



## Analysis Of The Influence Of System Quality, Perception Of Usability, And Perception Of Ease Of Use On User Satisfaction In BWS Mobile Banking With The Technology Acceptance Model (TAM) Approach

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### ABSTRACT

Mobile banking is very effective in conducting non-cash transactions, especially during the pandemic, which requires no direct contact to make transactions. So, with the current phenomenon and reality, banks, in particular, are flocking to launch mobile banking applications, including BWS mobile banking. This study aims to analyze the effect of system quality, perceived usefulness, and perceived ease of use on BWS Mobile Banking user satisfaction with the Technology Acceptance Model (TAM) approach. The method in this study uses quantitative methods, with primary data sources (where the data collection technique uses a questionnaire method via Google form) which are distributed through the WhatsApp group and secondary data (data from the PT Bank Woori Saudara website and the Woori Global Standard System (WGSS) database). Research data analysis using the Statistical Product and Service Solutions (SPSS) version 26.0 program. The results of this study can determine that the variables of System Quality, Perceived Usefulness, and Perceived Ease of Use have a positive effect on User Satisfaction. The results of the user satisfaction test show that the Perceived usefulness variable Because high Perceived usefulness tends to provide a positive experience to users; they will feel that using the application provides significant value or benefits because satisfaction can be influenced by the extent to which the application effectively meets user needs or goals. The test result of the lowest user satisfaction level is the system quality variable, where PT Bank Woori Saudara must improve system quality and user satisfaction because system quality must have a fast response time, be reliable, flexible, and have good security.

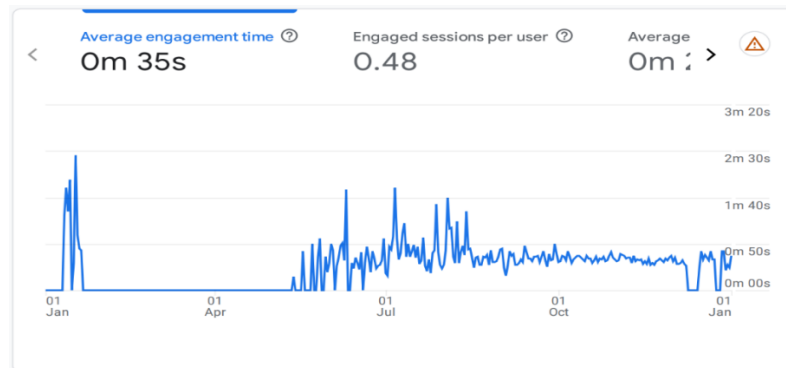
**Keywords:** System Quality, Perceived Usefulness, Perceived Ease of Use, Mobile Banking, User Satisfaction

### INTRODUCTION

Mobile banking has been very popular in recent years (Rahman et al., 2016), especially during the Covid-19 pandemic; mobile banking is very widely used by banking customers because it is practical and reliable for making financial and non-financial transactions such as checking balances, viewing mutations and others. Mobile banking is considered very effective in conducting non-cash transactions, especially during the pandemic period, which requires no direct contact to make transactions (Nguyen & Nguyen, 2023). So, with the current phenomenon and reality, banks, in particular, are flocking to launch mobile banking applications, including BWS mobile banking.

Responding to the current banking conditions, PT Bank Woori Saudara Indonesia Tbk must be ready to face digital disruption. As a bank that develops information technology in order to provide better services for all customers, it can be said that BWS is a fintech with a bank license (Wilis & Nurwulandari, 2020). BWS changed the scope of responsibility of the directorate of information technology to digital banking and information technology. With the new directorate and the expansion of the scope of responsibility, it is hoped that the development of digital banking products will be faster, on target, dynamic, and consumer-centric (Bank, 2019).

The BWS mobile banking application supports business transactions and customer banking, which presents a combination of BWS mobile banking and BWS internet banking (Huang et al., 2019). Attractive visual appearance, use of the database by carrying out user interface (UI) and user experience (UX), cardless cash withdrawals, account mutations for the last year, and log-in using fingerprints are the advantages of the BWS digital channel. BWS mobile banking is a new technology product, so it is necessary to study the process of adopting information technology systems by end users (end users) (Prayanthi et al., 2020). The adoption process will end with how satisfied the user is after knowing the benefits of perceived usefulness and the benefits of convenience (Perceived ease of use). Users will tend to use BWS mobile banking continuously and consistently or not.



**Figure 1 Engagement Session of PT Bank Woori Saudara Indonesia Tbk Year 2021 - 2022**  
(BWS Mobile Banking User Graph January 2021 to January 2022)

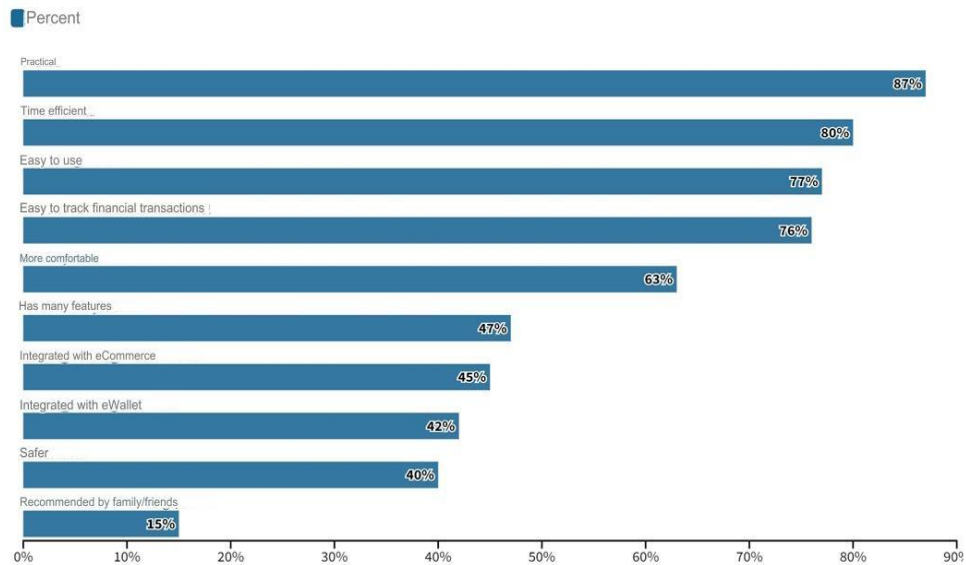
It can be seen in the data above that the level of use of this application has decreased. This may be due to the quality of mobile applications, content, and less attractive appearance, so it is necessary to develop a system to overcome declining engagement sessions by making attractive or user-friendly applications and speeding up the opening of applications to determine application user satisfaction (Al-Shamaileh & Sutcliffe, 2023). This can be seen from the pre-research that was conducted by the researcher, which was distributed through Google Forms to 30 employees of PT Bank Woori Saudara Indonesia Tbk who use the BWS Mobile Banking application. The results of the pre-research can be seen in the following figure 2:



**Figure 2 Gender of Pre-research Respondents**

Source: Google Form, August 10, 2023

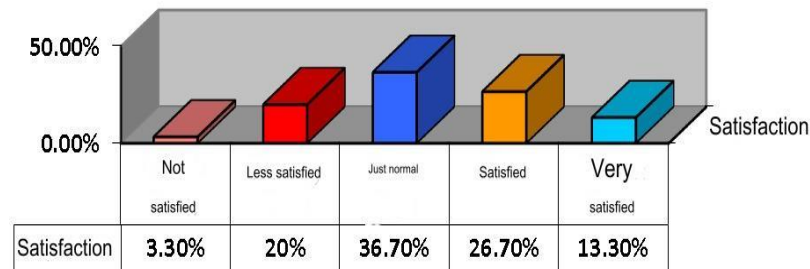
From the distribution of questionnaire data, the respondents' data answered as many as 53.3% men and 46.7% women.



**Figure 3 Reasons for Using BWS Mobile Banking**

Source: Google Form, August 10, 2023

In graph 3, it has been concluded that 87% of BWS mobile banking users are practical, 80% say that the use of BWS mobile banking makes it time-efficient, 77% because it is easy to use, 76% because it is easy to track financial transactions, 62% because it is more convenient, 47% because it has many features, 45% because it is integrated with e-commerce, 42% because it is integrated with e-wallets, 40% because it feels more secure, and the remaining 15% because recommended by friends and family (Angelina et al., 2019).



**Figure 4 Satisfaction Level of Pre-Research Respondents**

Source: Google Form, August 10, 2023

In Figure 4, the level of satisfaction of pre-study respondents has concluded that there are many advantages and benefits of this information system, of which 26.7% said that they are satisfied because this system has a very interesting layout where there is very informative content, respondents said that with this system they know news information and make it easier to review activities around banking transactions, Then respondents felt satisfied because the layout position on the system was neat and not monotonous. As many as 13.3% said that respondents were very satisfied with this system and hoped that the BWS mobile banking display would be more updated.

However, behind the many advantages of this information system, respondents said that as many as 36.7% were ordinary, then 20% were not satisfied, and 3.3% were very dissatisfied. This is because there are still several things that need to be improved and developed, such as the need for maximum maintenance of system quality, the occurrence of system errors, unresponsiveness, and the range of problems.

So, based on the above research using the Management Information System approach, the problems found in the BWS mobile banking application are due to the lack of user satisfaction (Parvin, 2014). The problem in the BWS mobile banking application is in the network connection, where the target to be achieved is to provide satisfaction to users of the BWS mobile banking application. Information system satisfaction is a response to feedback generated by users using the information system, which is one of the indicators of the successful implementation of the PT Bank Woori Saudara Indonesia Tbk system.

The quality of the BWS mobile banking system will continue to be developed to ensure user satisfaction (Sobari et al., 2022). The qualities available in this application are ease of use, system reliability, application access speed, system security, and system flexibility. Currently, the application is experiencing several problems, including the lack of speed in accessing the system, the lack of system flexibility where users need to fumble with the application, and a little complicated to use because there are some hidden features and it must be of good quality features for a long time to connect properly.

Perceived usefulness: BWS mobile banking is able to provide information and benefits to users (Utari & Fauziah, 2023). Users are expected to believe that an application can be useful and provide ease of transactions and information as expected. However, when looking at the analytical data from the Google console, there are unstable users using this application.

Perceived ease of use is a must in developing the system. The quality of digital banking is required to provide real convenience benefits in the application with the attributes or menus in the application. However, in the quality of the convenience of this system, it is still not optimal because the response from the application is not fast in accessing payment/transfer scans to fellow banks, and different banks are still errors when making transactions, and the system connection on BWS mobile banking is still weak.

The importance of this research is to find out how the development of the system can run well and meet the benefits of the usability of BWS mobile banking with aspects of system quality, perceived usefulness, and perceived ease of use. Therefore, based on the background that has been described, the author is interested in conducting research entitled "Analysis of the Influence of System Quality, Perception of Usability, and Perception of Ease of Use on BWS Mobile Banking User Satisfaction with a Technology Acceptance Model (TAM) Approach."

## **RESEARCH METHODS**

In this study, the author uses a quantitative research methodology. The data sources are: Primary data is a source that directly provides data to the data collector, for example, data selected from respondents through questionnaires or data from the results of the researcher's interview with the source, and secondary data is a source that does not directly provide data to the data collector, for example, data obtained from websites, articles or journals, publications, magazines, and so on. In this study, the researcher used primary data sources, where the data collection technique used a questionnaire method through Google Forms. The population that will be used as a study is employees of PT Bank Woori Saudara Indonesia Cirebon Branch Office (taken based on the employee database of PT Bank Woori Saudara Cirebon Branch Office during 2022), which totals 500 active employees. In sampling, the

researcher used the Simple Random Sampling method. This study sample was taken from the population data of 500 employees of PT Bank Woori Saudara KC Cirebon, with calculations using the Slovin formula.

## **RESULTS AND DISCUSSION**

Hypothesis Testing (t-Test) System Quality (X1) against User Satisfaction (Y)

Based on Table 4.24, the t-coefficient test obtained a t-count value for the System Quality variable (X1) of 1.683 and a Sig. Calculate a value of 0.096.

Based on these results, the value of count (1,683) > table (1,664), then it is stated that Ho is rejected and Ha is accepted.

This is followed by the statement that Sig counts (0.016) < (0.05), then Ho is accepted, and Ha is rejected.

This means that the System Quality variable (X1) partially has a positive and significant influence on User Satisfaction (Y).

Hypothesis Testing (t-Test) Usability Perception (X2) on User Satisfaction (Y)

Based on Table 4.24, the t-coefficient test obtained a t-count value for the Perception of Usability variable (X2) of 5.149 and a Sig. Count value of 0.000.

Based on these results, the value of count (5.149) > table (1.664), then it is stated that Ho is rejected and Ha is accepted.

This is followed by the statement that Sig counts (0.000) < (0.05), then Ho is rejected, and Ha is accepted.

This means that the Perception of Usability variable (X2) partially has a positive and significant influence on User Satisfaction (Y).

Hypothesis Testing (t-Test) Perception of Ease of Use (X3) on User Satisfaction (Y)

Based on Table 4.24, the t-coefficient test obtained a t-count value for the Ease of Use Perception (X3) variable of 5.830 and a Sig. Count value of 0.027.

Based on these results, the value of tcal (5.830) > ttable (1.664), then it is stated that Ho is rejected and Ha is accepted. This is followed by the statement that Sig counts (0.027) < (0.05), then Ho is rejected, and Ha is accepted.

This means that the Ease of Use Perception variable (X3) partially has a positive and significant influence on User Satisfaction (Y).

Test F (Simultaneous)

The F test or simultaneous test is used to test independent variables together against dependent variables. From the results of data processing using the help of IBM SPSS 26, the results of the F test (simultaneous) in this study were obtained as follows:

**Table 1 Simultaneous Test Results (Test F)**

		ANOVA <sup>a</sup>				
	Model	Sum of Squares	df	Mean Square	F	Sig. <sup>b</sup>
1	Regression	167.932	3	55.977	39.358	.000 <sup>b</sup>
	Residual	112.357	79	1.422		
	Total	280.289	82			

- a. Dependent Variable: Customer Satisfaction
- b. Predictors: (Constant), Perceived Ease of Use, System Quality, Perceived Usefulness

Based on Table 1 above, it is known that the value of  $F_{cal}$  is 39.358, and the value of  $F_{table}$  can be known from the column  $df_1$  (numerator), which is the number of independent variables, while  $df_2$  (cause) is obtained from the formula:

$$(N - K - 1 = 83 - 3 - 1) \text{ i.e., } 79.$$

So, if a score of 79 with an alpha of 0.5 is obtained, then the value of the  $F_{table}$  is 2.72.

The hypotheses proposed are as follows:

$H_0$  :  $F_{calculate} < F_{table}$  means variable X1 (System Quality) X2

(Perceived Usefulness) and X3 (Perceived Ease Of Use) together have no effect on the Y (User Satisfaction) variable.

$H_a$  :  $F_{cal} > F_{table}$  means variable X1 (System Quality)

X2 (Perceived Usefulness) and X3 (Perceived Ease Of Use) together have an effect on the Y (User Satisfaction) variable.

The results of the hypothesis test are as follows:

If  $F_{cal} > F_{table}$ , then  $H_0$  is rejected, and  $H_a$  is accepted

If  $F_{cal} < F_{table}$ , then  $H_0$  is accepted, and  $H_a$  is rejected

If  $\text{sig} > 0.05$ , then  $H_0$  is accepted, and  $H_a$  is rejected

If the  $\text{sig} < 0.05$ , then  $H_0$  is rejected, and  $H_a$  is accepted

Based on Table 1, the results of the F ANOVA test obtained a  $F_{cal}$  value of 39.358 with a significance level of 0.000. Based on these results, the value of  $F_{cal}$  (39.358) > the value of  $F_{table}$  (2.72) means that  $H_0$  is rejected and  $H_a$  is accepted; this is strengthened by the statement that  $\text{sig. Calc}$  (0.000) < 0.05, then  $H_0$  is rejected, and  $H_a$  is accepted.

So it can be concluded that the variables X1 (System Quality), X2 (Perceived Usefulness) and X3 (Perceived Ease Of Use) simultaneously have a positive and significant effect on the variable Y (User Satisfaction).

### Discussion of Research Results

This study aims to determine the influence of the variables of system quality on user satisfaction, perception of usability on user satisfaction, and perception of ease of use on user satisfaction (Liana & Fadli, 2023). For hypothesis testing in this study, an alpha value of 5% was used, which was 1.98760 (t table). So the criteria for acceptance or rejection of the hypothesis are  $H_a$  accepted and  $H_0$  rejected when the t-value is calculated > 1.664 and the significance < 0.05.

The results of the hypothesis testing of this study are based on the results of processed research data:

H1 Hypothesis Testing: System Quality vs. User Satisfaction. Based on the results of the test, the influence of system quality on user satisfaction showed a positive direction with a calculated t-value value of  $1.683 >$  from the t-table of  $1.664$  and a significance of  $0.016 < 0.05$ . Thus, system quality has a positive and partially significant effect on user satisfaction. This means that hypothesis 1 is accepted.

H2 Hypothesis Testing: Usability Perception on User Satisfaction. Based on the results of the test, the effect of Usability Perception on user satisfaction showed a positive direction with a calculated t value of  $5.149 >$  table t of  $1.664$  and a significance of  $0.000 < 0.05$ . Thus, Usability Perception has a positive and partially significant effect on user satisfaction. This means that hypothesis 2 is accepted.

H3 Hypothesis Testing: Perception of Ease of Use on User Satisfaction. Based on the results of the test, the effect of Ease of Use Perception on user satisfaction showed a positive direction with a calculated t-value of  $2.250 >$  Tablet, which was  $1.664$  and a significance of  $0.027 < 0.05$ . Thus, the Perception of Ease of Use has a positive and partially significant effect on user satisfaction. This means that hypothesis 3 is accepted.

H4 Simultaneous Testing: System Quality, Usability Perception and Ease of Use Perception on User Satisfaction. Based on the results of the test of the influence of System Quality, Usability Perception, and Ease of Use Perception on user satisfaction, as many as 83 showed a positive direction with an F value of  $39.358 >$  from the F table of  $2.72$  and a significance of  $0.000. < 0.05$ . Thus, system quality, usability perception, and ease of use perception simultaneously have a positive and significant effect on user satisfaction.

## **Interpretation of Research Results**

### **The Influence of System Quality on User Satisfaction**

System quality means the quality of the combination of hardware and software in an information system. In this study, system quality is defined as the quality of the software. System quality is one of the successes of an information system. With good system quality, it will increase user satisfaction. Based on the results of the first hypothesis test, it can be concluded that the system quality variable does not have a significant effect on user satisfaction. This is indicated directly because the t-test has a calculated t-value of  $1.683 >$  from the t-table of  $1.664$  and a significance of  $0.016 < 0.05$ . The significance value of the test was less than the value of  $0.05$ .

The results of this study are in accordance with the research of Purwati, A.A. et al. (2021), which states that system quality has a significant effect on user satisfaction (Hamzah et al., 2022). The results of the research by Sari, N.W.W., et al. (2021) also stated that the direction of the relationship between system quality and user satisfaction was positive (Widodo et al., n.d.). In line with the results of the research of Rohani, K. and Shinta, W.R. (2018), which stated that there is a significant relationship between system quality variables and user quality because the system used can support the user's work needs and a good system is if its use can be well interacted with by the user and can lead the user to achieve an expected goal.

The results of this study are also in accordance with previous research by Salim, V.R., et al. (2021), which stated that system quality has a positive effect on user satisfaction (Salim et al., 2021). Also, in accordance with previous research, Angelina, R.J. (2019) stated that the quality of the Bukalapak, Lazada, and Shopee systems has a significant effect on user satisfaction (Angelina et al., 2019). This means that Lazada, Bukalapak, and Shopee e-commerce are very useful to users.

## CONCLUSION

Conclusion This study aims to analyze the effect of system quality, perceived usefulness, perceived ease of use on BWS Mobile Banking user satisfaction. In this study, the independent variables used are System Quality (X1), Perceived Usefulness (X2) and Perceived Ease of Use (X3), while the dependent variable is User Satisfaction (Y). Based on the results of the analysis above, it shows that all independent variables-system quality, perceived usefulness, and perceived ease of use-have a positive and significant influence on user satisfaction. Although system quality has a positive influence, improvements are still needed in terms of responsiveness and security. Meanwhile, perceived usefulness has the most significant influence, where users feel that the application provides real added value. In addition, perceived ease of use also contributes to user satisfaction, because they feel that the application is easy to use. Overall, this study underscores the importance of developing user-friendly and responsive mobile banking applications to increase user satisfaction in the digital era.

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