User Satisfaction Analysis of Visiting Jogja Application using *Technology Acceptance Model* (TAM) towards Special Region of Yogyakarta's Increase of Tourist

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Abstract

Technology has developed rapidly in this era, with one example being the android phone that many people use. This development is being utilized by many parties in order to increase service quality. The Department of Tourism of Yogyakarta is one of them, through the launch of the application "Visiting Jogja" as a media to help tourists visiting Jogja. The application's user satisfaction will affect its users. Will the app's usage be impactful to the increase in tourism in the Special Region of Yogyakarta? This research aims to analyze the user satisfaction's level and the increase of tourism in the Special Region of Yogyakarta. The research method is the Technology Acceptance Model (TAM). This method seeks to explain the user's acceptance rate in the technology being used. Based on psychological theories to explain the behavior of technology users based on trust, user behavior relations, attitude, and intention. The data gathering method is through questionnaires and interviews. The questionnaires will be sent to 100 users. The data gathered will then be processed through the SPSS software. The research has the Technology Readiness Rate (TKT) of 1. This is because the research will yield a conceptual model to increase the amount of tourists in the Special Region of Yogyakarta. The research findings will be published on the SINTA Journal.

Keywords: Increase of Tourism, Technology Acceptance Model, Visiting Jogja Application

1.   Introduction

Modern technology has advanced quickly in many areas. One of the main effects of the large number of Android phone users is communication. According to Statista data (Akraman, Candiwan, & Priyadi, 2018), there were around 82.140.000 android phone users worldwide in January 2016. The figure demonstrates Android's explosive growth in Indonesia.

A variety of industries, including business, tourism, and education, are making use of Android's growing development. The country's and its region's economies today benefit greatly from the tourism industry. This is so that tourism, through the sale of locally made mementos, can boost the local economy and create job possibilities for the community. Through android-based applications that facilitate travelers' access to tourist sites, technology is used in the tourism industry. The Special Region of Yogyakarta (SRY) Department of Tourism put this into action by releasing the "Visiting Jogja" application. This app has a lot of information, including tourist spots in SRY, the most recent news on SRY travel, suggestions for the closest restaurants and lodging, and a map that shows the way to the location. In addition, the Visiting Jogja app

facilitates online bookings for travel tickets, which saves consumers time and effort. Additionally, there are auxiliary features like those under Culinary, Souvenirs, and Events, along with social media (YouTube and Instagram), details on QRIS, Covid-19, and weather forecasts (Prastiyanti, et al., 2019). Utilizing this technology represents a significant advancement for Yogyakarta's tourism industry. The author's goal in this study is to ascertain whether user satisfaction with the Technology Acceptance methodology, or TAM, analytical methodology accounts for the rise in Yogyakarta tourism. Five primary factors comprise this analysis model: attitudes toward usage, perceived ease of use, perceived advantages, intensity of use, and actual use (Stefany, Wibowo, & Wiguna, 2021).

The "Visiting Jogja" application is used to disseminate questionnaires to respondents, or users. The data is gathered and analyzed using SPSS software, and simple random sampling is the sample method employed in this study.

2.   Research Method

Research on Indonesian user satisfaction and the Technology Acceptance Model (TAM) is available. Though there hasn't been much TAM research on users' happiness with the Visiting Jogja app, the following describes a prior study:

Stefany, Wibowo, and Wiguna's (2021) study used the technology acceptance model (TAM) approach to analyze user satisfaction with the Brebes tourist application. The study's findings indicate that the Brebes tourism application is well-liked by the local population (tourists) and that, as an android-based information system, it can assist visitors in finding tours and other tourist attractions and serve as a vehicle for promoting Brebes tourism.

In their 2020 study, Hartanti and Budihartanti used the TAM method to analyze user satisfaction with the Gojek application's implementation. According to the study's findings, user convenience, usefulness, and interest in using behavior have a big impact on how the Go-jek application's customer satisfaction system is analyzed.

The TAM method is used in Nurhalima and Hadisaputro's (2022) study to analyze user satisfaction with the Traveloka application. The study's findings indicate that there is a strong positive one-way relationship between perceived behavioral interest in using technology and perceived user convenience as well as perceived usefulness. Interest in using technology will rise if its utility and ease of use improve.

The impact of the TAM principles on customer satisfaction with the XYZ online motorcycle-taxi application was studied by Subowo, Moh Hadi (2020). The study's findings indicate a strong positive correlation between customer satisfaction and the variables (reliability, flexibility, quality, privacy efficiency, ease of navigation, and security). Perceived utility,

perceived convenience, customer satisfaction, and consumer attitudes toward boosting tourism in the SRY are the variables that make up the TAM method, which is used in this study.

Technology Acceptance Model (TAM)

According to Asri and Dede (in Hartanti, et al., 2020), exogenous variables in TAM suggest portal design and user abilities when researchers have both endogenous and exogenous variables. Perceived ease of use, attitudes toward use, behavioral intention to use, and proper system use are examples of endogenous variables in the form of basic variables in TAM.

The goal of Davis's (1989) Technology Acceptance Model (TAM) is to explain why users accept the technology they use. This approach is based on psychological theory, which explains how information technology users behave in relation to each other, on the basis of trust, attitudes, and intentions. Additionally, the TAM approach offers a number of benefits for handling data derived from respondent answers that comprise a variety of variables, such as: a. Interface design, b. Esystem use (perceived use), c. user attitude toward the information system (attitude toward using), d. user behavior on the system (behavioral intention to use), and e. actual use behavior in the system under real conditions. These factors are used to gauge how satisfied customers are with the technology they are using (Putra and Prehanto, 2021).

The perceived usefulness factor (usefulness) is the first of the two main components in TAM. The perception of technology's usability, on the other hand, is the second factor (Davis in Latief and Nur, 2019). As a result, the TAM model can clarify how user attitudes toward an application are influenced by their perceptions. This model more eloquently demonstrates how utility and usability of an application affect acceptance of its use (Latief and Nur, 2019).

User Satisfaction

User satisfaction is an important factor in the application itself. 11 factors revealed by Parasuraman et al., (in Subowo, 2020) are able to influence user satisfaction, which are as follows:

1. Reliability, or the accuracy of product availability services, product distribution, as well as information and payment processes.
2. Responsiveness, specifically information that provides solutions when users experience problems or need help.
3. Access, as in ease of finding information without restrictions on distance and time.
4. Flexibility, or the ability to provide various service variants.
5. Ease of navigation, of the customers in operating the application,
6. Efficiency, so the information contained in the application is the user's needs.
7. Trust, or the site's clarity in providing services to customers.

8. Security, being a guarantee of user accounts where information is not easily leaked.
9. Price Information, which is the estimated fees of supporting features that users want to know (shipping costs, cumulative prices, product prices)
10. Site Aesthetics, visualization of application design that is able to attract customer interest seen from the display.
11. Customization, which is an extra service according to customer tastes (Subowo, Moh Hadi, 2020).

3.   Results and Discussions

Based on the results of interviews, researchers obtained data on the number of Jogja tourists from the D.I Yogyakarta Tourism Office. From this data, it is known that in 2021, the number of visitors in Yogyakarta City was 459,262 visitors, Sleman Regency 1,728,418 visitors, Bantul Regency 2,819,748 visitors, Kulon Progo Regency 909,107 visitors, and Gunungkidul Regency 1,937,635 visitors. The total number of visitors in 2021 was 7,854,170 visitors. Meanwhile, in 2022, there will be a significant increase where the number of Jogja tourists reaches 19,275,989, in Yogyakarta City 2,720,867 visitors, Sleman Regency 6,170,655 visitors, Bantul Regency 5,714,382 visitors, Kulon Progo Regency 1,563,313 visitors, and Gunungkidul Regency amounted to 3,106,772 visitors. Based on this data, it is known that there is an increase of 145%.

The TAM analysis and questionnaire method results are used to structure the discussion. One hundred participants in the research were selected from the population of individuals who had transacted through the Visiting Jogja application. The five variables—perceived usefulness, perceived ease of use, attitude toward using, behavioral intention, and actual usage—are represented by the fourteen questions.

Profile of Respondent

Table 2. Respondent characteristics

Sex	Amount	Percentage
Women	42	42%
Men	48	48%
Total	**100**	**100%**

Occupation	Amount	Percentage
Unemployed	23	23%
Employee	14	14%
University Student	10	10%
Entrepreneur	10	10%
Civil Servant	8	8%
Others	35	35%
Total	**100**	**100%**

It is known that the number of women is 42 people or 42%, while the number of men is 48 people or 48%. It can also be concluded that the users of the Visiting Jogja application are predominantly men. It is known that the majority of respondents have not worked (including being housewives), followed by the status of employee (14%), student (10%), entrepreneur (10%), civil servant (8%), and others (35%).

Validity and Reliability Test

Validity Test

The validity test is intended to measure whether the questionnaire being used is valid or not. A questionnaire is declared valid if the questions included are able to reveal the study being measured. The questions in the questionnaire were tested for validity using SPSS, where the questionnaire was declared valid if it met rCount > rTable with a significance level α of 5% and n = 100, where n was the number of research samples.

Table 4. Validity test

No	Construct	rCount	rTable	Status
1	PU1	0,319	0.195	Valid
2	PU2	0,336	0.195	Valid
3	PU3	0,391	0.195	Valid
4	PEOU1	0,465	0.195	Valid
5	PEOU2	0,550	0.195	Valid
6	PEOU3	0,406	0.195	Valid
7	AT1	0,257	0.195	Valid
8	AT2	0,317	0.195	Valid
9	AT3	0,465	0.195	Valid
10	BI1	0,474	0.195	Valid
11	BI2	0,300	0.195	Valid
12	BI3	0,202	0.195	Valid
13	AU1	0,116	0.195	Valid
14	AU2	0,129	0.195	Valid

It is known that rCount > rTable so that the data description is declared valid.

Reliability Test

Reliability testing is intended to measure whether or not a questionnaire is reliable. The questionnaire is declared reliable if the Cronbach's alpha value of the questions in the questionnaire is above 0.6.

Table 5. Reliability test

Case Processing Summary			
		N	**%**
Cases	Valid	100	100,0
	Excluded[a]	0	,0
	Total	100	100,0

Reliability Statistics	
Cronbach's Alpha	**N of Items**
,640	14

Based on the data above, it is known that the Cronbach's alpha value is 0.640 > 0.6 so the questionnaire is declared reliable.

Classic Assumption Test

Normality Test

The normality test is intended to test the normality of data distribution. The normality of the data is fulfilled if the Kolmogorov Smirnov value has a significance level of > 5%, then the data is said to be normal. Conversely, if the Kolmogorov Smirnov value is <5% then the data is not normal.

Table 6. Normality test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		100
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1.40791068
Most Extreme	Absolute	.060
Differences	Positive	.041
	Negative	-.060
Test Statistic		,048
Asymp. Sig. (2-tailed)		,200[c,d]

Based on the data in the table above, it is known that the significance value is 0.200 > 0.05 so the data is declared normally distributed.

Multi-Colinearity Test

The multicollinearity test is intended to identify whether the relationship between independent variables experiences multi correlation problems, where multi correlation occurs when there is very low or very high correlation. The condition for free multi correlation is if the IF value is < 10 and the tolerance value is > 0.1

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Table 7. Multi-colinearity test

	Coefficients^a		
Model		**Collinearity Statistics**	
		Tolerance	**VIF**
1	(Constant)		
	PUI	.867	1.153
	PEOU	.829	1.206
	BI	.825	1.212
	AU	.978	1.023

Based on the data above, it is known that the tolerance value is > 0.1 and VIF < 10, so the independent variables in this study are free of multicollinearity.

Heteroscedasticity Test

The heteroscedasticity test identifies situations when confounding factors are not constant. This condition is tested by measuring the Sig value. If the sig value < 0.05 then the variant has heteroscedasticity, conversely if sig > 0.05 then the variant does not have heteroscedasticity.

Table 8. Heteroscedasticity test

	Coefficients^a					
		Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
Model		**B**	**Std. Error**	**Beta**		
1	(Constant)	5.320	2.276		2.337	.022
	PUI	-.055	.147	-.043	-.372	.710
	PEOU	-.202	.158	-.143	-1.282	.203
	BI	.180	.138	.143	1.310	.193
	AU	.120	.143	.103	.840	.403

Based on this data, it is known that the significance value of the independent variable is above 0.05, which means that the data does not have problems with heteroscedasticity.

Double Correlation Analysis (R)

Double correlation analysis is intended to assess the level of relationship between variables and the dependent variable. This relationship is measured on a scale of 0 – 1. The closer R is to 1, the stronger the relationship is considered.

Table 9. Double correlation analysis

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.187[a]	.035	-.006	2.046

Based on the results of the table, it is known that the R value = 0.187, which indicates that the independent variable has a strong influence on the dependent variable.

Hypothetical Test

Partial Influence Significance Test (T Test)

The Partial Influence Significance Test is intended to see the influence of each independent variable on the dependent variable partially. The test decision is if it meets the sig value < α with α, namely 0.05 or t-count > t-table where t-table = (α /1; n-k-1).

It is known that n = 100 and k is the number of independent variables = 4, then t-table = (0.025; 95) is 1.985.

Table 10. Partial influence significance test

Coefficients[a]					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model	B	Std. Error	Beta		
1 (Constant)	.651	1.668		.390	.697
PUI	.411	.096	.380	4.278	.000
PEOU	.330	.108	.271	3.046	.003
BI	.133	.098	.123	1.349	.180
AU	.061	.073	.071	.840	.403

1. H1: PU produces a significance value of 0.000 < 0.05 and a t-count value of 4.278 < 1.985, so that PU partially has effect on Attitude Toward Using.

2. H2: PEOU produces a significance value of 0.003 < 0.05 and a t-count value of 3.406 < 1.985, so that PU partially has effect on Attitude Toward Using.

3. H3: AT produces a significance value of 0.180 > 0.05 and a t-count value of 1.349 < 1.985, so that PU partially has no effect on Attitude Toward Using.

4. H4: BI produces a significance value of 0.403 > 0.05 and a t-count value of 0.840 < 1.985, so that PU partially has no effect on Attitude Toward Using.

Simultaneous Influence Significance Test (F Test)

The Simultaneous Influence Significance Test is intended to identify the level of significance of the influence of the independent variables together. The test decision is if it meets sig < α, with α = 0.05 or f-count > f-table. F-table value with a: 5% and degrees of freedom (df) = n-k-1. Then (df) = 100 – 4 – 1 = 95, so f-table = 2.46.

Table 11. Simultaneous influence significance test

ANOVAª					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 Regression	107.521	4	26.880	13.013	.000ᵇ
Residual	196.239	95	2.066		
Total	303.760	99			

Hypothetical testing of the H-5 F Test (simultaneous), the significance value for the simultaneous influence of independent variables on the dependent variable is 0.000 > 0.05 and f-count 013.013 > 2.46, so it is concluded that there is influence.

4.   Conclusions

Several conclusions can be made based on the findings of the TAM method analysis conducted to examine user satisfaction with the "Visiting Jogja" application in relation to the rise in tourists in the SRY:

1. Every test that is conducted has an accurate level that is both valid and dependable. It was reported that the questionnaire data was heteroscedasticity-free, normally distributed, and did not exhibit multicollinearity.

2. The TAM test results are separated into two categories, namely the Simultaneous Effect Significance Test (F Test) and the Partial Effect Significance Test (T Test). According to both, there is a relationship between the independent and dependent variables. This is determined by testing, namely testing the level of customer satisfaction after using the Jogja visiting application. using the "Visiting Jogja" application, with "Attitude Towards Using" as the dependent variable. With the following findings, this study determined a number of factors that contributed to the lack of impact of increased tourism by extensively examining unanswered survey questions.

3. Based on the observation results, it is known that aspects of sustainability in using the "Visiting Jogja" application going forward (BI3), and frequency of use (AU1) are still lacking.

Researchers formulate points of recommendation including:

1. Regular application promotion and innovation are required to address the issue of users not being interested in using the "Visiting Jogja" application in the future (BI3). This will pique users' interest in using the application going forward.
2. The "Visiting Jogja" application (AT2) has to be updated with new service features updates in order so that users are eager to continue using the application.
3. To address concerns about the speed and frequency of use of the Visitting Jogja Application, further research should be conducted to understand the factors influencing and developing the Visitting Jogja Application.

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