Journal of Artificial Intelligence and Engineering Applications

Website: https://ioinformatic.org/

15th June 2024. Vol. 3. No. 3; e-ISSN: 2808-4519

Analysis of User Satisfaction with The Implementation of The Shopee Application Using the TAM Method

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Abstract

The high interest of the public in the e-commerce platform Shopee must be supported by a high-quality application. Efforts to maintain a good application quality should always be a priority for Shopee's management. Therefore, evaluation and improvement are crucial to maintaining and enhancing the quality of their application services. The quality of service is a key factor in determining customer satisfaction levels. The aim of this study is to analyze the factors influencing user satisfaction with the Shopee application among students at Universitas Trunojoyo Madura, using the Technology Acceptance Model (TAM). This research will evaluate users' attitudes towards their satisfaction with using the Shopee application as a shopping platform. Overall, the majority of respondents showed a positive perception of the Shopee application. They tended to agree with the Perceived Usefulness (PU) variable at 71.80%, Attitude Toward Use (ATU) at 72.00%, Perceived Ease of Use (PEOU) at 71.33%, and Behavioral Intention to Use (BITU) at 70.56%. Specifically, respondents also considered the application to meet their needs with a good level of satisfaction, with the Usability (US) perception reaching 68.50%.

Keywords: *Satisfaction, Users, Shopee, TAM method, SPSS*

1. Introduction

Technological advances driven by the internet have succeeded in creating new business opportunities, one example of this new business opportunity is the growth of e-commerce. E-commerce is a digital facility for carrying out business transactions, both between companies and individuals [1]. Now, e-commerce platforms are not only limited to telephones and television, but are now more commonly carried out via the internet, namely like marketplaces [2]. Marketplace is an application that acts as an intermediary between sellers and buyers in online transactions on the internet acting as a third party [3]. Examples include Blibli, Bukalapak, Tokopedia, Lazada, Shopee and others.

Shopee is one of the leading e-commerce platforms in Indonesia which offers a variety of products and often holds promotions to attract buyers' interest [4]. Shopee's head office is located in Singapore, under the management of Seagroup which was founded by Forrest Li in 2009 [5]. According to data from Similar Web for App Performance, Shopee receives 33.27 million visitors who make online buying and selling transactions every day.

The public's high interest in Shopee e-commerce must also be supported by good application quality [6]. Efforts to maintain good application quality must of course always be a concern for Shopee company owners, therefore evaluation and improvement are very important things to do in order to maintain and improve the quality of their application services. Service quality is the main key in determining the level of customer satisfaction [7].

The aim of this research is to analyze what factors can influence user satisfaction of the Shopee application used by Trunojoyo Madura University students using the TAM method. This research will evaluate user attitudes towards the level of satisfaction in using the Shopee application as a platform for shopping.

Technology Acceptance Model(TAM) is a further development of the Theory of Reasoned Action (TRA) model, namely a theory of action which assumes that a person's reaction and perception of something will determine their attitudes and behavior [8]. The TAM method can be adapted to the analysis results that have been obtained [9]. The TAM model has five main elements, namely Intention to Use, Perceived Ease of Use, Attitude Towards Use, Perceived Benefits, and Actual Use [10].

Previous studies that have been carried out regarding this topic include: Analysis of user satisfaction with the user interface of the Shopee e-commerce application using the EUCS method in West Jakarta. This research focuses on user satisfaction with the user interface by using the End-User Computing Satisfaction (EUCS) method. The results obtained from this research are in the satisfied category, with an average value of 3.92 (Satisfied), which was assessed using the Satisfaction Level Likert Scale table, the results were Accuracy 3.85 (Satisfied),

Timeliness 4.07 (Satisfied), Format 3.70 (Satisfied) , Ease of Use 4.03 (Satisfied) and content 3.99 (Satisfied) [11]. The next previous study is an analysis of user satisfaction with the implementation of the Go-Jek application using the TAM method. The aim of this research is to identify factors that influence customer satisfaction with the Go-jek application in the Jakarta area. The results obtained are that there is a correlation between the usefulness and convenience of users with behavioral interest in using technology, where both influence each other [12]. The next previous study is an analysis of user satisfaction of the PLN mobile application using the technology acceptance model (tam) method. Aims to analyze the level of user satisfaction with the PLN Mobile application at PT. PLN (Persero) WS2JB Palembang Branch by assessing the rating in Sekayu. The results obtained are that the intention to use the PLN Mobile application has an influence on actual use of the PLN Mobile application [13].

2. Research Methods

2.1. Research Stages

In this research the method used is a quantitative method. Quantitative research methods are approaches based on positivist philosophy that are used to research certain populations or samples. Data collection was carried out using research instruments, and data analysis was carried out statistically [14]. The data collection tool used in this research is a questionnaire which contains questions to respondents in the form of data. The questionnaire includes the TAM instrument which is used to identify various aspects of user satisfaction with the Shopee application. Figure 1 shows the stages in this research.

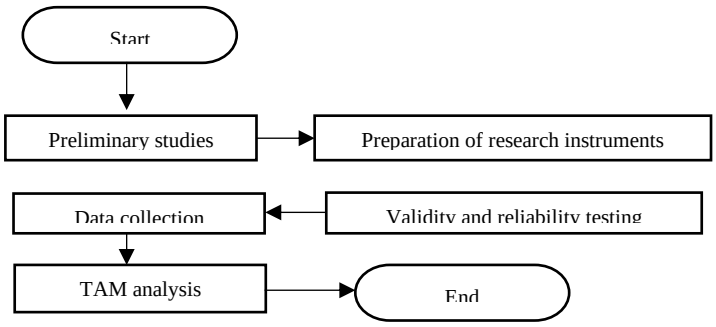

Fig. 1: Research Stages

a. Preliminary studies
   The research method in this study involves five stages starting with a preliminary study. The preliminary study stage is carried out by searching, studying and understanding various research references such as books, scientific journals and previous research that are still relevant to the research object.
b. Preparation of research instruments
   The next step is the research instrument design stage. At this stage, the instruments to be used in the questionnaire are determined using the TAM approach. This research instrument includes 18 indicators divided into five TAM variables, namely: Behavioral Intention To Use, Perceived Ease of Use, Perceived Usefulness, Attitude Toward Use, User Satisfaction (User Satisfaction).
c. Validity and reliability testing
   The third step is the validity and reliability testing stage. Validity testing aims to assess the extent to which the research questionnaire instrument is valid and suitable for use. Meanwhile, reliability testing aims to assess the level of reliability of the instruments used in this research questionnaire.
d. Data collection
   The next step is data collection. This research uses quantitative methods with a survey involving students at Trunojoyo University, Madura. The questionnaire was distributed online using the Google Forms service. Respondents were asked to rate using a Likert scale, where a value of 1 means strongly disagree, a value of 2 means disagree, a value of 3 is neutral, a value of 4 is agree, and a value of 5 is strongly agree.
e. TAM analysis
   The data that has been collected in the previous stage will be used in the TAM analysis stage. The results of this TAM analysis allow researchers to determine the level of user satisfaction with the Shopee application among students at Trumojoyo University, Madura.

2.2. Population and Sample

The population in this study consisted of students at Trunojoyo University, Madura, who used the Shopee application, with a total of 60 respondents. A sample is a data collection procedure in which only a small portion of the population is taken and used to determine the desired characteristics of that population.

2.3. Method Of Collecting Data

Data collection is the process of collecting primary and secondary data in a study. This step is very important because the data collected will be used to solve the problem being researched or to test the hypothesis that has been formulated. Data collection methods used in this research include questionnaires and literature study.

2.4. Data Analysis Method

The TAM analysis technique uses descriptive analysis techniques

a. Determining the criteria score (SK)
   The criterion score (SK) is the ideal score achieved in research. The way to calculate the criteria score is by Formula 1.
   $\sum SK = Skor\ Maks\ I \times nI \times nR$
   Information:
   $\sum SK$: Total Criteria Score
   $Skor\ Maks\ I$: Highest score for each question indicator
   nI: Number of question indicators
   nR: Number of respondents
b. Determining the total score (SH)
   The total score is the total result of data collection that has been carried out and is symbolized by $\sum SH$.
c. Determining the percentage size (P)
   The percentage is determined by the criteria score ($\sum SK$) and the total score from data collection ($\sum SH$). The formula used to determine the percentage is Formula 2.
   $P = \frac{\sum \text{SH X } 100\% \sum \text{SK}}{\sum \text{SK}}$
   Information:
   P: Percentage of respondents' answers
   $\sum SK$: Criterion score
   $\sum SH$: Total score of data collection
d. Specifies the range of results
e. The range of results is determined by the criteria scores and percentages obtained in the previous step, then compared with the scores resulting from data collection.

2.5. Statistical Product and Service Solutions (SPSS)

SPSS is a well-known and quite sophisticated software in the field of spreadsheets that is often used for data and number analysis[15]. SPSS facilitates users in processing data, conducting statistical tests, and creating informative reports and data visualizations. This software supports various analytical methods, including regression, factor analysis, and hypothesis testing, making it an extremely useful tool for researchers and data analysts.

3. Results and Discussion

3.1. Research Instrument

The research instrument uses TAM indicators. There were 18 instruments applied to the research questionnaire. The research instruments in this study are shown in Table 1. The research instruments in Table 1 contain TAM indicators which have been adapted to the research object. The predetermined instruments will be used in the research questionnaire. The questionnaire used is online based with the Google Form service. The research questionnaire contains questions about the respondent's personal data. Respondent data is useful in mapping demographic data. The instruments in the questionnaire will be processed using TAM analysis. Testing research instruments uses validity and reliability tests.

Table 1: Research Instrument

Variable	Code	Indicator
User Perception (Perceived Usefulness)	**PU1**	The Shopee application helps me complete purchases more quickly
	PU2	The Shopee application increases my productivity in shopping.
	PU3	Using Shopee makes it easier for me to get the products I want
	PU4	The Shopee application gives me better control over the shopping process
	PU5	The Shopee application is useful in my daily life
Attitude Toward Use (Attitude Toward Use)	**ATU1**	I feel comfortable using the Shopee application for shopping
	ATU2	I like the shopping experience using the Shopee application
	ATU3	I feel the Shopee application is a good choice for online shopping
Intention to Use (Behavioral Intention to Use)	**BITU1**	I plan to continue using the Shopee app in the future
	BITU2	I will recommend the Shopee app to friends and family
	BITU 3	I prefer to use the Shopee application compared to other online shopping applications
Ease of use (Perceived Ease Of Use)	**PEOU1**	I feel the Shopee application has technological advantages
	PEOU2	I feel the Shopee application has access to features that users can use easily
	PEOU3	I feel the language used in the Shopee Application is easy to understand
User Satisfaction (User Satisfaction)	**US1**	I am satisfied with the shopping experience using the Shopee application
	US2	The Shopee application meets my expectations in online shopping
	US3	I am satisfied with the customer service provided by Shopee

	US4	I am satisfied with the quality of the products I purchased through Shopee

3.2. Validity Test Results

Test the validity of the instrument in this research using SPSS tools. Testing is carried out by calculating the correlation between the value of each research instrument and the total instrument value of a variable. The total value of the instrument on the same variable is calculated first before carrying out the validity test. The total value will be used in the validity test using SPSS. If the calculated R value is greater than the R table then it is declared valid. The results of the validity test in this research are in Table 2.

Table 2: Validity Test Results

Question Items	R Count	R Table	Information
PU1	0.873	0.254	Valid
PU2	0.857	0.254	Valid
PU3	0.897	0.254	Valid
PU4	0.857	0.254	Valid
PU5	0.827	0.254	Valid
ATU1	0.949	0.254	Valid
ATU2	0.920	0.254	Valid
ATU3	0.914	0.254	Valid
BITU1	0.853	0.254	Valid
BITU2	0.870	0.254	Valid
BITU 3	0.787	0.254	Valid
PEOU1	0.894	0.254	Valid
PEOU2	0.932	0.254	Valid
PEOU3	0.92	0.254	Valid
US1	0.933	0.254	Valid
US2	0.914	0.254	Valid
US3	0.865	0.254	Valid
US4	0.944	0.254	Valid

3.3. Reliability Test Results

Reliability testing in this research determines the reliability or reliability of the research instrument. SPSS is used as a tool to help calculate reliability tests. The value to determine the level of reliability is the cronbatch alpha value. A Cronbatch alpha value of 0.7 or more states that the research instrument has a reliable value

Table 3: Reliability Test Results

Variable	Cronbatch Alpha	Information
PU1	0.985	Reliable
PU2	0.985	Reliable
PU3	0.984	Reliable
PU4	0.985	Reliable
PU5	0.985	Reliable
ATU1	0.984	Reliable
ATU2	0.984	Reliable
ATU3	0.984	Reliable
BITU1	0.985	Reliable
BITU2	0.985	Reliable
BITU 3	0.985	Reliable
PEOU1	0.984	Reliable
PEOU2	0.984	Reliable
PEOU3	0.984	Reliable
US1	0.984	Reliable
US2	0.984	Reliable
US3	0.985	Reliable
US4	0.984	Reliable

3.4. TAM Research Description

Table 4: Tam Research Description

Variable	Min	Max	Mean	Std. Deviation
PU1	1	5	3.58	1,406
PU2	1	5	3.57	1,170
PU3	1	5	3.68	1,513
PU4	1	5	3.48	1,255
PU5	1	5	3.63	1,178
ATU1	1	5	3.63	1,193
ATU2	1	5	3.62	1,151
ATU3	1	5	3.55	1,346
BITU1	1	5	3.58	1,154
BITU2	1	5	3.52	1,242
BITU 3	1	5	3.48	1,269

PEOU1	1	5	3.47	1,214
PEOU2	1	5	3.62	1,303
PEOU3	1	5	3.62	1,415
US1	1	5	3.4	1,210
US2	1	5	3.38	1,209
US3	1	5	3.43	1,184
US4	1	5	3.48	1,200

Research data shows that of the total 60 respondents who filled out the questionnaire, the majority were women (68.2%) compared to men (31.8%). In terms of age, the most dominant respondents were in the 18 to 23 year age range (89.4%), followed by 24 to 29 year olds (6.1%) and 12 to 17 year olds (4.5%). The distribution of respondents by faculty shows that the faculty of educational sciences has the highest percentage (47.4%), followed by the faculty of social sciences and cultural sciences (21.1%), the faculty of economics and business (10.5%), and the faculties of engineering, law, Islam and agriculture. each with a percentage of 5.3%.

3.5. Descriptive Statistics

Table 5: Descriptive Statistics Results

Variable	nI	∑SK	∑SH	P
PU	18	1077	1500	71.8
ATU	18	648	900	72
BITU	18	635	900	70.56
PEOU	18	642	900	71.33
US	18	822	1200	68.5

Overall, the majority of respondents showed positive perceptions of the Shopee application. They tend to agree with the User Perception (PU) variable of 71.80%, the perception of Attitude towards Users (ATU) of 72.00%, the perception of Ease of Use (PEOU) of 71.33%, and the perception of User Interest (BITU) of 70 .56%. In particular, respondents also considered this application to meet their needs with a good level of satisfaction, with perceived Usability (US) reaching 68.50%. Thus, the conclusion from this perception of satisfaction is that UTM students feel that the Shopee application is easy to use and meets their expectations.

4. Conclusion

Based on research data, it shows that of the total 60 respondents who filled out the questionnaire, the majority were women (68.2%) compared to men (31.8%). In terms of age, the most dominant respondents were in the 18 to 23 year age range (89.4%), followed by 24 to 29 year olds (6.1%) and 12 to 17 year olds (4.5%). Overall, the majority of respondents showed positive perceptions of the Shopee application. They tend to agree with the User Perception (PU) variable of 71.80%, Attitude towards User (ATU) perception of 72.00%.

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