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The Impact of Mobile Banking Services on Customer Satisfaction in the Digital Era at PT. Bank Sumut Syariah KCP Hamparan Perak

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Abstract

The purpose of this study is to examine the impact of mobile banking services on customer satisfaction in the context of digitalization at PT. KCP Hamparan Perak Bank Sumut Syariah. Along with the rapid development of digital technology in the banking sector, mobile banking has become an essential service to improve efficiency, convenience, and overall customer experience. This study employs an associative quantitative research approach to analyze the relationship between mobile banking service quality and customer satisfaction. Primary data were collected through the distribution of structured questionnaires to respondents who actively use mobile banking services. The research population consisted of 1,200 customers of PT. KCP Hamparan Perak Bank Sumut Syariah. Using a purposive sampling technique and the Slovin formula, a sample of 100 respondents was obtained. The collected data were analyzed using multiple linear regression to determine the influence of various mobile banking service dimensions on customer satisfaction. The findings indicate that mobile banking services have a positive and significant effect on customer satisfaction. Among the examined dimensions, information accuracy emerged as the most statistically significant factor affecting customer satisfaction, with a p-value of 0.017. This result highlights the importance of providing accurate, reliable, and timely information through mobile banking platforms. Other factors, including service confirmation, call center access, data confidentiality, and application display, also contribute positively to customer satisfaction, although their effects are relatively less significant. Overall, this study concludes that enhancing mobile banking service quality can strengthen customer trust.

Keywords: Service, Mobile Banking, Customer Satisfaction

1. Background

Islamic banking offers services that comply with sharia principles and focuses on convenience and digital innovation, making it one of the main choices for people to conduct financial transactions [1]. Islamic banks must carry out continuous innovation to meet client needs and keep up with technological advances. The Islamic banking sector is growing rapidly, demonstrating the ability to drive the economy through productive distribution of funds and stability of the national financial system [2]. In the digital era, banking services are undergoing a major transformation as a result of the use of information technology, especially mobile banking applications that allow customers to make transactions anytime and anywhere [3]. Fast, secure, and efficient digital services have become the industry standard because they are able to reduce operational costs, improve customer experience, and add value through convenience and practicality [4].

Digital innovation in Islamic banking focuses on Sharia compliance and ease of service. Therefore, legislation created by the Financial Services Authority (OJK) and the National Sharia Council—Indonesian Ulema Council (DSN-MUI) is crucial. While the DSN-MUI ensures that all digital transactions comply with Sharia principles, such as being free from usury, gharar, and maysir, the OJK ensures security, data protection, and digital risk management. The foundation for implementing Sharia digital financial services is demonstrated by POJK No. 12/POJK.03/2018 and DSN-MUI fatwas No. 116/2017 and No. 140/2021.

With increasing digitalization, banks have begun offering mobile banking services that can meet customer needs quickly and efficiently. However, the availability and quality of digital services contribute to customer satisfaction. Ease of use, security, access speed, system reliability, and customer service quality are some of the factors that influence customer satisfaction [5]. Clients may be dissatisfied and switch to another bank if the service does not meet their expectations [6].

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PT Bank Sumut Syariah KCP Hamparan Perak is one of the banks utilizing mobile banking services to carry out digital transformation. The Sumut Mobile service offers many features, including balance inquiries, transfers, bill payments, and credit purchases. In addition, they have a cardless feature for cardless cash withdrawals. However, field observations indicate that there are still problems, such as application instability, limited internet access in some areas, and a lack of digital literacy among some customers. This suggests that evaluation is needed to ensure that mobile banking services truly satisfy and loyal customers.[7]

A preliminary survey of 30 customers of Bank Sumut Syariah KCP Hamparan Perak found that most respondents considered the app's appearance, information accuracy, speed of service confirmation, and accessibility to assistance to be the best. These findings indicate that poor service delivery needs to be addressed to ensure mobile banking meets customer expectations and enhances long-term customer satisfaction.

Empirical studies on the impact of mobile banking services on customer satisfaction are crucial as they can serve as a strategic basis for developing better digital services, enhancing competitiveness, and strengthening sharia-compliant relationships with clients in the long term.

2. Research methods

Types of research

In this study, a quantitative method with an associative design was used to examine the causal relationship between M-Banking services and customer decisions to use Mobile-Banking services at PT Bank Sumut Syariah KCP Hamparan Perak. This method was chosen because it can explain the inter-structural influence in a measurable and unbiased manner [8].

Data source

The primary data were obtained from questionnaires distributed to customers using the mobile banking service of PT Bank Sumut Syariah KCP Hamparan Perak. Additional data were obtained from official reports, scientific journals, and literature related to the research subject.

Population and Sample

All customers of PT Bank Sumut Syariah KCP Hamparan Perak use mobile banking services. The criteria for consumers who still use the service were determined using a purposive sampling technique. To meet the requirements for statistical analysis, the sample size of respondents was 100 people [9].

Data collection technique

To supplement the research data, questionnaires, supporting documentation, and short interviews with banks were used.

Research Instrument Testing

To test the validity of the items, Pearson correlation was used; if the calculated r exceeds the table r , the item is considered valid. To demonstrate internal consistency, the reliability test uses Cronbach's Alpha with a minimum limit of 0.70 [9].

Data analysis

Respondent profiles and their response tendencies were described using descriptive analysis. To ensure that the regression model met statistical requirements, classical assumption tests such as heteroscedasticity, normality, and multicollinearity were performed. The impact of mobile banking services on customer satisfaction was measured through the main analysis using multiple linear regression.

Multiple Linear Regression Analysis

The models used are:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Information :

Y	: Customer satisfaction
α	: Constant
$\beta_1 \beta_2 \beta_3$: Regression Coefficient
X_1	: Display
X_2	: Accuracy
X_3	: Confidentiality
X_4	: Service Confirmation
X_5	: Access to call center
ε	: Error

Hypothesis Testing

The influence of each independent construct was measured using a t-test. The F-test was used for simultaneous testing with a significance level of 5%.

Coefficient of Determination (R²)

In explaining variations in consumer decisions, R² is used to calculate the total contribution of the Independent Constructs [9].

3. Results and Discussion

a. Research Results

1) Validity Test

Validity testing is conducted to ensure that each statement in the questionnaire has the ability to measure the intended construct. To assess item validity, the item-total corrected correlation value is measured and compared with the r-table value at a significance level of 0.05. The calculated r-value must be greater than or equal to the r-table value.

Table 1. Validity Test Results

Variables	Corrected Item-Total Correlation	Information
M-Banking Services (X)	$r_{hitung} > r_{tabel}$ 0.1966	Valid
Customer Satisfaction (Y)	$r_{hitung} > r_{tabel}$ 0.1966	Valid

Source: SPSS Output Results, 2025

All indicators of the M-Banking Service Construct and Customer Satisfaction are valid, because Table 1 shows that the calculated r is greater than 0.1966.

2) Reliability Test

If the Cronbach's Alpha value is more than 0.60, the instrument is considered reliable in the reliability test.

Table 2. Reliability Test Results

Variables	Cronbach's Alpha	Information
M-Banking Services (X)	0.823	Reliable
Customer Satisfaction (Y)	0.768	Reliable

Source: SPSS Output Results, 2025

M-Banking Service Constructs, Customer Satisfaction, and Cronbach's Alpha Values of more than 0.60 are shown in Table 2 above.

3) Normality Test

A normality test was conducted to determine whether the research data was regularly distributed. If the significance value exceeds 0.05, the data is considered regularly distributed.

Table 3. Normality Test Results

Statistics	Mark
N	100
Mean	0.0000000
Standard Deviation	6.14827486
Test Statistics	0.067
Asymp. Sig. (2-tailed)	0.200

Source: SPSS Output Results, 2025

According to Table 3, the significance value is 0.200 which is greater than 0.05, which indicates that the data is normally distributed.

4) Multicollinearity Test

To determine whether there is a correlation between independent constructs in the regression model, a multicollinearity test was performed. A tolerance of more than 0.10 and a VIF of less than 10 were used.

Table 4. Multicollinearity Test Results

Variables	Tolerance	VIF
Appearance	0.867	1,154
Accuracy	0.953	1,049
Confidentiality	0.835	1,198
Service Confirmation	0.825	1,212
Access to Call Center	0.754	1,327

Source: SPSS Output Results, 2025

Based on Table 4, there is no multicollinearity in all constructs because the Tolerance value is more than 0.10 and VIF is less than 10.

5) Heteroscedasticity Test

The heteroscedasticity test is used to determine whether residual variances differ between data sets. The heteroscedasticity test is performed using the Glejser test, which involves regressing independent constructs on absolute residual values. If the p-value (significance value) is greater than 0.05 or 5%, heteroscedasticity is considered absent.

Table 5. Multicollinearity Test Results

Variables	Sig.
Appearance	0.500
Accuracy	0.589
Confidentiality	0.767
Service Confirmation	0.215
Access to Call Center	0.379

Source: SPSS Output Results, 2025

There is no heteroscedasticity in this construct, as shown in Table 5. Because the sig value < 0.05 .

6) Multiple Linear Regression Test

The influence of independent constructs on dependent constructs can be measured using multiple linear regression analysis.

Table 6. Multicollinearity Test Results

Variables	B	t	Sig.
Constant	8,220	1,832	0.070
Appearance	0.694	1,992	0.049
Accuracy	0.613	2,437	0.017
Confidentiality	0.663	2,066	0.042
Service Confirmation	0.533	2,261	0.026
Access to Call Center	0.678	2,057	0.042

Source: SPSS Output Results, 2025

Regression equation:

$$Y = 8.220 + 0.694X_1 + 0.613X_2 + 0.663X_3 + 0.533X_4 + 0.678X_5$$

All M-Banking service constructs increase customer satisfaction, according to the regression results shown in Table 6. Appearance has the highest coefficient (0.694) but the lowest significance (0.049). The most consistent accuracy is 0.017, while the lowest significance is 0.049. Additional indicators, such as call center access, confidentiality, and service confirmation, are also significant, although their impact is smaller.

7) Partial Test

The t-test is used to determine the partial impact of each independent construct on the dependent construct.

Table 7. Partial Test Results

Variables	t-count	t-table	Sig.	Information
Appearance	1,992	1.98525	0.049	Significant
Accuracy	2,437	1.98525	0.017	Significant
Confidentiality	2,066	1.98525	0.042	Significant
Service Confirmation	2,261	1.98525	0.026	Significant
Access to Call Center	2,057	1.98525	0.042	Significant

Source: SPSS Output Results, 2025

All constructs have a positive and significant impact on customer satisfaction, as shown in Table 7, with t count results >1.98525 and sig value < 0.05 .

8) Simultaneous Test

The F test is used to determine whether the combined independent factors influence the dependent construct.

Table 8. Simultaneous Test Results

Model	F-count	F-table	Sig.
Regression	12,455	2.31	0.000

Source: SPSS Output Results, 2025

The simultaneous test results above show that the F-count is greater than the F-table (12.455 is greater than 2.31) and the significance value is lower than 0.05 (0.000 is lower than 0.05). Therefore, it can be concluded

that customer satisfaction of PT. Bank Sumut Syariah KCP Hamparan Perak is greatly influenced by five indicators of M-Banking services: display, accuracy, confidentiality, service confirmation, and access to the call center.

9) Coefficient of Determination Test

The coefficient of determination test is used to determine how much influence the independent constructs collectively have on the dependent construct.

Table 9. Results of the Determination Coefficient Test

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.596	0.355	0.321	6,195

Source: SPSS Output Results, 2025

The results of the determination coefficient test show an R value of 0.596, which indicates a moderate to strong relationship between M-Banking services and customer satisfaction. The R Square value of 0.355 indicates that the five M-Banking service indicators can explain 35.5% of the variation in customer satisfaction, and the adjusted R Square value of 0.321 indicates that the constructs studied influence 32.1% of customer satisfaction. Meanwhile, the remaining 67.9 % is influenced by variables not included in the study. Overall, the R2 value indicates that the regression model represents the influence of M-Banking services on customer satisfaction well.

b. Discussion

1) The Influence of M-Banking Services on Customer Satisfaction

The results of the F test show that M-Banking services have a significant influence on customer satisfaction of PT. Bank Sumut Syariah KCP Hamparan Perak, with F count = 10.151, F table = 2.31, and a significance value of 0.000 (<0.05). This shows that mobile banking services really help customers make transactions through their mobile devices [10]. Clients are more satisfied because the bank uses information technology to carry out various banking transactions without having to visit a branch office [11].

The model determination coefficient (R2 = 0.351) shows that M-Banking service indicators can cause 35.1 % of the variation in customer satisfaction. Other factors outside the research model, such as customer trust, risk perception, internet network quality, and previous transaction experience, contribute 64.9 % of the variation in customer satisfaction. This shows that external and psychological factors are still more important than mobile banking services [12].

Furthermore, the research findings indicate that a balance between the visual and technical elements of a mobile banking app is essential to provide a pleasant user experience. This is because an attractive, simple, and modern app design facilitates interaction and enhances user experience, which indirectly increases user satisfaction [13].

2) Mobile Banking Service Factors that Influence Customer Satisfaction

Regression analysis shows that all mobile banking service metrics, including appearance, accuracy, confidentiality, service confirmation, and call center access, have a positive impact on customer satisfaction. The information accuracy factor (X2) has the highest statistical significance value (p = 0.017), while the application regression coefficient is the highest (B = This shows that customer trust is highly dependent on system reliability, balance accuracy, transaction history, and transfer status [14].

In addition to accuracy, the data confidentiality factor was also proven significant (p = 0.042), indicating that personal information security is crucial for building customer security and trust, especially in Islamic banking [15]. With clear transaction notifications and responsive service, customers have a better experience, especially when making high-value transactions. Therefore, service confirmation and call center access can also be helpful [16].

Although the appearance of the application contributes to a comfortable initial user experience, its impact on user satisfaction is less significant than accuracy and security factors [17]. This shows that the development of mobile banking services is very important to maintain system reliability, data validation, and responsive support services, while maintaining a pleasant application appearance to increase customer satisfaction and customer loyalty [18].

4. Conclusion

The results of the study indicate that PT Bank Sumut Syariah KCP Hamparan Perak's mobile banking service has a positive and significant impact on customer satisfaction. The level of customer satisfaction is positively correlated with the quality of digital services provided. Application display, information accuracy, data security, transaction confirmation, and access to support services are some factors that can increase user satisfaction. Because customer trust is strongly influenced by the reliability of balance data, transaction history, and transfer status, information accuracy is a key factor among these factors. Mobile banking services can only make a small contribution to the satisfaction variable in this research model, as their contribution is still limited. Most factors influencing satisfaction are influenced by variables outside this study. Therefore, to provide a more comprehensive picture, further research is needed that includes additional constructs.

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