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The Impact of Mobile Banking Applications on Customer Satisfaction: A Case Study of BSI Mobile

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The Sharia economy continues to grow in Indonesia, particularly in the banking sector, such as BSI (Bank Syariah Indonesia). In addition, the era of Industrial Revolution 4.0 gave rise to many innovations in the field of financial services (financial technology). The high number of internet and mobile phone users in Indonesia supports the adoption of technology in the financial sector, which is facilitated by the BSI Mobile Application, enabling customers to transact more easily. Therefore, this study looks at the impact of the BSI Mobile application on customer satisfaction in terms of speed, security, accuracy, and trust. This research collects primary data from 113 active bank customers of BSI in Majalengka, West Java. The findings show that the BSI Mobile application contributes to customers' satisfaction. This research also found that customers with higher education are more likely to have higher satisfaction with the BSI Mobile application.

Keywords: Bank, Customer Satisfaction, Mobile Banking;

Ekonomi syariah terus berkembang di Indonesia, termasuk di sektor perbankan seperti BSI (Bank Syariah Indonesia). Selain itu, era Revolusi Industri 4.0 telah melahirkan banyak inovasi di bidang layanan keuangan . Tingginya jumlah pengguna internet dan ponsel di Indonesia mendukung adopsi teknologi di sektor keuangan, salah satunya melalui aplikasi BSI Mobile yang dapat mempermudah nasabah dalam bertransaksi. Oleh karena itu, penelitian ini melihat dampak aplikasi BSI Mobile terhadap kepuasan nasabah dari segi kecepatan, keamanan, ketepatan, dan kepercayaan. Penelitian ini mengumpulkan data primer dari 113 nasabah aktif BSI di Majalengka, Jawa Barat. Hasil temuan menunjukkan bahwa aplikasi BSI Mobile berkontribusi terhadap kepuasan nasabah. Penelitian ini juga menemukan bahwa nasabah dengan tingkat pendidikan yang lebih tinggi cenderung memiliki tingkat kepuasan yang lebih tinggi terhadap aplikasi BSI Mobile.

Kata Kunci: Bank, Kepuasan Pelanggan, Perbankan Seluler;

INTRODUCTION

Since the establishment of the first Islamic bank in Indonesia in 1991, the Islamic economy in Indonesia has continued to experience significant growth. Alongside this, various Islamic banks have emerged to meet the needs of the community seeking financial services based on Islamic principles. As of December 2019, there were 2,300 Islamic Commercial Banks (BUS) and Sharia Business Units (UUS) recorded in Indonesia (OJK, 2019). This development in the Islamic economy has also encouraged the emergence of increasingly diverse Islamic financial institutions, including modern Islamic banking like Bank Syariah Indonesia (BSI).

BSI itself is the result of a merger of three state-owned Islamic banks (Himbara: Association of State-Owned Banks): BRI Syariah, BNI Syariah, and Mandiri Syariah, which officially joined forces in early 2021. The presence of BSI as the largest Islamic bank in Indonesia marks an important milestone in strengthening the national Islamic financial industry. BSI not only plays a role in providing Islamic banking services but is also actively involved in promoting financial inclusion and the economic empowerment of the community through various technology-based products and services.

For example, BSI continues to innovate in providing easy access to financial services through the development of the BSI Mobile application, which allows customers to conduct transactions quickly, securely, and in accordance with Sharia principles. This aligns with the needs of modern society that desires efficient and digitally-based banking services. BSI's role in supporting Indonesia's Islamic economy demonstrates that Islamic banking institutions now not only focus on financial activities but also have a social mission to improve community welfare through the principles of justice and blessing.

Not only financial service products are relatively easy to reach. The era of Industrial Revolution 4.0 where digitalization and the use of information technology (Eka Satya, 2018) have become the main capital in economic activities requires business actors to adapt to the rapid development of technology, including financial services. Apart from e-commerce, there are also technology-based services such as Gojek and Grab. Electronic money or e-money such as Gopay, Ovo, and Dana is now widely used. In the banking sector, innovation is present in the form of m-banking or mobile banking applications. People currently do not need to be present face-to-face.

In advance to their destination bank to carry out the transaction. Just touch the cellphone screen with an adequate internet connection. The high number of internet and cellphone users in Indonesia supports the development of mobile banking in Indonesia. According to We Are Social, with Indonesia's population of 268.2 million people, the number of cellphone users reaches 133% of the population or around 355.5 million people. This means that there are more cell phones in circulation than the population. It's different with internet users. Internet users in Indonesia reach 150 million people, or 56% of the population. These two figures show the high potential for technology absorption in Indonesia.

The number of mobile banking users in Indonesia is relatively large. In the first semester of 2019, m-banking transactions at PT Bank Negara Indonesia (BNI) reached 90 million transactions. This is different from PT Bank Central Asia (BCA), which made m-banking one of its main services, reaching 89 million transactions in the same period (Sitanggang, 2019). Research on mobile banking was previously written in Kenya in Mobile Banking: The Impact of M-Pesa in Kenya. The results of this research show that the existence of the M-Pesa application can increase the volume of transactions at the bank. In addition, there are findings that people tend to use M-Pesa to save their money. (Mbiti & Weil, 2016). In Mobile Banking Service Quality and Customer Relationships (Archand et al., 2017), it was found that mobile banking services influence customer trust and satisfaction. In addition, the level of trust significantly influences customer satisfaction and commitment in transactions. Similar to previous research, in The Impact of E-Service Quality On Customer Satisfaction and Loyalty in Mobile Banking Usage: Case Study of Thailand (Puriwat & Tripopsakul, 2017), it was found that electronic services affect customer satisfaction. These findings are strengthened by the level of trust, reliability, and responsiveness which are the main factors in customer satisfaction.

To target the upper middle class and millennials, BSI (Bank Syariah Indonesia) has also taken similar strategic steps. The existence of the BSI Mobile application is one of BSI's efforts to expand its market share and meet the public's need for easy and convenient financial transactions. Therefore, the author conducted a study regarding the influence of the BSI Mobile application. This research was carried out to examine the effect of the BSI Mobile application on BSI customer satisfaction. The BSI Mobile application is evaluated based on its service quality, namely application speed, security, accuracy, and trust (Lovelock & Gummesson, 2004).

The research was conducted on BSI customers in Majalengka, West Java. The BSI Mobile application has been downloaded by millions of users and offers a variety of features including balance inquiries, transaction history, bill payments, mobile phone credit purchases, Zakat and Infaq payments, and other digital banking services. These features demonstrate BSI's commitment to integrating Sharia-compliant financial services with modern digital technology.

This research is important considering the growing significance of digital financial service applications in the era of the Industrial Revolution 4.0, where the digitalization of financial services is accelerating rapidly in line with the development of fintech in Indonesia.

METHODOLOGY

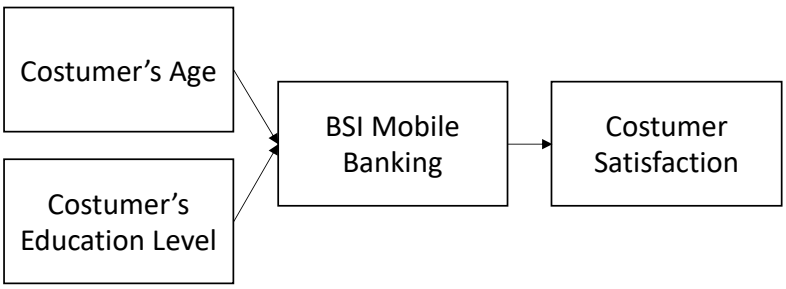

Figure 1.
Research Framework

The method used in this research is quantitative descriptive, where the phenomena that occur are analyzed based on data obtained in the form of numbers. Quantitative methods use objective measurements that can be measured by number of the problems that occur (Siyoto, 2015). This research uses primary data obtained from questionnaires that have been distributed previously. Respondents in this research are residents of Majalengka who are customers of Bank Syariah Indonesia who use the BSI Mobile. Temporary allegations or hypotheses that can be put forward in this research are from the framework of thought above is as follows:

- H0: The BSI Mobile application does not influence BSI customer satisfaction
- H1: The BSI Mobile application influences BSI customer satisfaction.
- H0: Customer's age does not influence BSI customer satisfaction
- H2: Customer's age influences BSI customer satisfaction
- H0: The level of customer education does not influence BSI customer satisfaction
- H3: The level of customer education influences BSI customer satisfaction

This research uses quantitative data in the form of numbers. In this study, OLS (Ordinary Least Squares) regression analysis was used with a multiple regression model. This means there are two or more independent variables and one dependent variable. For this, the author uses StataMP version 14 software. Stata is computer software that processes statistical data by inputting the data obtained to get the analysis results needed for the research by entering commands to process the data. Additionally, this research also uses the SEM (Structural Equation Modeling) or Structural Equation Model method to create a cause-and-effect model and to check the fit of the equation model used with SPSS Amos version 21 software. The SEM results can be found in the appendix of this research.

This research uses primary data obtained from questionnaires that have been distributed previously. Respondents in this research are residents of Majalengka who are customers of Bank Syariah Indonesia who use the BSI Mobile aplication. In this research, questionnaires were distributed to respondents who met the criteria by distributing the Google Form link online so that questionnaire results data could be collected and processed more quickly and easily without having to meet the respondents face to face. After this research questionnaire was distributed to customers of Bank Syariah Indonesia, a total of 113 respondents were obtained.

In this study, dependent (Y) and independent (X) variables were used. The dependent variable in this research is Customer Satisfaction (Y). Meanwhile, the independent variable consists of the BSI Mobile application (X1) which was obtained from the questionnaire results. Apart from that, the author added control variables in the form of antecedent variables, namely variables that if removed, the relationship between the independent variable and the dependent variable does not disappear or does not change. The control variables consist of Customer Age (X2), Customer Level of Education (X3).

RESULT AND DISCUSSION

Based on the survey results, 61% of all respondents were in the 20-25 age group, while 23% were between 26-30 years old. 7% of respondents were between 30-35 years old, 4% were in the 36-40 age group, 2% were between 41-45 years old, 3% were between 46-50 years old, and 1% were between 51-55 years old. Based on the previously distributed questionnaire results, 56% of respondents are female, while 44% are male. When grouped by gender, 56% of the respondents are female, while 44% are male. 50% of the respondents are high school graduates with 12 years of education. Nine percent are Diploma I/II/III graduates with 14 years of education, 30% are Diploma IV/Bachelor's degree graduates with 16 years of education, and 8% are Master's/Ph.D. graduates with 18 years of education.

Statistic Test Result

Y	Coefficient	Std. Error	t	P>|t|
X1	0.4017	0.0315	12.73	0.000
X2	-.0298	0.0396	-0.75	0.454
X3	0.1931	0.1166	1.66	0.101
Cons	0.3439	1.8807	0.18	0.855

Based on the data processing results, it can be concluded that, overall, the BSI Mobile application (X) influences customer satisfaction (Y). This is proven by the R-squared and F-test results. The R-squared value is 62.28%, meaning the relationship between variables X and Y is strong, and customer satisfaction (Y) can be explained or influenced by the BSI Mobile application (X1) and the control variables (X2, X3) by 62.28%. Furthermore, the F-test results, where the F-statistic is greater than the F-table (43.34 > 3.50) and the significance is below 0.01 (0.000 < 0.01), indicate that the variables of the BSI Mobile application (X1), customer age (X2), and customer education level (X3) have a simultaneous (overall) effect on the customer satisfaction variable (Y).

However, based on the T-test results for the four independent variables, it was found that when tested partially or individually, the BSI Mobile application (X1) and customer education level (X3) affect customer satisfaction (Y). In contrast, the control variable of customer age (X2) have no individual or partial effect on customer satisfaction (Y). This is because the primary factor influencing customer satisfaction is the BSI Mobile application, based on its speed, security, accuracy, and customer trust. Additionally, the longer the customer's education, the higher their satisfaction with the BSI Mobile application.

This research uses multiple linear regression analysis because it involves four independent variables (X) and one dependent variable (Y), namely X1 (BSI Mobile application), X2 (customer age), X3 (customer education level), and Y (customer satisfaction).

Based on the regression analysis results using StataMP version 14, the following equation was obtained:

$$\mathbf{Y' = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3}$$
$$\mathbf{Y' = 0.343 + 0.401X1 - 0.0298X2 + 0.193X3}$$

a) The constant value of 0.343 indicates that without the influence of the independent variables (X)—the BSI Mobile application, customer age, customer education level, and customer BSI choice—the value of customer satisfaction (Y) is 0.343.
b) The regression coefficient for the BSI Mobile application (X1) is 0.401, which indicates that for every one percent increase in the BSI Mobile application's value, customer satisfaction increases by 40.1%.
c) The regression coefficient for customer age (X2) is -0.029, which indicates that for every one-year increase in customer age, customer satisfaction decreases by 2.98%.
d) The regression coefficient for customer education level (X3) is 0.1931, which indicates that for every one-year increase in customer education, customer satisfaction increases by 19.31%.
e) The regression coefficient for customer BSI choice (X4) is 0.365, which indicates that every time a customer chooses the ItQan Mobile application, customer satisfaction increases by 36.5%, while choosing the Amalin application results in no change in customer satisfaction.

Coefficient of Determination (R^2)

R-squared = 0.6228

Based on the R-squared calculation above, the coefficient of determination is 0.6228. This number indicates a strong relationship between the dependent variable (Y) and the independent variables (X), so the X variables can explain 62.28% of the Y variable. This means the independent variables (the BSI Mobile application) are quite effective at influencing the dependent variable (customer satisfaction).

F-test

F-statistic (4, 105)	= 43.34
F-table (4, 105)	= 3.50
Prob > F	= 0.0000

Hypotheses: H_0: There is no simultaneous effect of X on Y. H_a: There is a simultaneous effect of X on Y.

Conditions: When the p-value (α) is greater than 0.01, H_0 cannot be rejected, and H_a is rejected. When the p-value (α) is less than 0.01, H_0 is rejected, and H_a cannot be rejected.

Criteria:

1) When the calculated F-statistic is smaller than the F-table value, H_0 cannot be rejected, and H_a is rejected.
2) When the calculated F-statistic is greater than the F-table value, H_0 is rejected, and H_a cannot be rejected.

Based on a 99% confidence level, with an alpha value (α) of 0.01: If the significance is below 0.01, or the calculated F-statistic is greater than the F-table value, there is an effect of variable X on variable Y.

If the significance is above 0.01, or the F-statistic is smaller than the F-table value, there is an effect between variable X and variable Y.

Ftable = f (k ; n-k) = f (4 ; 105) = 3.50

Based on the F-test results above, the F-statistic is 43.34. In addition, a significance level of 0.000 was obtained. The significance value is 0.000 < 0.01, and the F-statistic is greater than the F-table value (43.34>3.50). This means that H0 (There is no simultaneous effect of X on Y) is rejected.

Based on these F-test calculations, it can be concluded that simultaneously or overall, there is an effect of X1 (BSI Mobile application), X2 (customer age), and X3 (customer education level) on Y (customer satisfaction).

T-test

t	Sig.	T-table
12.7	0.000	2.623
-0.75	0.454	
1.66	0.101	
0.18	0.855	

To see if the independent variables (X) and the dependent variable (Y) have a significant partial or individual effect on each other, the following criteria and method were used:

Hypotheses

- H1: The BSI mobile application has a significant effect on BSI customer satisfaction.
- H2: Customer age has a significant effect on BSI customer satisfaction.
- H3: Customer education level has a significant effect on BSI customer satisfaction.

With a confidence level of 99%, $\alpha = 0.01$:

- If the significance value $P < 0.01$, or the calculated t-statistic > the t-table value, there is an effect of variable X on variable Y.
- If the significance value $P > 0.01$, or the calculated t-statistic < the t-table value, there is no effect of variable X on variable Y.

$$\text{t-table} = t\ (\alpha/2\ ;\ n\text{-}k\text{-}1) = t\ (0.005\ ;\ 104) = 2.623$$

Hypothesis Testing Results

1) First Hypothesis (H1) The significance value for the effect of the BSI Mobile Application (X1) on Customer Satisfaction (Y) is 0.000 < 0.01, and the calculated t-statistic is 2.693 > the t-table value of 2.623. Therefore, it can be concluded that H1 is accepted. This means the BSI Mobile Application (X1) has an effect on Customer Satisfaction (Y).
2) Second Hypothesis (H2) The significance value for the effect of Customer Age (X2) on Customer Satisfaction (Y) is 0.454 > 0.01, and the calculated t-statistic of 0.75 < the t-table value of 2.623. Therefore, it can be concluded that H2 is rejected. This proves that there is no effect of Customer Age (X2) on Customer Satisfaction (Y).
3) Third Hypothesis (H3) The significance value for the effect of Customer Education Level (X3) on Customer Satisfaction (Y) with an α of 0.1 is 0.101 ≥ 0.1, and the calculated t-statistic of 1.66 < the t-table value of 2.623. Therefore, it can be concluded that H2 cannot be rejected. This proves that Customer Education Level (X3) has an effect on Customer Satisfaction (Y).

Based on the data analysis that was previously conducted, it can be concluded that, overall, the BSI mobile application (X) has an effect on customer satisfaction (Y). This is supported by the R2 and F-test results. The obtained R2 value is 62.28%, which means there is a strong relationship between variables X and Y, and customer satisfaction (Y) can be explained or influenced by the BSI mobile application (X1) and the control variables (X2, X3, X4) by 62.28%.

In addition, the F-test results show that the calculated F-statistic is greater than the F-table value (43.34 > 3.50), and the significance is below 0.01 (0.000 < 0.01). This indicates that the variables BSI mobile application (X1), customer age (X2), and customer education level (X3) have a simultaneous (overall) effect on the customer satisfaction variable (Y).

However, based on the T-test results for the four independent variables, it was found that when tested partially or individually, the BSI mobile application (X1) and customer education level (X3) have an effect on customer satisfaction (Y). In contrast, the control variable of customer age (X2) have no individual or partial effect on customer satisfaction (Y). This is because the main factor influencing customer satisfaction is the BSI mobile application, judged by its speed, security, accuracy, and customer trust. Additionally, the longer a customer's education, the higher their satisfaction with the BSI mobile application.

CONCLUSION

Based on the research it can be concluded that the BSI mobile application has a significant overall effect on customer satisfaction. Partially, the BSI mobile application and the customer's education level affect customer satisfaction. However, the control variable of customer age do not have a significant effect on customer satisfaction.

As for suggestions for BSIs and future researchers, it is hoped that this study will motivate BSI practitioners to deepen their understanding of technology implementation by developing BSI mobile applications to increase customer satisfaction and facilitate BSI operational activities with the application of information technology that keeps up with the times. For future researchers, it is hoped that there will be more research related to BSIs, considering their great benefits to society and their high potential for future development.

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