Evaluation Of *Digital Banking* Application Adoption Based On The Technology Acceptance Model (Tam)

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Abstract.

In this digital era, digital banking has become an integral part of the banking sector. Users decisions to adopt and use digital banking services are significantly influenced by their perceptions and attitudes toward this technology. This research aims to analyze the factors that influence users' intention to use digital banking, utilizing the Technology Acceptance Model (TAM) as the theoretical framework. The study involves 100 respondents randomly selected through the method of random sampling. Data will be collected via an online questionnaire comprising TAM variables, including perceived usefulness and perceived ease of use. The data analysis will be conducted using the Partial Least Square Structural Equation Modeling (PLS-SEM) statistical method. The findings of this research are expected to provide a deeper insight into the factors affecting the adoption of digital banking and can serve as a guide for banks and financial service providers in enhancing the acceptance of digital banking technology among users.

Keywords: Digital Banking , Technology Acceptance Model (TAM), Perceived usefulness, Perceived ease of use and Intention to Use.

I.   INTRODUCTION

digital technology has significantly changed the banking landscape and financial transactions in Indonesia, including in Yogyakarta. The increasingly rapid growth of *digital transactions* is in line with the surge in the *e-commerce sector* , creating a positive trend that is worth paying attention to.In understanding application adoption *In g ital banking* , we can refer to the Technology Acceptance Theory (*Technology Acceptance Model*) developed by Davis (1989) . This theory has been widely used in research to explain user behavior towards new technologies, including in the context of using *digital banking applications* . According to Davis (19 89), TAM emphasizes that two main factors, namely *Perceived Ease of Use* and *Perceived Usefulness* , influence users' intentions and behavior in accepting and using technology. TAM has been widely used in various technological contexts, including in research on the adoption of digital banking applications. The advent of digital banking technology has changed the traditional way banking operates, and understanding the factors that influence the adoption of digital banking applications is key to improving banking services. In this research, the use of TAM will provide a comprehensive view of how factors such as ease of use and perceived benefits by users influence the intentions and behavior of bank customers in Yogyakarta in adopting digital banking applications. Thus, TAM becomes an important analytical tool in explaining and evaluating the adoption of digital banking applications in the city of Yogyakarta.

II.   METHODS

In this research, a quantitative research approach is used which aims to measure the relationship between variables using quantitative data. This approach was chosen because it allows more objective and statistical analysis to test the hypotheses that have been formulated. With a quantitative approach, this research will provide a deeper understanding of the extent to which variables such as perceived ease of use, perceived usefulness, and perceived trust influence customers' intentions to adopt *digital banking services* in Yogyakarta.The sampling technique used in this research is the *random sampling method* . Through this approach, every active bank customer who lives in Yogyakarta City has an equal opportunity to be part of the research sample. The process begins with identifying and creating a population list that includes all bank

customers who meet the criteria in the research area.In determining the number of samples, Ghozali (2017) recommends that testing using structural equation analysis (SEM) should require a minimum of 100 to a maximum of 200 samples to meet the criteria required for SEM analysis through the AMOS version 24.0 program. Thus, in this study 100 respondents were randomly selected using the lottery method, ensuring that the sample reflected diverse characteristics such as age, gender, education level and level of experience using *digital banking services* in the city of Yogyakarta. The *random sampling* approach was chosen to ensure that the samples taken can provide an objective representation of a larger population, so that the analysis carried out can produce results that are more relevant and meaningful in the context of this research. The data was then analyzed using descriptive analysis and statistical analysis using the Structural Equation Model (SEM) approach. The software used for data processing is AMOS 24.

III.   RESULT AND DISCUSSION

The following explains the descriptive data of respondents obtained from distributing questionnaires as seen in Table 1:

Table 1. Descriptive analysis of respondents

Information	N	%
Gender _		
Man _	41	41.0 %
Woman	59	59.0 %
Age		
not enough from 20 Years	24	24.0
20 - 30 Years	64	64.0
More from 30 Years	12	12.0
Last education		
School Intermediate and Less	24	24.0 %
Diploma	6	6.0 %
Bachelor degree)	59	59.0 %
Master (S2)	8	8.0 %
Other	3	3.0 %
Long Time Using the Internet		
1-5 Years	1	1.0 %
6-10 Years	28	28.0 %
Less than 1 year un	1	1.0 %
More from 10 years un	69	69.0 %
Do not use	1	1.0 %
Average Internet Access in a Day		
Less than 1 Hour	10	10.0 %
1-2 Hours	13	13.0 %
3-4 Hours	21	21.0 %
More from 4 Hours	55	55.0 %
Do not use	1	1.0 %

SEM ANALYSIS
### Confirmatory Analysis

Table 2. Validity and Reliability Test

Variable	Indicator	Factor Loading1	Factor Loading2	Construct Reliability	Variance Extracted
Convenience Use	PEOU 1	0.816	0.665856	0.827	0.876
	PEOU 2	0.844	0.712336		
	PEOU 3	0.782	0.611524		
	PEOU 4	0.891	0.793881		
Perception Utility	PU 1	0.819	0.670761	0.5 86 _	0.887
	PU 2	0.789	0.622521		
	PU 3	0.574	0.329476		
	PU 4	0.776	0.602176		

Perception Trust	PT1	0.751	0.564001	1,031	0.909
	PT2	0.869	0.755161		
	PT3	0.762	0.580644		
Intention Use	IT1	0.845	0.714025	0.947	0.909
	IT2	0.834	0.695556		
	IT3	0.398	0.158404		

From Table 2, it can be concluded that all indicators in this study have a loading factor value greater than 0.5, indicating that all indicators are valid. Apart from that, Table 2 also shows that the construct reliability of all variables has reached a value of ≥ 0.7. Furthermore, the variance extracted value of each variable in this research has also reached a value of ≥ 0.5. So, the research can be tested to the next stage.

Structural Equations

The following is the structural equation model in this research, namely:
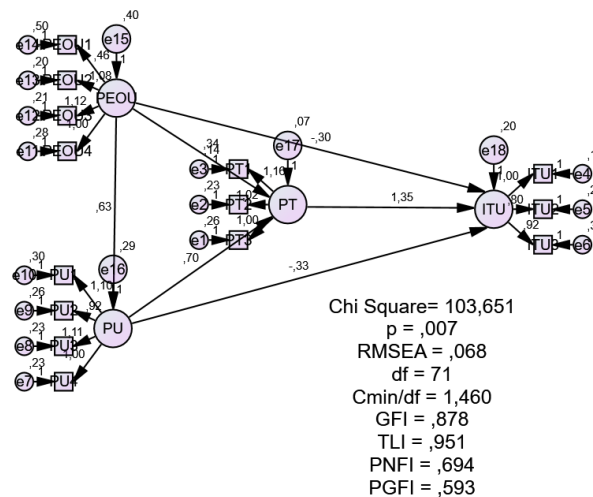
Fig 2. Structural Equation Model

Selecting Input Matrix and Model Estimation

The model development in this research is based on the concept of data analysis where the research model consists of 1 independent (exogenous) variable, namely entrepreneurial orientation and 2 dependent (endogenous) variables, namely new product development performance and business model innovation.

Data Normality

Based on Table 3, it shows that the *multivariate CR value* is -1.368, of which the values obtained are + 2.58 and – 2.58. So the data in this study can be said to be normally distributed.

Table 3. Data Normality Test

Variables	min	max	skew	cr	kurtosis	cr
PEOU1	3,000	5,000	-,873	-3,566	-,753	-1,536
PEOU2	2,000	5,000	-,350	-1,430	-,867	-1,769
PEOU3	1,000	5,000	-,589	-2,406	,241	,491
PEOU4	1,000	5,000	-,535	-2,184	,287	,586
PU1	2,000	5,000	-,728	-2,973	-,216	-,441
PU2	1,000	5,000	-,834	-3,405	1,469	2,999
PU3	1,000	5,000	-,769	-3,139	,208	,426
PU4	2,000	5,000	-,298	-1,215	-,980	-2,000
IT3	2,000	5,000	-,735	-3,001	-,051	-,105
IT2	2,000	5,000	-,799	-3,262	-,092	-,188
IT1	2,000	5,000	-,918	-3,747	,006	,012
PT1	2,000	5,000	-,342	-1,394	-,488	-,997
PT2	1,000	5,000	-,535	-2,183	,107	,219
PT3	2,000	5,000	-,313	-1,279	-,552	-1.127
Multivariate					-4,258	-1,006

Outliers

From Table 4, it can be seen that the highest Mahalanobis d Square value is 29.984, which does not exceed the c-square value of 36.123. Thus, it can be concluded that there is no data that is an *outlier* based on these results.

Table 4. Outliers Test

Observation number	Mahalanobis d-squared	p1	p2
15	34,700	,002	,150
30	28,031	,014	,412
10	24,353	,042	,789
60	23,685	,050	,742
19	22,271	,073	,864
5	21,470	,090	,897
80	21,036	,101	,887
73	20,966	,103	,816
55	19,142	,160	,985
49	18,181	,199	,997
16	17,975	,208	,997
4	17,502	,230	,998
89	17,358	,238	,998
91	17,317	,240	,995
100	17,271	,242	,991
34	17,239	,244	,984
28	16,995	,256	,985
67	16,845	,265	,982

Goodness Of Fit Test

Based on Table 5, *the goodness of fit test* on the CFA model shows that there is only one index, namely GFI, which is *marginal fit* . Meanwhile, the GOF index, namely RMSEA, CMIN/DF, TLI, PNFI, and PGFI is a *good fit category* . Therefore, the GOF model in this study was declared *fit* so that it could be continued to the next stage.

Table 5. Goodness of Fit Test Results

Fit Index	Goodness of Fit	Criteria	Cut-off value	Information
Absolute Fit	RMSEA	≤ 0.08	0.0 68	*Good Fit*
	CMIN/DF	≤ 2.00	1, 456	*Good Fit*
Incremental Fit	TLI	≥ 0.90	0.9 51	*Good Fit*
	GFI	≥ 0.90	0.8 78	*Marginal Fit*
Parsimony Fit	PGFI	≥ 0.60	0.642	*Good Fit*
	PNFI	≥ 0.60	0.673	*Good Fit*

Hypothesis testing

Hypothesis testing in this research refers to Ghozali (2017) who explains that a positive relationship between variables and other variables can be known if the *critical ratio* (CR) number is > 1.96 and the p value is < 0.05. The results of hypothesis testing are presented in the following table, namely:

Table 7. Hypothesis Testing

Hypothesis		Estimate	S.E	CR	P	Label
1	*Convenience Use* → Intention Use	,428	,108	3,957	***	Positive Significant
2	*Convenience Use* → *Perception Trust*	,329	,124	2,649	,008	Positive Significant
3	*Convenience Use* → *Perception Utility*	,440	,125	3,504	***	Positive Significant
4	*Perception Utility* → *Perception Trust*	,681	,166	4,098	***	Positive Significant
5	*Perception Utility* → *Intention Use*	,559	,161	3,473	***	Positive Significant
6	*Perception Trust* → Intention Use	,427	,130	3,282	,001	Positive Significant

1.   The effect of ease of use on intention to use

Based on statistical results, it was found that the influence of usability had a positive and significant effect on intention to use. This result is in line with previous research where the greater the ease of use felt

by respondents who use *digital banking applications* .An easy and intuitive user experience tends to increase user interest in a service. If digital banking is easy to use, it will likely encourage people to use it more often. In addition, a good and easy user experience will form a positive perception that can influence people's perception of the banking brand as a whole. This hypothesis, if proven, could provide important insights for the banking industry to increase the adoption and use of their digital services by focusing on ease of use as a key element in their development strategy.

2. *The influence of ease of use* on perceptions of trust

Based on statistical results, it was found that the effect of ease of use had a positive and significant effect on the perception of trust. This result is in line with previous research where the greater the ease of use felt by respondents who use *digital banking applications* . These results also indicate that the easier a digital banking platform is to use by users, the higher the level of trust that users have in that platform.Digital banking involves an intuitive interface, smooth transaction processes, and clear navigation for users. These factors can directly influence users' perceptions of how easily they can use the service. This hypothesis implies that the easier it is to use a digital banking platform, the higher the level of trust that users have in that platform. In developing digital banking platforms, focusing on developing broader and more integrated services can increase user trust. This hypothesis provides a strong basis for developing more effective strategies in increasing user trust in digital banking platforms. By understanding the relationship between ease of use and perceived trust, service providers can focus on specific aspects that can have a positive impact on users and their services.

3. *Ease of Use* on perceptions of trust

Based on statistical results, it was found that the effect of ease of use had a positive and significant effect on perceived usefulness. This result is in line with previous research where the greater the ease of use felt by respondents who use *digital banking applications* . This hypothesis shows that the easier it is to use a digital banking platform, the higher the user's perception of the kagesin (security, comfort and usability) of the platform. High ease of use can encourage more people to adopt digital banking services, especially for those who are initially hesitant or unfamiliar with the technology. In the context of an ever-changing financial industry, understanding the relationship between ease of use and perception of kagesin can be the key to success for digital banking service providers.

4. Influence of *Perception utility* to perception trust

Based on statistical results, it was found that the influence of perceived usefulness had a positive and significant effect on perceived trust. These results are in line with previous research which provided the same results. Trust in digital banking is related to users' confidence in the security, reliability and credibility of the service. This includes confidence in the protection of personal data, secure transactions and reliable service. This hypothesis implies that there is a strong relationship between ease of use and the level of trust in digital banking services. That is, the easier it is to use a service, the higher the likelihood that users will trust the service. Thus, the results of this hypothesis can provide a better understanding of how digital banking can continue to develop, taking into account the balance between ease of use and user trust.

5. The Influence *of Perceived Usefulness* on *Intention to Use*

Based on the statistical results, it was found that the influence of perceived usefulness had a positive and significant effect on the intention to use digital banking. These results are in line with previous research which provided the same results. Furthermore, the results of hypotenin indicate that if someone feels or has a positive perception of the usefulness of digital banking services, then they tend to have a greater intention to use the service. This indicates that if someone feels or has a positive perception of the usefulness of digital banking services, then they tend to have a greater intention to use the service. Intention to use digital banking services reflects a person's desire to actually use them in the future.

6. The Influence *of Perceived Trust* on Intention to Use

Based on the statistical results, it was found that the influence of perceived trust had a positive and significant effect on the intention to use digital banking. These results are in line with previous research which provided the same results. This hypothesis confirms that there is a strong correlation between trust and

intention to use digital banking. If trust increases, the intention to use the service will also increase significantly. If someone believes that digital banking is more convenient and efficient than conventional means, they may be more inclined to switch and use the service. This hypothesis provides a basis for directing efforts to build, increase, and maintain consumer trust in digital banking, which in turn will support broader adoption and use of the service.

IV. CONCLUSION

From this research, it can be concluded that the use of digital banking has a positive and significant influence on users' intention to use it. Apart from that, ease of use also has a positive and significant effect on trust and usability of digital banking. Furthermore, perceived usefulness has a positive and significant effect on users' trust and intention to use digital banking services.Furthermore, based on the results discussed in this research, research suggestions are given, namely that companies implementing digital banking are advised to carry out a more in-depth analysis of specific features in digital banking applications and how ease of use and perceived usefulness influence perceptions of trust and ultimately user intentions. to use it. It is recommended for future researchers to see how the social environment or reference group influences perceptions of trust in the use of digital banking. Research could consider the influence of recommendations from friends, family, or social trends on individuals' trust in digital banking platforms.

Future researchers are expected to conduct qualitative research, such as in-depth interviews or case studies, to gain deeper insight into how users actually interact with digital banking. This can reveal nuances and details that may not be apparent in surveys or quantitative research.Based on the results discussed in this research, it was found that the limitations of this research were limited by the sample size used. If the sample is too small, the results may not be considered representative of the larger population as a whole. Research conducted in a specific geographic area or on a specific demographic group may have limitations in generalizing the results to the broader population. Additionally, subjective measures such as perceived usefulness or perceived trustworthiness can be difficult to measure precisely. The measurement scale used may not take into account all relevant aspects. Intention to use digital banking measured in research may not fully reflect actual behavior. There may be discrepancies between intentions and actual actions.

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