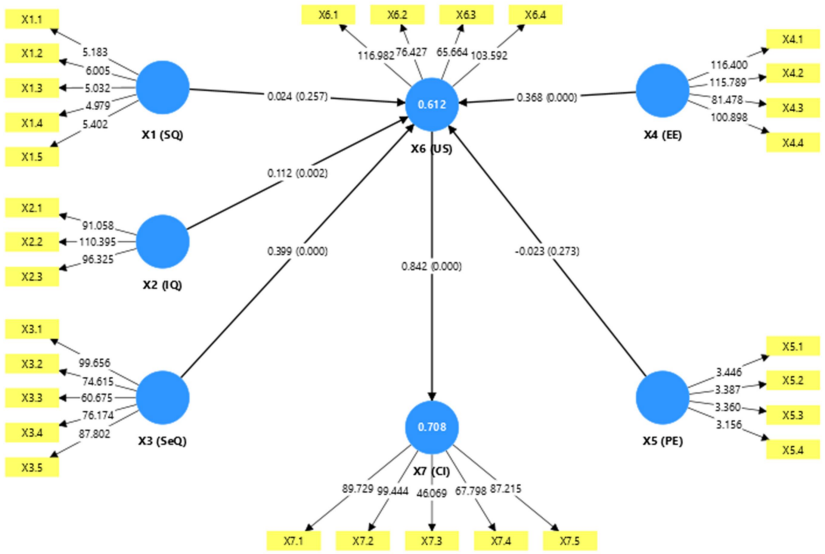

Figure 2. Bootstrapping results

Figure 2 appears the comes about of the bootstrapping test performed utilizing the SmartPLS 4 program, which points to test the already defined speculation. This test is done through the investigation of *Path Coefficient* by considering the esteem of *Original Sample, T-Statistics,* and *P-Value*. The esteem of the *Original Sample* is shown by the numbers shown on the relationship lines between the factors within the graph, whereas the *P-Value* appears in enclosures. *Way Coefficient* portrays the degree to which the impact of a free variable on the subordinate variable within the enquiry demonstrates. To evaluate the importance of such impact, pointers *T-Statistics* and *P-Value* are utilized. In case the esteem of *T-Statistics* surpasses a certain edge >1.96 and the *P-Value* is < 0.05, at that point the relationship between the two factors is considered factually critical. This test is important to guarantee that the connections recognized within the show have a solid experimental premise and can be utilized as a premise in making investigate conclusions.

Table 7. Hypothesis Testing Results

Hypothesis		**O**	***T-Statistic***	***P-Value***	***Description***	
No.	**Path**				**O**	***T-Statistic***
H1	SQ → US	0.024	0.654	0.257	Positive	Rejected
H2	IQ → US	0.112	2.819	0.002	Positive	Accepted
H3	SeQ → US	0.399	6.125	0.000	Positive	Accepted
H4	EE → US	0.368	5.292	0.000	Positive	Accepted
H5	PE → US	- 0.023	0.603	0.273	Negative	Ditolak
H6	US → CI	0.842	29.710	0.000	Positive	Rejected

According to the findings from hypothesis testing conducted through the bootstrapping method on Table 6, it was obtained that only H1 and H5 were rejected, while other hypotheses were accepted. H1 (*System Quality* to *User Satisfaction*) has a positive effect but not significant (*T-Statistic* 0.654, *P-Value* 0.257), so this hypothesis was rejected. Similarly, H5 (*Performance Expectation* to *User Satisfaction*) showed a negative and insignificant effect (*T-Statistic* 0.603, *P-Value* 0.273), so it was also rejected. Meanwhile, H2 (*Information Quality* to *User Satisfaction*) proved to be significant and positive (*T-Statistic* 2.19, *P-Value* 0.002), as well as H3 (*Service Quality* to *User Satisfaction*) with a strong influence (*T-Statistic* 6.125, *P-Value* 0.000), and H4 (*Effort Expectation* to *User Satisfaction*) are also significant (*T-Statistic* 5.292, *P-Value* 0.000). Finally, H6 shows that *User Satisfaction* has a very significant effect on *Continuance Intention* (*T-Statistic* 29.710, *P-Value* 0.000). Thus, the factors of *Information Quality, Service Quality, Effort Expectation* and *User Satisfaction* have an important role in shaping the sustainable intentions of users towards the application under study.

4. Conclusion

This study analyzes the acceptance and successful use of Bicarakan.id by combining the models of UTAUT and DeLone & McLean. The data revealed that among the six tested hypotheses, were found to be valid and two were rejected. Variable *Information Quality, Service Quality,* and *Effort Expectation* significantly affect *User Satisfaction*, which also significantly affect the continuity Intention. However, *System Quality* and *Performance Expectation* did not significantly affect.

Further research is recommended to use additional models such as TAM or add variables such as *Social Influence* and *Facilitating Conditions* to expand the analysis. In addition, Segmentation by region can also be considered to see the difference in acceptance based on the local context. For developers, it is important to optimize the system performance, response to complaints, as well as provide more personalized features to increase the satisfaction and sustainability of using the application.

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