The Effect of Financial Literacy and Self Service Technology on Customer Satisfaction
Study of BUMN Bank Customers in Kediri City and Regency Region

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ABSTRACT

The purpose of this study is to determine the partial and simultaneous effects on customer satisfaction among BUMN Bank customers in the Kediri City and Regency Region of financial literacy and self service technology, such as mobile banking and Automatic Teller Machine (ATM). This study uses primary data and is quantitative in nature. There were one hundred responders in this study, and purposive sampling was the method of sampling. The SPSS version 22 software is used in the data processing procedure. The research findings are as follows: partially, the financial literacy variable (X1) has a significant impact on customer satisfaction (Y), as shown by t count > t table (1.798 > 1.98) with a significance value of (0.075 < 0.05); partially, the Automatic Teller Machine (ATM) variable (X2) has a significant impact on customer satisfaction (Y), as shown by t count > t table (2.981 > 1.98) with a significance value of (0.004 < 0.05); partially, the mobile banking variable (X3) has a significant impact on customer satisfaction (Y) as shown by t count > t table (3,793 > 1.98) with a significance value of (0,000 <0.05), the simultaneously obtained findings of the variables financial literacy (X1), Automatic Teller Machine (ATM) (X2), and mobile banking (X3) have a substantial effect on customer satisfaction (Y) as can be observed from the F count > F table (33.108 > 2.689) with a value significance of (0.000 < 0.05).

Keywords: *Financial literacy, Automatic Teller Machine (ATM), Mobile banking, Customer satisfaction*

1. INTRODUCTION

In this digital era, it is often said that technology is one of the triggers of significant change in all aspects of life ranging from social, cultural and even economic activities. When it comes to technological advancement, particularly in the realm of economics, we can all attest to the fact that there have been notable shifts in non-cash transaction behaviors thanks to the use of digital technology. Many of these advances have been recognized for their usefulness, however, if this technological sophistication and progress is not balanced with good financial literacy, it will actually have a negative impact, one of which is that society tends to experience difficulties when implementing these technological advances. Therefore, having good financial literacy is very necessary.

Financial literacy is the capacity to evaluate data and make wise judgments about how to use and manage finances. In summary, financial literacy refers to an individual's efforts to enhance their knowledge, abilities, beliefs, attitudes, and behavior in order to effectively manage their finances and prevent the common financial difficulties that face all people (Hadi et al., 2023). Advances in digital technology in economic activities can be used by certain companies or agencies, one of which is banking.

Financial institutions such as banks play a significant part in a nation's economy, which includes Indonesia. By raising and allocating capital, developing new services, teaching clients about money management, and supporting business owners in their efforts to combat poverty and provide employment, banks promote economic growth (Lidiawan et al., 2024). Automatic Teller Machine (ATM) and mobile banking are two examples of digitally enhanced banking services that are meant to make life easier for clients. Customers can conduct financial transactions independently of tellers or other bank officers with the help of an Automatic Teller Machine (ATM), also referred to as a terminal or computer machine connected to a bank's communication network (Arnita et al., 2023) while mobile banking is a banking service that provides services that are almost the same as the services or facilities provided by an Automatic Teller Machine (ATM), namely fund transfers, balance information, account changes, exchange rate information, payments (credit cards, PLN, telephone, insurance), credit purchases, except

cash withdrawals (Rosalia, 2022). In its development, Automatic Teller Machine (ATM) and mobile banking are known as self service technology in the banking sector.

Providing this service innovation has a direct correlation with customer satisfaction levels, where of this research, customers are defined as banking customers. Customer satisfaction, according to Kotler & Keller, can be defined as the degree to which an individual's feelings convey the outcomes of a comparison between the work results of the product/service received and what was anticipated (Restianti et al., 2023). Researchers are interested in studying "The Effect of Financial Literacy and Self Service Technology on Customer Satisfaction to BUMN Bank Customers in the Kediri City and Regency Region" in light of the background and description provided.

2. PROBLEM FORMULATION

The problem formulation of this paper are consist of:
1. Does financial literacy have an effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region?
2. Does self service technology in the form of an Automatic Teller Machine (ATM) have an effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region?
3. Does self service technology in the form of mobile banking have an effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region?
4. Does financial literacy and self service technology in the form of Automatic Teller Machine (ATM) and mobile banking have an effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region?

3. LITERATURE REVIEW

3.1. Financial Literacy

Financial literacy is the skills and knowledge to managing and making financial decisions (Edwy et al., 2022). Financial literacy is also referred to as financial knowledge and understanding as well as financial risks that can be practiced by society or individuals with the aim of improving financial well-being and helping the economy (Ramdani, 2020).

3.2. Self Service Technology

Self service technology in general, it is defined as technology that allows customers to make transactions or carry out services independently, just like services provided directly (Arnita et al., 2023). The concept of self service technology can emerge in the current era because business people or companies want something new that can fulfill their needs and desires. For businesses that deal directly with customers, service innovation through technology will be crucial to their long-term success. Self service technology can be applied in all areas of business as long as the company is able to provide what is needed for its implementation and the technology is on the market (Ramadhanti et al., 2022). There are several types of self service technology without banking services that can be used by consumers, such as: ATM machines, mobile banking services, internet banking, e-commerce, and so on (Novita Zahrotul Ula et al., 2022). Automatic Teller Machine (ATM) is a form of technology based service provided by banks to their customers. Automatic Teller Machine (ATM) is also defined as a banking facility in the form of an electronic device that functions to make it easier for customers to withdraw cash and obtain other information (Pratiwi, 2023). While Mobile banking is a banking facility that utilizes a communications network that can be operated via mobile phone (Pratiwi, 2023).

3.3. Customer Satisfaction

According to Kotler & Keller, customer satisfaction, which in this case refers to customers, can be interpreted as a person's feeling of happiness or disappointment that arises after comparing the performance or expected results (Mahrun, 2020).

3.4 Hypothesis

H1: Financial literacy has a significant effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region.

H2: Self service technology in the form of an Automatic Teller Machine (ATM) has a significant effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region.

H3: Self service technology in the form of mobile banking has a significant effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region.

H4: Financial literacy and self service technology in the form of an Automatic Teller Machine (ATM) and mobile banking have a significant effect on customer satisfaction to BUMN Bank Customers in the Kediri City and Regency Region.

4. RESEARCH METHOD

The present study employs quantitative research methodologies to assess the impact of self service technology, such as Automatic Teller Machine (ATM) and mobile banking, and financial literacy on customer satisfaction. The quantitative method's foundation is studying a certain population or sample and gathering data with research tools in order to test a hypothesis that has been predetermined (Lidiawan & Laely, 2022). Primary data for this study was gathered by questionnaire distribution, interviews, and observation. The Lemeshow method is used in research sample size determination since the population under study has a variable numerical scale. A minimum sample size of 96 respondents was determined using calculations utilizing the Lemeshow algorithm, and this number was rounded up to 100 respondents.

The data analysis method in this research uses multiple linear regression analysis, which is processed using the SPSS version 22 application with the following formula:

$$Y = \alpha + \beta1X1 + \beta2X2 + \beta3X3 + e \quad c$$

Equation 1 are the formula used in this study. Y is Customer Satisfaction, α is Constant, $\beta1,2,\ldots\beta n$ is Independent variable regression coefficient, X1 is Financial Literacy, X2 is Automatic Teller Machine (ATM), X3 is Mobile Banking, and e is Term error/ residuals.

In this research there are also several other stages of data analysis, including validity test, reliability test, test of the Coefficient of Determination R2, and hypothesis testing. Validity test is a test used to measure whether a questionnaire is valid or not. The basis used in making data validity decisions in the validation test is as follows: if the value of Rcount > Rtable, then the question items in the questionnaire are declared significantly correlated with the total score and are declared valid, and if the value of Rcount < Rtable, then the question items in the questionnaire are declared not significantly correlated with the total score and are declared invalid. Reliability Test is to test the consistency of the questionnaire for each variable is done through reliability testing. If a respondent consistently or steadily answers the same questions on a questionnaire over time, it is considered trustworthy. If a variable yields a Cronbach's Alpha value > 0.60, it is considered dependable. Test of the Coefficient of Determination R^2 means if a low coefficient of determination (R^2) indicates that the independent variables have very little capacity to explain changes in the dependent variable. When the independent variables yield nearly all of the information required to forecast changes in the dependent variable, the value is close to unity. Hypothesis testing consist of Partial Test and Simultaneous Test. To perform the Partial Test (t test), compare the estimated t to the t table with a 5% error rate. It can be determined that the variable has a significant influence if the t count > the t table or if the t count's significance < 0.05. Simultaneous Test or the F test its purpose is to ascertain whether or not the combined coefficients of the independent variables have a real influence on the dependent variable (Sugiyono, 2015:192) (Ramadhanti et al., 2022). The F test can be determined with a significance threshold of $\alpha = 0.05$. The F table and the computed F value are used as the decision-making criterion. Every independent variable has an impact on the dependent variable if Fcount > Ftable.

5. RESULTS AND DISCUSSION

5.1 *Multiple Linear Regression Analysis*

$$Y = 1.012 + 0.162X1 + 0.195X2 + 0.247X3 \quad \ldots\ldots\ldots (2)$$

Based on the results of the multiple linear regression equation, it can be interpreted as follows:

1. The constant value obtained is 1.012 which can be interpreted as if the independent variable (X) has a value of 0 (constant) then the dependent variable (Y) has a value of 1.012.
2. The regression coefficient value of the Financial Literacy variable (X1) has a positive value of 0.162 on the Customer Satisfaction (Y) variable for BUMN Bank Customers in the Kediri City and Regency Region. This can be interpreted as if the Financial Literacy variable (X1) increases, it will affect the Customer Satisfaction variable (Y) by 0.162.
3. The regression coefficient value for the Automatic Teller Machine (ATM) variable (X2) is positive at 0.195 for the Customer Satisfaction (Y) variable for BUMN Bank Customers in the Kediri City and Regency Region. This can be interpreted as if the Automatic Teller Machine (ATM) (X2) variable increases, it will affect the Customer Satisfaction (Y) variable by 0.195.
4. The regression coefficient value for the Mobile Banking variable (X3) is positive at 0.247 for the Customer Satisfaction (Y) variable for BUMN Bank Customers in the Kediri City and Regency Region. This can be interpreted as if the Mobile Banking variable (X3) increases, it will affect the Customer Satisfaction (Y) variable by 0.247.

5.2 Hypothesis testing

T Test (Partial)

1. The computed t value is 1.798 > t table value 1.98, and the significance value of the influence of Financial Literacy (X1) on Customer Satisfaction (Y) is 0.075 < 0.05. Therefore, it is recognized that the first hypothesis which states that Financial Literacy has a significant effect on Customer Satisfaction among BUMN Bank Customers in the Kediri City and Regency Region is accepted.
2. The computed t value is 2.981 > t table value 1.98, and the significance value of the influence of the Automatic Teller Machine (ATM) (X2) on Customer Satisfaction (Y) is 0.004 < 0.05. Therefore, the second hypothesis which states that self service technology in the form of an Automatic Teller Machine (ATM) has a significant effect on Customer Satisfaction among BUMN Bank Customers in the Kediri City and Regency Region is accepted.
3. The computed t value is 3.793> t table value 1.98, and the significance value of the influence of the mobile banking (X3) on Customer Satisfaction (Y) is 0.000 < 0.05. Therefore, the third hypothesis which states that self service technology in the form of a mobile banking has a significant effect on Customer Satisfaction among BUMN Bank Customers in the Kediri City and Regency Region is accepted.

F Test (Simultaneous)

The results of the F test indicate that the impact of Financial Literacy (X1), Automatic Teller Machine (ATM) (X2), and Mobile Banking (X3), on Customer Satisfaction (Y) has a significance value of 0.000 < 0.05 and a computed F value of 33.108 > F table value 2.689. Thus, the fourth hypothesis which asserts that Financial Literacy and self service technology in the form of an Automatic Teller Machine (ATM) and Mobile Banking have a significant effect on Customer Satisfaction among BUMN Bank Customers in the Kediri City and Regency Region is accepted.

Determinant Coefficient (R^2)

The Adjusted R Square value is 0.493, according to the findings of the analysis of the independent variable (X) on the dependent variable (Y). Therefore, it can be said that the dependent variable, customer satisfaction (Y), is influenced by the independent variables, financial literacy (X1), self service technology, such as Automatic Teller Machine (ATM) (X2) and mobile banking (X3), by 49.3%, and other factors not included in this study account for the remaining 50.7%.

5.3 DISCUSSION

1. Customer satisfaction (Y) is significantly impacted by financial literacy (X1). The computed t value is 1.798 > t table value 1.98 and the result obtained is 0.075 < 0.05 based on the tests that were conducted.

This demonstrates that one of the variables influencing customer satisfaction (Y) is the financial literacy variable (X1). As a result, the first hypothesis which holds that among BUMN Bank customers in the Kediri City and Regency Region, financial literacy significantly affects customer satisfaction is accepted. The study's findings are consistent with those of (Hadi et al., 2023).

2. Customer satisfaction (Y) is significantly impacted by the Automatic Teller Machine (ATM) (X2). The results of the tests that were run show that the calculated t value is 2.981 > t table value 1.98 and the value obtained is 0.004 < 0.05. This demonstrates that one of the variables influencing customer satisfaction (Y) is the Automatic Teller Machine (ATM) (X2) variable. Therefore, the second hypothesis which claims that customer satisfaction among BUMN Bank customers in the Kediri City and Regency Region is significantly impacted by self service technology in the form of an Automatic Teller Machine (ATM) is accepted. The findings of this study are consistent with those of studies by (Arnita et al., 2023),(Siregar & Pradesyah, 2023),(Restianti et al., 2023),(Novita Zahrotul Ula et al., 2022),(Ramadhanti et al., 2022).

3. Customer satisfaction (Y) is significantly impacted by the mobile banking (X3). The results of the tests that were run show that the calculated t value is 3.793 > t table value 1.98 and the value obtained is 0.000 < 0.05. This demonstrates that one of the variables influencing customer satisfaction (Y) is the mobile banking (X3) variable. Therefore, the third hypothesis which claims that customer satisfaction among BUMN Bank customers in the Kediri City and Regency Region is significantly impacted by self service technology in the form of an mobile banking is accepted. The findings of this study are consistent with those of studies by (Arnita et al., 2023),(Siregar & Pradesyah, 2023),(Restianti et al., 2023),(Novita Zahrotul Ula et al., 2022),(Ramadhanti et al., 2022).

4. Financial Literacy (X1), Automatic Teller Machine (ATM) (X2), and Mobile Banking (X3) have a significant effect on Customer Satisfaction (Y).Based on the tests that have been carried out, a significance value of 0.000 < 0.05 is obtained and the calculated F value is 33.108 > F table value 2.689. This proves that the variable Financial Literacy (X1), Automatic Teller Machine (ATM) (X2), and Mobile Banking (X3)is a factor that influences Customer Satisfaction (Y). Thus, the fourth hypothesis states Financial Literacy and Self Service Technology form Automatic Teller Machine (ATM) and Mobile Banking has a significant effect on Customer Satisfaction among BUMN Bank Customers in the Kediri City and Regency Region. This can be interpreted as the higher the financial literacy that a customer has, and the better the self service technology services in the form of an Automatic Teller Machine (ATM) and mobile banking, the more this can influence a customer's level of satisfaction.

6. CONCLUSION

Below are the conclusion of this paper:

1. Partially, financial literacy has a significant effect on customer satisfaction among BUMN Bank customers in the Kediri City and Regency Region.
2. Partially, self service technology in the form of an Automatic Teller Machine (ATM) has a significant effect on customer satisfaction for BUMN Bank customers in the Kediri City and Regency Region.
3. Partially, self service technology in the form of mobile banking has a significant effect on customer satisfaction for BUMN Bank customers in the Kediri City and Regency Region.
4. Simultaneously, the variables of financial literacy and self service technology in the form of Automatic Teller Machine (ATM) and mobile banking have a significant effect on customer satisfaction for BUMN Bank customers in the Kediri City and Regency Region.
5. The financial literacy variable and self service technology in the form of an Automatic Teller Machine (ATM) have an influence of 49.3% on the customer satisfaction variable, while the remaining 50.7% is influenced by other factors outside of this research.

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