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Analysis of User Satisfaction with the Dana Application Using the Technology Acceptance Model (TAM) Method

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Abstract

The digital era has driven the popularity of digital wallet applications such as DANA, which offers easy financial transactions via mobile devices. DANA is a clear example of how information and communication technology brings positive changes to people's lives. DANA is an ideal choice for individuals who want to manage their finances effectively in this digital era. Users' views regarding their satisfaction with the application are very important because they can be valuable evaluation material for improving application services using the TAM method. This research aims to analyze the level of satisfaction of DANA users using the Technology Acceptance Model (TAM) method. This quantitative research involved 50 respondents, students at Universitas Trunojoyo Madura. Data was collected through a questionnaire that measured 5 TAM indicators, where the results of the research showed that 78.4% of respondents felt the ease and usefulness of the DANA application, 79.87% expressed satisfaction with the ease of use of the DANA application, 76.93% had attitudes towards using the DANA application, 72.27% behavioral intensity of using the DANA application, and usage of the DANA application 72.53%. Based on the analysis results, it can be concluded that the DANA application has met user satisfaction standards. These findings provide a comprehensive picture of how DANA is received and used by the public, and can help DANA improve its services and provide a more optimal experience for its users.

***Keywords**: User Satisfaction, Technology Acceptance Model, DANA.*

1. Introduction

The digital era has revolutionized various aspects of human life, including financial transactions. One of the innovations in the financial sector is the emergence of digital wallet applications, which allow users to carry out transactions easily and quickly via mobile devices. DANA, one of the digital wallets in Indonesia, Emtek Group is collaborating with Ant Financial to form a digital payment company called PT. Espay Debit Indonesia Koe [1], which offers various practical and easy-to-access services via mobile devices. The DANA application is a platform used as a transaction medium for making electronic or digital payments which includes a DANA Cash balance, where users can fully operate the application via mobile phone [2]. The many benefits offered by Dana have led to an increasing number of users in all levels of society [3], users can carry out various financial transactions such as paying bills, purchasing credit, transferring money, and many more. DANA's presence aims to simplify and speed up its users' financial activities, so they can focus on more important things.

DANA has expanded its reach through collaboration with various well-known banks in Indonesia, such as BRI, BCA, BNI, BTN, Bank Mandiri, Bank Permata, Bank Panin, Bank Sinarmas, and CIMB Niaga. Not only that, DANA is also integrated with the Population and Civil Registration (Dukcapil) system, making it easier for digital wallet users to register and verify accounts [4]. This is supported by the increasing number of shopping centers or companies that accept non-cash payments [5]. DANA is a real example of how information and communication technology brings positive changes to people's lives. With the convenience and practicality offered, DANA is the ideal choice for individuals who want to manage their finances effectively in this digital era.

Users' views regarding their satisfaction with applications are very important because they can be valuable evaluation material for improving application services, where user satisfaction itself is the result of positive experiences with operating system functionality that meets standards, thereby encouraging more frequent application use and greater loyalty. high, including in terms of spending money [6].

Technology Acceptance Model (TAM) is a method used to determine the level of user satisfaction with the DANA application. The TAM model was developed by Davis et al. (1989) based on the TRA (Theory of Reasoned Action) model, as a theory for studying and understanding how users receive and use information systems. This theory offers a basis for explaining the factors that influence user acceptance of a technology [7]. This model has two main elements, namely perceived ease of use (Perceived Ease of Use) and perceived usefulness (Perceived Usefulness) [8].

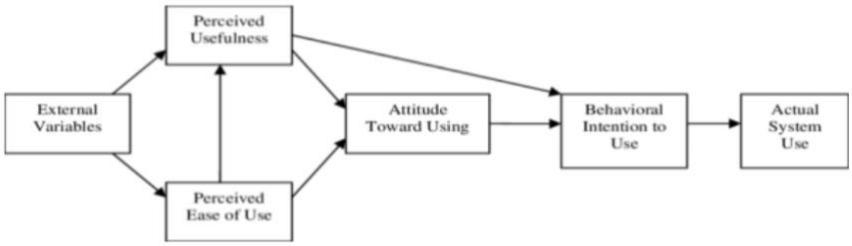

Fig. 1: Technology Acceptance Model (TAM) [9]

Understanding user satisfaction through TAM will provide a comprehensive picture of how DANA is received and used by the community. This, in turn, can help DANA improve its services and provide a more optimal experience for its users. It is hoped that this research can provide a valuable contribution to the development of the DANA application and, more broadly, to the advancement of financial technology in Indonesia. Based on the background above, the author took the title "Analysis of User Satisfaction with the DANA Application Using the Technology Acceptance Model (TAM) method".

2. Research methods

2.1. Research Stages

The research stages carried out in this research were descriptive and statistical research stages with the aim that this research was carried out in a structured, systematic and accurate manner with the characteristics of the population [10]. This research uses quantitative methods, where data is collected through questionnaires. This questionnaire contains statements that must be filled in by respondents. The data collected is in the form of quantitative data, namely data in the form of numbers or values [11]. The questionnaire used in this research was designed based on the TAM (Technology Acceptance Model) instrument to measure aspects that influence customer satisfaction with the DANA application [1].

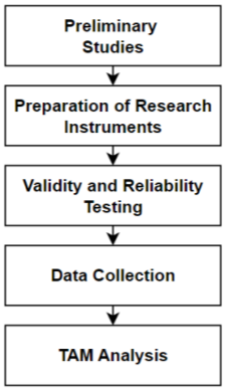

Fig. 2: Research Stages [12]

1. Preliminary Studies
   This research was carried out in 5 stages, starting with a preliminary study. At this stage the aim is to find, study and understand various references related to the research subject [13]. These references can include books, scientific journals, and previous research [12].
2. Preparation of Research Instruments
   After completing the preliminary study, this research continued with the stage of preparing research instruments. At this stage, the researcher determines the instruments that will be used in the questionnaire, namely by using the Technology Acceptance Model (TAM) approach. This research instrument consists of 14 indicators in five TAM variables, namely the variables Ease of Usefulness (Perceived Usefulness), Ease of Use (Perceived Ease of Use), Attitude Toward Using, Intensity of Use Behavior (Behavior Intention to Use) and User Usage. (Actual System Use) [11].
3. Validity and Reliability Testing
   The third stage of this research is the validity and reliability testing stage. This stage is carried out to ensure that the research instruments that have been prepared in the previous stage are valid and reliable. Validity testing is used to measure the level of validity and feasibility of research questionnaire instruments. Reliability testing in this study aims to measure the level of reliability of the instruments in the research questionnaire. In general, the concept of reliability states that research instruments must be trustworthy. There are two types of reliability in general, namely external reliability and internal reliability [14].
4. Data Collection
   A technique used to explain or analyze the results of certain research, but is not intended to draw general conclusions [15]. After completing the validity and reliability testing phase, this research continued with the data collection phase. Data was obtained from the results of distributing questionnaires to DANA application users which had been prepared in the previous stage. Respondents' assessments used a Likert scale, where value (1) was strongly disagree, value (2) was disagree, value (3) was neutral, value (4) was agree, and value (5) was strongly agree.
5. TAM Analysis
   After completing the data collection stage, this research continued with the TAM analysis stage. At this stage, the data that has been collected in the previous stage will be analyzed using the Technology Acceptance Model (TAM). The aim of the TAM analysis is to

find the level of user satisfaction with the DANA application. It is hoped that the results of this analysis will provide a clear picture of the factors that influence user satisfaction with the DANA application.

2.2. Data Analysis Method

The TAM analysis technique uses descriptive analysis techniques, namely:

1. 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.
   $$\sum SK = Skor\ Maks\ I \times nI \times nR \quad (1)$$
   Information:
   $\sum SK$: Number of Criteria Scores
   $Skor\ Maks\ I$: Highest score for each question indicator
   nI : Number of question indicators
   nR : Number of respondents
2. Determining the total score (SH)
   The total score is the total result of data collection that has been carried out and is symbolized by $\sum SH$.
3. Determining the percentage size (P)
   The percentage size is determined by the criteria score ($\sum SK$) and the total score from the data collection results ($\sum SH$). The formula used to determine the percentage size is Formula 2.
   $$P = \frac{\sum SH \text{ X } 100\%}{\sum SK} \quad (2)$$
   Information:
   P : Percentage of respondents' answers
   $\sum SK$: Criterion score
   $\sum SH$: Data collection total score
4. Specifies the range of results
   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. The range of results used is in Table 1.

Table 1: Respondent Answer Categories

Percentage (P)	Answer Categories
0 – 30 %	Strongly Disagree
31 – 40 %	Don't agree
41 – 65 %	Neutral
66 – 80 %	Agree
81 – 100 %	Strongly agree

3. Results and Discussion

3.1. Research Instrument

This research uses indicators from the Technology Acceptance Model (TAM) to develop a research instrument. This instrument consists of 15 questions presented in a questionnaire. Table 2 shows the research instruments used, which contain TAM indicators that have been adapted to the research object. This research instrument uses an online questionnaire created with Google Form to collect data. The questionnaire contains questions about the respondent's personal data, which will be used to map the respondent's demographic characteristics. The data obtained from the questionnaire will then be analyzed using the TAM method. Testing research instruments uses validity and reliability tests.

Table 2: Research Instrument

Variable	Code	Indicator
Perceived Usefulness	PU1	I feel that the DANA application helps me in carrying out transaction activities
	PU2	I feel the DANA application makes my life easier
	PU3	I feel the DANA application saves me time in completing financial tasks
Perceived Ease Of Use	PEOU1	I find it easy to use the DANA application
	PEOU2	I can easily find the features I need in the DANA application
	PEOU3	DANA customer service is easy to access and helpful
Attitude Toward Using	ATU1	I feel that the DANA application is useful for me
	ATU2	I feel happy using the DANA application
	ATU3	I feel comfortable and safe using the DANA application to carry out financial transactions
Behavior Intention To Use	BITU1	I intend to continue using the DANA application in the future
	BITU2	I will use the DANA application for all my financial transaction needs
	BITU3	I will recommend the DANA application to my friends and family
Actual System Use	AU1	I often use the DANA application to make daily payments I use the DANA application to transfer money
	AU2	I am satisfied with my overall experience using the DANA application.
	AU3	

3.2. Validity Test Results

The validity of this research instrument was tested using Excel tools. Testing is carried out by calculating the correlation between the value of each question in the instrument and the total value of the instrument for a variable. The total value of instruments with the same variables is calculated first before the validity test is carried out. If the standard value of the correlation coefficient is greater than or equal to 0.05, then the question is considered valid. The results of the validity test of this research are presented in Table 3.

Table 3: Validity Test Results

Variable	Correlation	R Table	Information
PU1	0.784	0.279	Valid
PU2	0.775	0.279	Valid
PU3	0.817	0.279	Valid
PEOU1	0.576	0.279	Valid
PEOU2	0.584	0.279	Valid
PEOU3	0.673	0.279	Valid
ATU1	0.858	0.279	Valid
ATU2	0.843	0.279	Valid
ATU3	0.783	0.279	Valid
BITU1	0.821	0.279	Valid
BITU2	0.850	0.279	Valid
BITU3	0.801	0.279	Valid
AU1	0.828	0.279	Valid
AU2	0.819	0.279	Valid
AU3	0.844	0.279	Valid

3.3. Reliability Test Results

This research tests the reliability of the instrument to ensure its reliability. Testing was carried out using Excel tools and multiple regression methods. The Cronbach Alpha value is used to determine the level of reliability. A Cronbach Alpha value of 0.60 or more indicates that the research instrument is reliable. The results of the reliability test are presented in Table 4. Based on this table, all TAM variables in this study have a Cronbach Alpha value of more than 0.70. This shows that all the variables of this research can be said to be reliable or reliable.

Table 4: Reliability Test Results

TESTING CRITERIA		
Reference Value	**Cronbach's Alpha value**	**Information**
0.70	0.953	Reliable

3.4. TAM Research Description

This research data was obtained after distributing a research questionnaire for DANA users to students at Universitas Trunojoyo Madura. The data results from distributing research questionnaires obtained a total of 50 respondents. The demographic information obtained shows that there are more female respondents than male respondents, with a percentage value of 74% for women and 26% for men. Demographic information on the age of respondents shows that the age of 18 - 24 years is the dominant age in the data with a percentage of 96%, the lowest respondents are aged <18 years, namely 4%.

3.5. TAM Analysis

Table 5: Descriptive Statistics Results

Variable	nI	$\sum SK$	$\sum SH$	P
PU	15	750	588	78.4%
PEOU	15	750	599	79.87%
ATU	15	750	577	76.93%
BITU	15	750	542	72.27%
AU	15	750	544	72.53%

The following is an example of manual calculation shown in Table 6:

$\sum SK = Skor\ Maks\ I \times nI \times nR$

$\sum SK$ = 5 x 3 x 50

$\sum SK$ = 750

Total Score $\sum SH = 588$

The percentage (P) of respondents' answers:

P = x 100%$\frac{\sum \text{SH}}{\sum \text{SK}}$

P = x 100%$\frac{588}{750}$

P = 78.4%

From the results of respondents' answers based on variables from PU, it was 78.4%, this value is included in the agree category. The PEOU variable has a percentage value of 79.87%, the ATU variable has a percentage value of 76.93%, then the variable from BITU has a percentage value of 72.27%, and finally the AU variable has a percentage value of 72.53%. So the respondent's answer as a whole variable is included in the agree category. From the results of the descriptive statistical analysis data, it can be stated that the DANA application has met satisfaction standards.

4. Conclusion

Based on the results of research using the TAM model, data obtained from 50 respondents showed demographic information related to gender and age. The gender of female respondents is greater than that of male respondents, with a percentage value of 74% female and 26% male, where the age range of 18 - 24 years dominates with a percentage of 96%, while the lowest number of respondents is <18 years old, namely 4%. Based on analysis of questionnaire data that has been validated and reliable using the TAM method, of the 50 respondents, 78.4% felt the ease and usefulness of the DANA application, 79.87% expressed satisfaction with the ease of use of the DANA application, then the attitude towards using the respondents reached 76.93%, then 72.27% behavioral intensity of using the DANA application, and finally usage of the DANA application reached 72.53%. It can be concluded that students at Universitas Trunojoyo Madura, expressed satisfaction with using the DANA application.

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