CUSTOMER DECISIONS ON BSI MOBILE: A PERCEIVED RISK PERSPECTIVE

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ABSTRACT

This study investigates the factors influencing the decision of Bank Syariah Indonesia (BSI) customers to use the BSI Mobile application, focusing on perceived risk, perceived ease of use, and perceived usefulness. Utilizing a quantitative approach, data were collected from 160 respondents in Lhokseumawe City through a structured questionnaire. The research employs multiple linear regression analysis to examine the relationships between the independent variables (perceived risk, perceived ease of use, and perceived usefulness) and the dependent variable (decision to use BSI Mobile). The findings reveal that all three independent variables significantly influence the decision to use BSI Mobile, with perceived ease of use and perceived usefulness having a more substantial impact compared to perceived risk. The study contributes to the understanding of mobile banking adoption in the context of Islamic banking and provides practical insights for enhancing customer engagement with mobile banking services

Keywords: Mobile Banking, Perceived Risk, Perceived Ease of Use, Perceived Usefulness, Islamic Banking

1. Introduction

The rapid advancement of information technology and the rise of various alternative banking transaction methods in recent years have substantially transformed how banks interact with their customers. To enhance technology-driven services, banks have developed what is commonly known as electronic banking, which includes ATMs (automated teller machines), SMS banking, internet banking, and mobile banking. Currently, the most recent offering from banks is Mobile Banking, a branch of electronic banking that is being actively promoted and prioritized due to its convenience and efficiency, as it can be used anywhere (Soelistya & Agustina, 2018).

Mobile Banking has now become a strategic tool for banks to deliver competitive services. Since conventional banks were the first to adopt Mobile Banking, providing this service has become a way for Islamic banks to stay competitive. One Islamic bank offering Mobile Banking is Bank Syariah Indonesia (BSI), which has developed a platform known as BSI Mobile. BSI Mobile is an application available for free download from the PlayStore or AppStore. This service enables customers to conduct Sharia-based banking transactions through their mobile phones or smartphones in a safe, fast, and convenient manner, anytime and anywhere, without needing to visit the bank (Maulana et al., 2019).

While BSI Mobile greatly facilitates transactions for its users, providing easy access to financial information and online transactions is especially beneficial for customers with high mobility. However,

as of June 2021, out of 15 million accounts (both individual and corporate), only 2.2 million users (customers) have adopted BSI Mobile. This shows that the number of customers using BSI Mobile is relatively small compared to the total number of Bank Syariah Indonesia accounts (Yogatama, 2021).

The various negative reviews received by BSI Mobile indicate that customers are not satisfied with the system. Customers experience difficulties in conducting online transactions, requiring extra effort to complete manual transactions by visiting branch offices or local KCPs.

The BSI Mobile application has been downloaded by over 10 million users on the PlayStore and AppStore, receiving a rating of 3.8 out of 5 stars with approximately 190,000 reviews (Indonesia, 2022) However, many one-star and two-star ratings, along with numerous user complaints, highlight issues such as frequent application errors, transaction timeouts, failed transactions, and slow complaint handling. These negative reviews indicate that customers are not satisfied with the system, experiencing difficulties in conducting online transactions, which requires them to visit branch offices or local KCPs for manual transactions.

Several factors influence customers' decisions to use BSI Mobile services. Psychological factors, such as consumer perceptions based on information received about BSI Mobile, play a significant role. While fintech payments offer benefits, they also carry risks. Perceived risk is the degree to which users believe in the security of a technological service. This study explores how perceived risk influences the use of the BSI Mobile application, explaining why consumers may or may not be interested in adopting new technology, thus affecting their decision-making process (Laksana et al., 2015).

Perceived risk significantly affects consumer behavior, particularly regarding trust in a product or service. Consumer purchasing decisions are often influenced by their concerns or fears about the products or services they intend to buy. A high perception of risk can lead to distrust, causing doubt and potentially leading consumers to avoid mobile banking transactions. Conversely, a low perception of risk can foster trust, resulting in commitment and customer loyalty (Jayantari & Seminari, 2018). This research examines time risk, performance risk, and privacy risk, as they are considered most relevant to the research problem.

Time risk refers to wasted time due to product failure, performance risk relates to the uncertainty and consequences of a product not functioning at the expected level, and privacy/security risk is defined as the potential loss of control over personal, transactional, and financial information (Tafadzwa Maziriri & Chuchu, 2017). These risks are significant considerations for users when conducting digital transactions with BSI Mobile. Therefore, innovation and development of BSI Mobile's features are essential. A comprehensive, simple, and appropriate feature set, combined with a robust security system, will likely attract more customers to use mobile banking and foster a high level of trust.

Furthermore, previous studies, such as Saputri (2018), measured perceived risk using indicators like risk awareness, transaction security, timeliness, transaction convenience, and facility security, showing a positive and significant impact on the interest in using Islamic e-banking. More & Suprapt (2022) found that perceived risk positively influenced the interest in using e-money. These studies underline the importance of addressing specific risk dimensions to improve user adoption rates. Integrating these findings with a focus on time risk, performance risk, and privacy risk will provide a more comprehensive understanding of the factors that can enhance user trust and satisfaction with BSI Mobile.

2. Literature Review

The adoption of mobile banking has been the subject of extensive research in recent years, reflecting its growing importance in the financial sector. This review synthesizes key findings from various studies to provide a comprehensive understanding of the factors influencing mobile banking adoption, with a particular focus on perceived risk, user perceptions, and the role of technology acceptance models.

2.1. Perceived Risk and Mobile Banking Adoption

Perceived risk plays a crucial role in the adoption of mobile banking services. According to Featherman and Pavlou (2003), perceived risk can be divided into several dimensions, including financial risk, performance risk, psychological risk, privacy risk, and time risk. These dimensions collectively influence a consumer's decision to adopt new technology. For instance, Tafadzwa Maziriri and Chuchu (2017) emphasize that privacy and security concerns are significant barriers to the adoption of online services. Similarly, Jayantari and Seminari (2018) found that high perceived risk leads to distrust, which can deter users from adopting mobile banking.

2.2. User Perceptions and Technology Acceptance

User perceptions of ease of use and usefulness significantly impact their intention to use mobile banking. The Technology Acceptance Model (TAM) posits that perceived ease of use and perceived usefulness are primary determinants of technology adoption (Davis, 1989). In the context of mobile banking, studies by Maulana et al. (2019) and Akturan and Tezcan (2012) support this model, indicating that positive user perceptions of these factors enhance the likelihood of mobile banking adoption. Zahra (2021) further adds that trust is a critical component, influencing satisfaction and continued use of mobile banking services.

2.3. Empirical Studies on Mobile Banking in Islamic Banking

Specific studies focusing on Islamic banking provide insights into the unique challenges and opportunities in this sector. Alhusain (2021) discusses the strategic importance of mobile banking for Bank Syariah Indonesia (BSI) in enhancing national economic growth. The study by Saputri (2018) highlights that perceived risk, security, and ease of use significantly influence the adoption of Islamic

e-banking services. Similarly, Tolabi (2021) found that perceived ease of use and perceived usefulness, along with trust, are pivotal in the adoption of mobile banking among Islamic bank customers.

2.4. Impact of Negative User Experiences

Despite the potential benefits, negative user experiences can significantly hinder the adoption of mobile banking. The BSI Mobile application, for instance, has received numerous complaints about frequent application errors, transaction timeouts, and slow complaint handling, as reported on PlayStore (Play.google.com, 2021). These issues underscore the importance of reliable and user-friendly interfaces in fostering trust and encouraging the use of mobile banking services.

3. Research Method

3.1. Research Design

This study adopts a quantitative research design, focusing on the relationships between perceived risks and the decision to use BSI Mobile. The research utilizes a survey method to collect primary data from respondents, which is then analyzed using statistical techniques.

3.2. Population and Sample

Population: The population for this study consists of active BSI Mobile users in Lhokseumawe City. The population data is sourced from BSI KC Lhokseumawe Merdeka 1, 2, 3, and 4 (2022), and is summarized as follows:

Table 1

Data on the Number of Active BSI Mobile Users in Lhokseumawe City

No	Name of Branch	Number of Active Users
1.	BSI KC Lhokseumawe Merdeka 1	5226
2.	BSI KC Lhokseumawe Merdeka 2	2556
3.	BSI KC Lhokseumawe Merdeka 3	6206
4.	BSI KC Lhokseumawe Merdeka 4	7986
	Total	21974

Source: BSI KC Lhokseumawe Merdeka 1,2,3, and 4 (2022)

3.3. Sample

The sample size for this study is 160 respondents, determined using the Hair formula. Incidental sampling is employed to select respondents who are conveniently available and willing to participate in the study.

3.4. Data Collection Method

Data will be collected using a structured questionnaire designed to measure the variables of interest. The questionnaire will consist of items rated on a Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The items are developed based on the indicators of each variable.

The questionnaire will be distributed to the selected sample of 160 active BSI Mobile users in Lhokseumawe City. Respondents will be approached at various BSI branches and public places to ensure a diverse sample.

3.5. Research Variables and Measurement

The research involves the following variables and their operational definitions:

Table 2

Operational Variable

No.	Research Variable	Indicator	Measurement Method
1	Time Risk (X1)	- Time spent implementing a product - Time to learn how to use it - Time wasted due to product failure - Discomfort from navigation difficulties	Likert Scale
2	Performance Risk (X2)	- Product suitability - Access issues with a service application - Losses due to server malfunction	Likert Scale
3	Privacy Risk (X3)	- System Security - Risk of failure in protecting or controlling transactions and financial information - Risk of failure to protect personal information - Potential losses due to hackers	Likert Scale
4	Decision to Use BSI Mobile (Y)	- Meets needs - Provides benefits - Accuracy in purchasing product - Post-purchase behavior	Likert Scale

3.6. Data Analysis

The data collected will be analyzed using multiple linear regression analysis to determine the effect of the independent variables (time risk, performance risk, and privacy risk) on the dependent variable (decision to use BSI Mobile).

3.7. Steps in Data Analysis:

3.7.1. Descriptive Statistics:

1. Summarize the demographic characteristics of the respondents.

2. Calculate mean, standard deviation, and frequency distributions for each variable.

3.7.2. Reliability and Validity:

1. Test the reliability of the questionnaire using Cronbach's alpha.

2. Conduct factor analysis to ensure the validity of the constructs.

3.8. Multiple Linear Regression Analysis:

Regression model developed: $Y = \alpha + b_1 X_1 + b_2 X_2 + b_3 X_3$

Where:

Y   : Decision to use BSI Mobile

a   : Intercept

b_1, b_2, b_3 : Coefficients for the independent variables
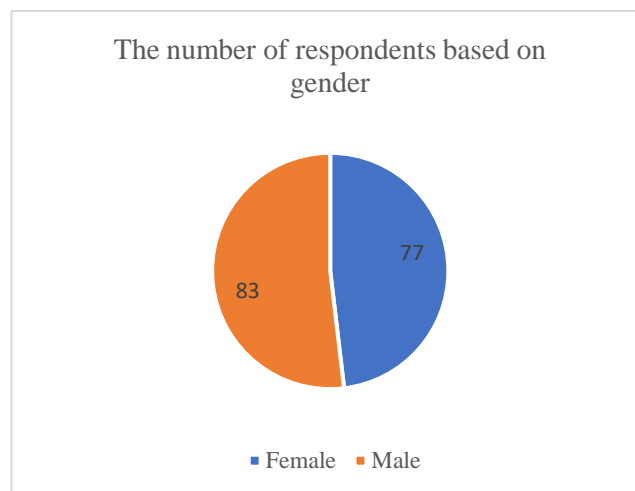
X_1 : Time risk

X_2 : Performance risk

X_3 : Privacy risk

4. Result

4.1. Result

4.1.1. Distribution of Respondent Characteristics

Figure 1
Male and Female Respondents

Source: Processed Data

A sample of 160 individuals was analyzed, revealing that 77 respondents were female (48.1%) and 83 were male (51.9%). The age distribution of the respondents showed that 48 individuals (30.0%) were between 17-20 years old, 82 individuals (51.2%) were between 21-30 years old, 17 individuals (10.6%) were between 31-40 years old, 12 individuals (7.5%) were between 41-50 years old, and 1 individual (0.6%) was over 50 years old. Regarding occupation, 106 respondents (66.3%) were students, 28 respondents (17.5%) were private employees, 10 respondents (6.3%) were government employees (including military and police), 6 respondents (3.8%) were entrepreneurs, 8 respondents (5.0%) were business owners, and 2 respondents (1.3%) were housewives.

4.1.2. Validity and Reliability Tests

The criteria for determining the validity of an instrument in this study involve comparing the Corrected Item–Total Correlation value for each question item with the r-table value. If the calculated r-value is greater than the r-table value of 0.1562 and positive, the question item is considered valid. Conversely, if the r-value is less than the r-tabel and negative, the item is deemed invalid. The results indicate that all question items are valid, with r-values ranging from 0.552 to 0.813, all exceeding the r-table value of 0.1562. Additionally, the reliability test used is Cronbach's Alpha, with a threshold of 0.60. According to Ghozali (2011), if Cronbach's Alpha is greater than 0.60, the variable's questions are reliable; otherwise, they are not. The findings show that the Cronbach's Alpha values for the research variables are 0.694 for Risk of Time, 0.684 for Risk of Performance, 0.625 for Risk of Privacy, and 0.678 for Decision to Use BSI Mobile, indicating that each question item in the research variables is reliable and meets the required criteria.

4.1.3. Classical Assumption Tests

The classical assumption tests conducted in this study include tests for normality, heteroscedasticity, multicollinearity, and autocorrelation to ensure the robustness of the regression model. Normality was assessed using a normal P-P plot, where the points followed the diagonal line, indicating a normal distribution.

This was supported by the Kolmogorov-Smirnov test, which showed an Asymp. Sig. (2-tailed) value of 0.069, greater than 0.05, confirming that the data is normally distributed. Heteroscedasticity was tested using the White test, where the calculated chi-square value of 5.76 was less than the chi-square table value of 5.991, indicating no heteroscedasticity.

Multicollinearity was evaluated through tolerance and VIF values; all variables had tolerance values greater than 0.10 and VIF values less than 10, indicating no multicollinearity.

Autocorrelation was tested using the Durbin-Watson method, resulting in a value of 1.831, which lies between the upper and lower bounds ($1.7798 < 1.831 < 2.2202$), indicating no autocorrelation.

These tests collectively confirm that the regression model meets the necessary classical assumptions.

4.1.4. Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.965	1.240		2.390	.018
1 Time Risk (X1)	.436	.064	.441	6.839	.000
Performance Risk (X2)	.244	.078	.239	3.119	.002
Privacy Risk (X3)	.152	.068	.167	2.233	.027

Source: Processed Data (2022)

The regression model is:

$$Y=2.965+0.436X_1+0.244X_2+0.152X_3$$

From the multiple linear regression equation, it can be concluded that the constant value (a) is 2.965, indicating a direct influence between the independent and dependent variables. This means that if all independent variables—time risk, performance risk, and privacy risk—are zero or constant, the decision to use BSI Mobile will have a value of 2.965. Additionally, the coefficient values show positive relationships between the independent variables and the dependent variable: the time risk variable (X1) has a positive relationship of 0.436 with the decision to use BSI Mobile, the performance risk variable (X2) has a positive relationship of 0.244, and the privacy risk variable (X3) has a positive relationship of 0.152.

4.1.5. Hypothesis Test

The hypothesis testing in this study involved both partial (t-test) and simultaneous (F-test) analyses to determine the significance of the independent variables on the dependent variable.

Figure 2

Partial Test (t-test)
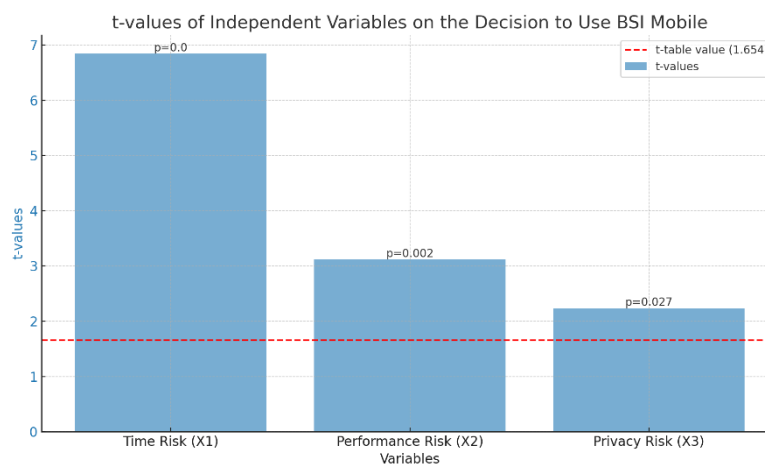
Source: Processed Data (2022)

The graph illustrates the results of the t-test for the independent variables Time Risk (X1), Performance Risk (X2), and Privacy Risk (X3) about the decision to use BSI Mobile. Each bar represents the t-value of the respective variable: Time Risk has a t-value of 6.839, Performance Risk has a t-value of 3.119, and Privacy Risk has a t-value of 2.233. All t-values are greater than the t-table value of 1.654, indicated by the dashed red control line, signifying that each variable has a significant positive effect on the decision to use BSI Mobile. The significance levels (p-values) for Time Risk, Performance Risk, and Privacy Risk are 0.000, 0.002, and 0.027 respectively, all below the 0.05 threshold, further confirming the statistical significance of these relationships. The graph visually confirms that higher values of Time Risk, Performance Risk, and Privacy Risk are associated with a higher likelihood of deciding to use BSI Mobile.

The F-test results showed that the calculated F-value was 44.032, which is greater than the F-table value of 3.05, with a significance level of 0.000. This indicates that the independent variables, collectively, positively and significantly affect the decision to use BSI Mobile.

Additionally, the correlation analysis revealed a correlation coefficient (R) of 0.677, suggesting a strong and positive relationship between the independent variables (time risk, performance risk, and privacy risk) and the dependent variable (decision to use BSI Mobile). The coefficient of determination (R^2) was 0.459, indicating that 45.6% of the variance in the decision to use BSI Mobile can be explained by the independent variables, while the remaining 54.4% is influenced by other factors not included in this study.

4.1.6.   Analysis of the Influence of Risks on the Decision to Use BSI Mobile

The research findings reveal that the Time Risk variable significantly influences the decision to use BSI Mobile. This indicates that time risk has a positive and significant effect on this decision. Users' perceptions of time risk impact their decision to use BSI Mobile; as long as users do not experience this risk, their interest in using BSI Mobile remains unaffected. Improved perceptions of time risk among users will likely enhance their decision to use the service. This finding aligns with Saputri's (2018) research, which indicates that perceived risk positively and significantly influences the interest in using electronic banking facilities of Islamic banks, and Arfiani's (2019) study, which shows a similar influence on the interest in using mobile banking at Bank BRI Syariah KCP Ngawi.

Similarly, the Performance Risk variable has a significant role. This indicates that performance risk positively and significantly affects the decision to use BSI Mobile. Users' perceptions of performance risk influence their decision; as long as they do not experience performance issues, their interest remains high. Improving these perceptions will further enhance users' decisions to use BSI Mobile. This finding is consistent with Arfiani's (2019) research on mobile banking at Bank BRI Syariah KCP Ngawi and More & Suprapt's (2022) study on mobile banking transaction interest.

Privacy Risk also significantly affects the decision to use BSI Mobile. This indicates that privacy risk has a positive and significant influence. Users' perceptions of privacy risk impact their decision; as long as they do not face privacy issues, their interest remains steady. Enhancing these perceptions will improve their decision to use BSI Mobile. This finding is supported by Lallmahamood's (2007) research, which indicates that perceived security and privacy affect internet banking usage, and Hadi & Novi's (2015) study, which shows a significant influence of perceived security on mobile banking.

When considering the combined effect of Time Risk, Performance Risk, and Privacy Risk on the decision to use BSI Mobile, the simultaneous test results are compelling. This confirms that these independent variables collectively have a positive and significant effect on the decision to use BSI Mobile. The coefficient of determination indicates that these variables explain a substantial portion of

the variation in the decision to use BSI Mobile, while the remaining portion is influenced by other factors not included in this study.

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