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Increasing Customer Loyalty Through Mobile Banking Services: Case Study of Customer Satisfaction at PT. BNI Purbalingga Branch

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Abstract

The advance of digital technology, especially technology in the field of financial services, has brought very significant changes to the banking industry. This study aims to analyze and determine the influence of mobile banking services on customer satisfaction and its impact on customer loyalty. This research was conducted by surveying BNI Purbalingga Branch customers. Data samples were obtained as many as 200 respondents. This research analysis test is the Structural Equation Modeling (SEM) method. The results found that the service features and technological innovation of BNI mobile banking have a positive and significant effect on the satisfaction of savings customers at the BNI Purbalingga Branch Office. BNI mobile banking customer satisfaction also has a positive effect on savings customer loyalty at the BNI Purbalingga Branch Office. Meanwhile, the perceived risk of BNI mobile banking has a negative and significant effect on savings customer satisfaction at the BNI Purbalingga Branch Office.

Keywords: Marketing management, Business management, Service features, Customer satisfaction, Customer loyalty

1. INTRODUCTION

This research was carried out because of the increasing need for digitalization of banking services (Masitoh et al., 2023). Therefore, customers increasingly need branchless services, meaning that they do not need to come to the bank office, but transaction activities can be carried out from anywhere, and at any time without space and time limitations (Kurnianingsih & Maharani, 2020). This also makes banking companies compete to create and continually improve their digitalization services, providing various features

that are easy to use, complete and safe (Jiang et al., 2021). Apart from banking, fintech is also growing in creating applications that offer various transaction features with various conveniences, free of charge, and can be used as savings without incurring account fees. However, in general, customers will make their choice on one bank, as a reservoir for their savings and their main transaction tool.

Banks that want to develop and achieve competitive advantage must be able to provide better services to customers compared to their competitors (Donnellan & Rutledge, 2019). Services are actions that can be provided by one party to another party which are basically intangible and do not produce goods, where the production of services can be related to physical or non-physical aspects (Fitria et al., 2021). Service is manifested in the behaviour of a producer in order to fulfill consumer needs and desires until consumer satisfaction is achieved (Masitoh et al., 2023). Customer satisfaction and loyalty are also factors in business success (Yudhanto et al., 2022). To meet customer satisfaction in the banking industry, companies must manage the quality of customer service well in order to maintain their trust and satisfaction. Customer satisfaction not only provides benefits in the short term but can provide benefits in the long term and provide a competitive advantage for service provider companies (banks). If customers always feel that the service provided by the bank exceeds their expectations, this means that the customer is unlikely to switch to another bank.

Several previous studies have shown that the quality of mobile banking services influences the satisfaction and loyalty of a bank's customers (Lebdaoui & Chetioui, 2020; Srouji et al., 2019). Nawangsari & Widiastuti (2018), His research examines the influence of service quality, trust and mobile banking services on customer satisfaction at Bank DKI, Depok city. The research results show that service quality, trust and mobile banking services influence Bank DKI customer satisfaction in the city of Depok. Markonah (2017), his research analyzed the influence of mobile banking on customer satisfaction and loyalty at Bank Mandiri Jakarta branch. The research results show that customer satisfaction has a positive influence on Bank Mandiri customer loyalty, while mobile banking services also have a positive impact on Bank Mandiri customer loyalty.

Study carried out by Rizal & Munawir (2017), His research on the impact of service on customer satisfaction when using mobile banking at Bank BCA Banda Aceh branch shows that customer satisfaction has a significant influence, both individually and overall, on customer satisfaction using mobile banking at Bank BCA Banda Aceh branch. Febrianta & Indrawati (2016) regarding "The influence of Mobile Banking service quality on BCA Bank customer satisfaction in Bandung City" shows that four independent variables—namely guarantee and security, comfort, efficiency and ease of use—have a significant positive influence on customer satisfaction. However, two independent variables, namely reliability and responsiveness, did not show a significant effect. Maulana et al. (2019), His study on "The influence of using Mobile Banking on customer interest in making transactions using the technology acceptance model" shows that the perceived usability variable has a significant influence on customer interest in making transactions.

Kurniawati et al., (2017) regarding "Analysis of Interest in Using Mobile Banking with the Modified Technology Acceptance Model (TAM) Approach" shows that all constructs in the original TAM model are statistically significant. However, on the other hand, gender as an external variable in this study does not influence perceptions of usefulness and ease of use. Kaban (2020) regarding "Analysis of the relationship between customer satisfaction and post-purchase behaviour: Empirical study at BSM Depok" shows that there is a fairly strong relationship between customer satisfaction and post-purchase behaviour, which includes loyalty

such as spreading positive things about the quality of sharia banking services to other people, recommend sharia bank services to others, remain loyal to sharia banks, and carry out more transactions with sharia banks. Likewise Omoregie et al. (2019) which revealed that the quality of banking services has an indirect influence on customer loyalty.

The use of digital channels for transactions continues to increase after the Covid-19 pandemic. One indicator of this trend is the continued growth in the use of mobile banking. PT Bank Negara Indonesia (Persero) Tbk. or BNI, as a pioneer in services and fulfilling people's digital transaction needs, has succeeded in maintaining growth as the main choice for accessing digital banking services through BNI Mobile Banking. This can be seen from the increase in the number of BNI Mobile Banking users in the first five months of this year, which reached 23.9% on an annual basis (YoY), from 11.8 million users in May 2022 to 14.7 million users. Therefore, the author wanted to carry out further research on this national trend, but due to time constraints and the length of the process of obtaining national data, this research was carried out by taking the research location at PT. Bank Negara Indonesia (Persero) Purbalingga Branch Office, with a working area covering Purbalingga Regency and Banjarnegara Regency, Central Java Province. The choice of location was based on the author's work unit, so it is hoped that the results of this research can be implemented in preparing future business strategies. The use of samples and research objects is also different from several previous researchers, where the samples used in this research were 200 customers of BNI Purbalingga Branch Office, with the hope that the results of this research can become a reference for policy makers in developing marketing strategies through BNI mobile banking. Therefore, this research was conducted with the aim of determining the influence of BNI Mobile Banking Features, BNI Mobile Banking Technological Innovation, and BNI Mobile Banking risk perceptions on savings customer satisfaction at the BNI Purbalingga Branch Office and its impact on customer loyalty.

2. THEORETICAL FRAMEWORK

2.1. Service Theory

Service is a pleasant feeling given to other people accompanied by friendliness and ease in meeting their needs. Services are provided as actions or deeds of a person or organization to provide satisfaction to customers or clients (Kaban, 2020). These actions can be carried out through direct activities in serving customers. The difference between customers' expectations and reality regarding the service they receive is known as service quality (Lebdaoui & Chetioui, 2020). Service quality can be determined by comparing customer perceptions of the service they actually receive with the actual service they expect (Omoregie et al., 2019).

Service quality is the main thing that companies pay serious attention to, which involves all the company's resources. Referring to the understanding of service quality, the concept of service quality is the responsiveness and reality of the services provided by the company. Service quality must start from customer needs and end with customer perceptions. Customers or customers are individuals or parties who receive services according to their needs, so anyone can become a customer depending on the situation. Customers are dynamic subjects, greatly influenced by internal factors within themselves and external factors outside themselves (Parera et al., 2021). Customers' responses and actions arise from their perceptions and expectations of stimuli, both from within themselves and from outside, to fulfill their needs and

demands. The importance of providing quality services lies in the fact that service is not just fulfilling requests or serving. Service means understanding, feeling and comprehending, so that the delivery will touch the hearts (heartshare) of customers and ultimately strengthen the position in their minds (mind share). With strong heart share and mind share, customer loyalty to the product or company will not be in doubt.

2.2. The Influence of Mobile Banking Features on Customer Satisfaction

Mobile banking is a service that provides transaction features via smartphone, allowing customers to carry out various types of banking transactions directly from their devices (Nawang Sari & Widiastuti, 2018). The service features in mobile banking are similar to SMS banking, but M-Banking offers more options than SMS banking. While SMS banking only provides information via text messages, M-Banking provides various additional features. To access this service, users need to download the M-Banking application from the app store or iOS. Mobile banking is a service provided by banks to support various transactions to increase effectiveness and efficiency (Febrianta & Indrawati, 2016). Like other mobile banking, BNI M-Banking also offers various features that make it easier for customers to check account information and make important payments. The features available in mobile banking services include balance information, credit card bills, account mutations and interest rates.

Features serve as a competitive tool to differentiate a company's products from competitors' products (Iqbal et al., 2021). Being a pioneer in introducing valuable new features is the most effective strategy for competing (Kotler, P., Keller, 2011). A feature is an aspect of a product that includes additional elements, including complementary features. Apart from the main function, a product usually offers other additional functions, such as a cellphone that not only functions as a communication tool but also has features such as cameras, games and maps. (Badaruddin & Risma, 2021).

The main issue arising from the increasing number of mobile phone users is that what kind of features and facilities should be provided to customers so that they are motivated to use mobile banking services. The incredible features, convenience and accessibility are what make mobile banking so attractive to consumers without corporate practitioners knowing. To achieve this goal, companies and entrepreneurs can utilize mobile banking in their business dealings related to transactions. Banks can help companies save time by providing important information that can be accessed in real-time. Using a smartphone, tablet, or other mobile device, users can make decisions and authorize transactions from anywhere (Ali et al., 2020).

Features refer to the services offered through e-banking. Product updates are related to the existence of appropriate technology, technical support, as well as the introduction and improvement of appropriate electronic services (Badaruddin & Risma, 2021). In mobile banking, features refer to the various functions that customers can access through the service. Based on research conducted by Liang et al. (2020), The majority of customers stated that feature availability influenced their decision to switch. About 25% of mobile banking users have switched to new or updated features.

Based on previous research regarding empirical test results, they show that product feature variables and perception variables can influence user satisfaction. The mobile banking feature can

influence customer satisfaction as seen in the results of research conducted by (Iqbal et al., 2021). So are, Badaruddin & Risma (2021) which shows that service features have a positive and significant influence on vocational school students' satisfaction in using edulearning. Research result Fitriani et al. (2021) also shows that product features have an effect on satisfaction, although they have a negative effect on purchasing Kartu As. Based on the explanation that has been given, the first hypothesis of this research is prepared as follows.

H1: The Mobile Banking feature has a positive effect on Customer Satisfaction.

2.3. The Influence of Mobile Banking Technology Innovation on Customer Satisfaction

With the issuance of Financial Services Authority Regulation Number 12 / POJK.03 / 2018 concerning the implementation of digital-based banking services, it is hoped that banks will be able to provide services without time and place limitations and at the minimum possible cost. (Yusuf et al., 2023). The impact of the development of technological innovation is increasingly felt by the wider community, and causes many changes in human life, from the way they interact with each other, to their economic and business activities. (Marsella et al., 2023). With the shift in consumer behavior, a bank must innovate, namely developing its services based on technology, with digital banking services making services faster and more comprehensive and integrated with the wider community. One of the technological innovations in banking services currently used is the use of electronic devices such as internet banking and mobile banking (Saura, 2021).

Information and communication technology is a crucial element for financial service providers, especially banking, considering the high use of gadgets and computers as tools for financial transactions (Mauladi et al., 2022). Banks can develop innovations in information and communication technology independently or through partnerships with other parties. This allows banks to offer services without time and place restrictions to customers (Thakor, 2019). Progress in the application of information technology has brought us into the era of digital banking. Digital-based services aim to meet customer needs by utilizing digital technology through hardware and software as delivery channels, in accordance with POJK regulation no. 12/POJK.03/2018.

Hanafizadeh & Amin (2022) stated that digital innovation allows banks to provide electronic reports which can reduce reporting costs. Therefore, banking technology innovation can fulfill customer satisfaction and bring customer satisfaction and loyalty. Banks can create opportunities for customers to continue making transactions. Previous research shows that innovation in digital banking has a significant impact on customer performance satisfaction (Chen et al., 2021; Kurnianingsih & Maharani, 2020; Susilawaty & Nicola, 2020; Thakor, 2019; Yudhanto et al., 2022; Yuniarti & Rasyid, 2020). Based on the explanation that has been given, the second hypothesis for this research is formulated as follows.

H2: Mobile Banking Technology Innovation has a positive effect on Customer Satisfaction.

2.4. The Influence of Mobile Banking Risk Perceptions on Customer Satisfaction

Perception is the process by which we organize, select and translate input information in order to create a meaningful picture

of the world. The main point here is that not only does perception depend on physical stimuli, but it is also related to stimuli in the surrounding field and the conditions that exist in it. in us(Kotler & Armstrong, 2012). Risk perception indicates uncertainty, before, during and after service use(Laurency & Arifin, 2022). Apart from convenience, security is also an important factor for customers in choosing mobile banking.

Many customers find the mobile banking application difficult to use and doubt its security. In fact, mobile banking users are more vulnerable to fraudulent attacks, such as smishing. These scams typically involve fake messages requesting bank account details from users, sent by fraudsters claiming to be financial institutions. This kind of fraud can cause financial losses to customers and pose major risks, especially if it involves their personal data(Mauladi et al., 2022). Perceived risk is something that disturbs customers' minds because it cannot be clearly identified(Isnurhadi et al., 2021).

Risk is uncertainty that influences a person's decision to carry out or not carry out a transaction(Nawaz et al., 2020). In other words, online transactions can pose significant risks because there is no direct interaction between the parties involved. This makes it impossible for customers to ensure whether the transactions carried out have followed the correct procedures. Previous researchMukaramah (2020), shows that risk perception does not have a significant positive influence on customer satisfaction in using mobile banking. Based on the explanation that has been given, the third hypothesis of this research is formulated as follows.

H3:Mobile Banking Risk Perception has a negative effect on Customer Satisfaction.

2.5. The Influence of Satisfaction on Customer Loyalty

Current technological developments are very rapid and have touched almost all sectors(Abad-Segura et al., 2020; Bayu et al., 2022; Khan et al., 2021; Saragih & Dewayanto, 2023). Technological progress is felt by almost all levels of society. Mobile Banking (M-Banking) is an example of implementing changes in technology-based banking services(Zhang, 2018). M-Banking offers easy services through General Packet Radio Service (GPRS) technology which can be accessed via cell phone(Liang et al., 2020).

M-Banking offers the convenience of unlimited service thanks to 24/7 operations, namely services that are available seven days a week for twenty-four hours. Customers who are satisfied with using M-Banking tend to continue to use it for all their financial transactions. Ease of access with simple and obstacle-free features can increase customer satisfaction. However, some customers may experience difficulties in accessing services, which may result in complaints. Complaints like this can reduce customer trust and satisfaction, as well as affect their loyalty to M-Banking(Omoregie et al., 2019). Therefore, to ensure optimal interaction and customer satisfaction, applications must be designed with a reliable operating system to simplify all customer transactions.

This is because the use of M-Banking is very dependent on the network or internet connection(Hanafizadeh & Amin, 2022), Transaction failure can be annoying and cause a loss of customer trust. However, each bank has designed service features that are easy to understand to increase customer satisfaction and build loyalty towards their M-Banking. Apart from that, customer loyalty can also have an impact on word of mouth promotion, where satisfied customers will recommend M-Banking to others.

Previous research has proven that customer satisfaction has a positive relationship and has an impact on banking customer loyalty(Omoregie et al., 2019; Pratiwi & Ellyawati, 2023; Triyanti et al., 2021). Based on the explanation that has been given, the fourth hypothesis of this research is formulated as follows.

H4:Customer Satisfaction has a positive effect on Customer Loyalty

3. RESEARCH METHOD

The type of research that will be carried out is quantitative research. The method used to complete this research was a survey. The survey method is a research approach used to study certain populations and samples, by collecting primary data using systematic and structured research instruments. The aim is to test the hypothesis that has been established(Jaya, 2020). The unit of analysis in this research is the individual. The type of data used is one-time or cross-sectional data, namely data collected at a certain point in time to answer research questions.

The population used in this research was BNI Mobile Banking customers at the Purbalingga branch office. Because the population size is not known with certainty, to determine the sample size, the unknown populations formula is used (Frendy, 2011)as follows:

$$n = \frac{Z^2}{4\mu^2}$$

Information:

n= sample size

Z= level of sample confidence required in research (at $\alpha = 5\%$ or the degree of confidence is determined to be 95% then $Z = 1.96$)

μ = margin of error, tolerable error rate (determined 10%)

Sampling using the accidental sampling technique is a technique for determining samples based on chance, that is, anyone who coincidentally or incidentally meets the researcher can be used as a sample, if deemed suitable as a data source. The data collection technique in this research uses a questionnaire. A questionnaire or questionnaire is data collection carried out by giving questions or written statements to respondents to answer(Jaya, 2020). The assessment method uses a Likert scale. SLikert time is used to measure attitudes, opinions and perceptions of a person or group of people about social phenomena.Variable measurements can be seen more clearly in table 1 below.

Table 1.Measurement of Research Variables

No.	Variable	Indicator	Dimensions	Measurement
1	BNI Bank Mobile Banking Service Features(Kurnianingsih	Convenience	Easy to learn Easy to control Easy to understand	Likert scale

	& Maharani, 2020)		Flexibility	
		Feature Availability	Suitability of service features	
			Ease of service features	
			Modernization of service features	
		Additional privileges	Ease of access to information about products and services	
			Diversity of transaction services	
			Real use	
2	BNI Mobile Banking Technology Innovation(Yusuf et al., 2023)	Competitive advantages of digital innovation	International Services	Likert scale
		The benefits of digital innovation for stakeholders, such as customers or other external parties	Benefits for stakeholders	
		The company has implemented digital innovation in the last three years (2022-2021-2020)	Satisfied with the facilities	
3	BNI Mobile Banking Risk Perception(Laurency & Arifin, 2022).	Perception of Financial Risk	Financial Gains and Losses	Likert scale
		Security Risk Perception	Mobile Banking Security	
		Time Risk Perception	Time Flexibility	
4	BNI Mobile Banking Customer Satisfaction(Kamarudin et al., 2022)	Services provided	Conformity of service to expectations	Likert scale
			Satisfaction with the services offered.	
		Banking Product Services	Product Quality	
			Disconfirmation	
		Information Services to Customers	Satisfied with the information provided.	
			Gives a pleasant impression	
		Rates paid in transactions	Compliance of services with rates paid.	
5	Customer Loyalty(Muchran et al., 2022)	Referring Products	Referring to others	Likert scale
		Immune to competitors	Demonstrates immunity to offers from competitors	
		Using/purchasing interline products	Have interest and interest in various other products.	

The data analysis technique used in this research uses SEM (Structural Equation Modeling) which is carried out using the Smart PLS program. SEM (Structural Equation Modeling) is a statistical technique that can analyze relationship patterns between latent constructs and their indicators, between latent constructs, as well as direct measurement errors.

4. RESULTS AND DISCUSSIONS

Table 2. Characteristics of respondents based on gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	151	75.5%	75.5	75.5
	Woman	49	24.5%	24.5	100.0
	Total	200	100.0%	100.0	

Source: Data tabulation results, 2024.

Based on table 2 above, it can be seen that the number of male respondents was 151 people or 75.5%, more than the number of female respondents with a percentage of 24.5% or 49 people. This shows that the number of male respondents dominates in using the BNI Mobile Banking service features in Purbalingga.

Table 3. Characteristics of respondents based on age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30 years	78	39.0%	39.0	39.0
	31-40 years old	50	25.0%	25.0	64.0
	41- 50 years old	58	29.0%	29.0	93.0
	51-60 years old	14	7.0%	7.0	100.0
	Total	200	100.0%	100.0	

Based on table 3 above, it can be seen that the majority of respondents in this study were aged 20-30 years with a percentage of 39% or as many as 78 people. Then in next order were aged 31-40 years with a percentage of 25%, aged 41-50 years with the percentage was 29% and 14 people aged 51-60 years or 7%. This shows that in terms of age, respondents of productive age, namely 20-30 years, use the BNI Mobile Banking service features in Purbalingga more often.

Table 4. Characteristics of respondents based on education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	49	24.5%	24.5	24.5
	S1	35	17.5%	17.5	42.0
	S2	13	6.5%	6.5	48.5
	SENIOR HIGH SCHOOL	44	22.0%	22.0	70.5
	vocational school	59	29.5%	29.5	100.0
	Total	200	100.0	100.0	

Source: Data tabulation results, 2024.

Based on Table 4 above, it can be seen that the majority of respondents used in this research were vocational school graduates with a percentage of 29.5%, then in next order, namely high school graduates with a percentage of 22% and Diploma graduates with a percentage of 24.5%. This shows that in terms of recent education, respondents with a vocational school education most often use the BNI Mobile Banking service features in Purbalingga.

Table 5. Characteristics of Respondents Based on Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BUMN employees	20	10.0%	10.0	10.0
	Private sector employee	61	30.5%	30.5	40.5
	Self-employed	119	59.5%	59.5	100.0
	Total	200	100.0%	100.0	

Source: Data tabulation results, 2024.

Based on table 5. above, the majority of respondents in this study work as entrepreneurs with a percentage of 59.5%, then work as private employees with a percentage of 30.5% and BUMN employees with a percentage of 10%. This shows that the BNI Mobile Banking service features really support the transaction mobility of entrepreneurs in Purbalingga.

Table 6. Characteristics of Respondents Based on Length of Time as a BNI Mobile Banking customer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 years	10	5.0%	5.0	5.0
	3 years	18	9.0%	9.0	14.0
	4 years	6	3.0%	3.0	17.0
	5 years	39	19.5%	19.5	36.5
	6 Years	91	45.5%	45.5	82.0
	7 Years	36	18.0%	18.0	100.0

	Total	200	100.0%	100.0	
	Total	200	100.0%	100.0	

Source: Data tabulation results, 2024.

Based on table 6. above, the majority of respondents have been BNI Mobile Banking customers for a long time, in this study, namely 2-7 years. For customers with a vulnerability of 2-4 years, there were 34 people, the length of time they had been customers was around 5-7 years, namely 166 respondents. This means that all this time BNI Mobile Banking service features still really support the transaction mobility of its customers in Purbalingga.

Figure 1. Outer model test results (composite reliability)

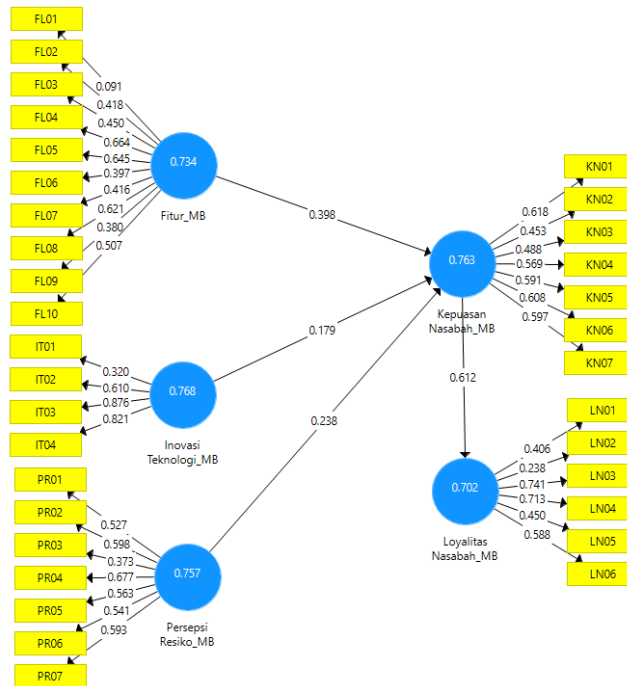
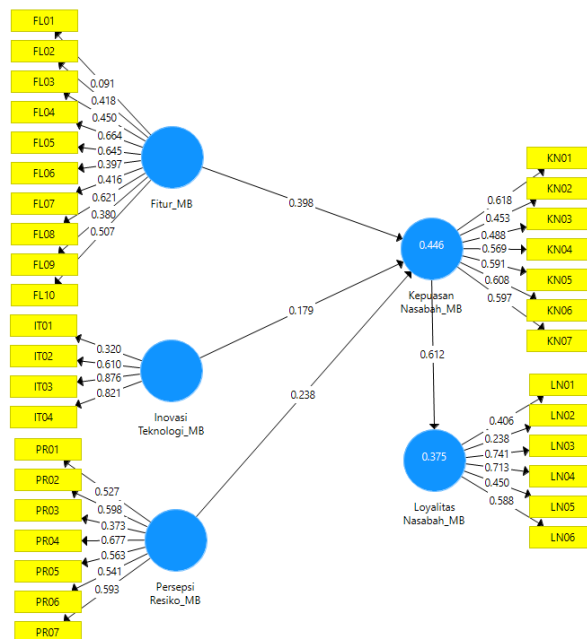


Figure 2. Inner model test results (R-square)



Source: SmartPLS, 2024.

Figure 1 and Figure 2 show the output results or results of the inner and outer data tests that have been carried out with the help of SmartPLS. Next, the results will be tabulated in table 7 to provide information about the statistical values of the results of the inner and outer tests that have been carried out, the display is as follows.

Table 7.Outer and Inner Model calculation results

Dimensions	Composite Reliability	R-Square
Mobile Banking Features (X1)	0.734	-
Mobile Banking Technology Innovation (X2)	0.768	-
Mobile Banking Risk Perception (X3)	0.757	-
Mobile Banking Customer Satisfaction (Z)	0.763	0.446
Mobile Banking Customer Loyalty (Y)	0.702	0.375

Source: Data test results, 2024.

Test $Inner$ The model is evaluated by observing the R-Square value for the dependent construct. The results of the calculations that have been carried out find that the R-Square value for customer satisfaction shows a value of 0.446 or 44.6%. Meanwhile, the customer loyalty variable is 0.375 or 37.5%. These results mean that the direct influence between the mobile banking feature variables, mobile banking technology innovation, and mobile banking perception on customer satisfaction is 44.6%, while the indirect influence between the mobile banking feature variables, mobile banking technology innovation, and mobile banking perception. through customer satisfaction, customer loyalty shows a value of 37.5%. Thus, the ability of the independent variable to influence the dependent variable is still quite small.

Figure 3.Hypothesis Test Results (t-count)

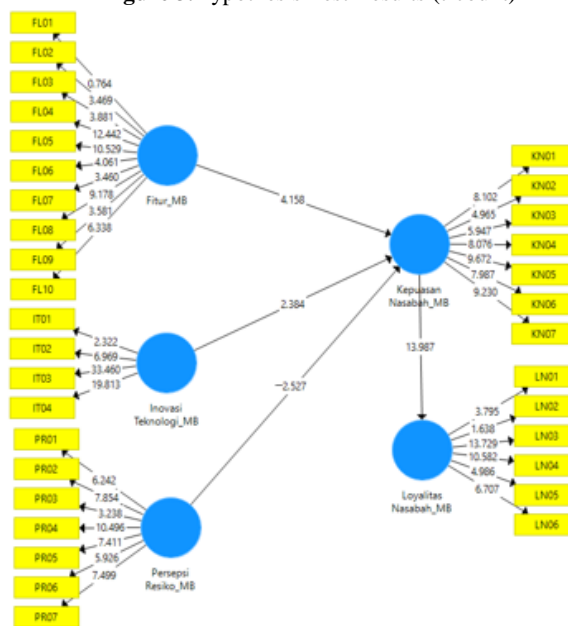
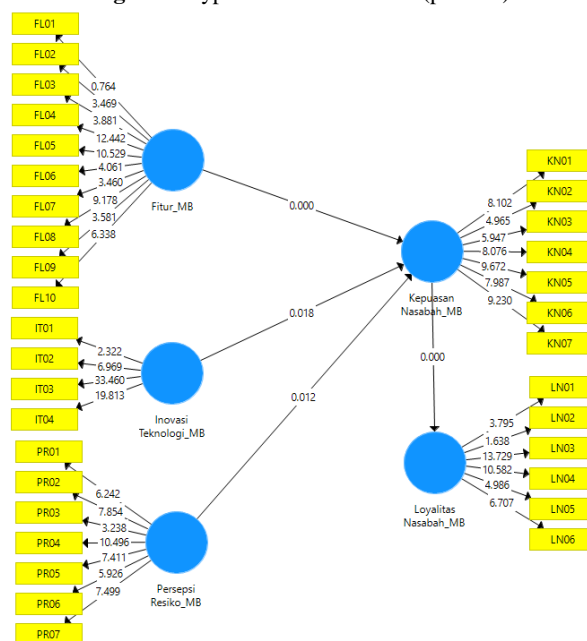


Figure 4.Hypothesis Test Results (p-value)



Source: SmartPLS, 2024.

From the results of figures 3 and 4, in the path diagram above, it can be seen that the results of hypothesis testing and the sub-structural equation model formed in this research are as follows:

Model Equation 1

$$\text{Customer Satisfaction}_{\text{MB}} = 4.398\text{FL} + 0.179\text{IT} - 0.238\text{PR} + \text{error}$$

Model Equation 2

$$\text{Customer Loyalty}_{\text{MB}} = 0.612 \text{KN} + \text{error}$$

Table 8.Structural equation modeling (SEM) test results

Hypothesis	OriginalSample (O)	SamplesMean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Information
FL→KN	0.398	0.395	0.096	4,158	0,000	Significant
I.T→KN	0.179	0.159	0.075	2,384	0.018	Significant
PR→KN	-0.238	0.280	0.094	-2,527	0.012	Significant
KN→LN	0.612	0.623	0.044	13,987	0,000	Significant

Source: Data test results, 2024.

Based on the equation models 1 and 2 and the SEM test results above, it can be explained in detail as follows:

- In model equation 1, it shows that the path coefficient value connecting the mobile banking service feature variables to mobile banking customer satisfaction has a value of 0.398. A positive value means that the service feature variable has a positive relationship with mobile banking customer satisfaction. Meanwhile, the path coefficient has a value of 0.179 and is positive, meaning that the mobile banking technology innovation variable is also positively related to customer satisfaction. Next, the path coefficient has a value of -0.238 and is negative, meaning that the mobile banking risk perception variable is negatively related to customer satisfaction. This means that the smaller the risk posed by the mobile banking application, the greater the customer loyalty.β1β2β3
- In the equation model 2, it shows the coefficient value of the path that connects the customer satisfaction variable to mobile banking customer loyalty. The coefficient value is 0.612, which means that the customer satisfaction variable to mobile banking customer loyalty has a positive relationship.β4

Next, the analysis of the results of the hypothesis testing that has been carried out will be observed by comparing the calculated t value with the t table value. When the calculated t value is higher than the t table, it is concluded that there has been a significant relationship between the variables, but vice versa if the calculated t value is less than the t table, then there is no significant relationship between variables. The amount of data tested was 200 respondent data, with reference to the t table value ($\alpha = 5\%$) then it is obtained based on the Rules of thumb, which is 1.971.

On test results, the first hypothesis shows that mobile banking service features have a significant positive effect on mobile banking customer satisfaction. This finding is supported by the calculated t value > t table (4.158 > 1.971) and the path coefficient (p-value) of 0.000. These findings indicate that the first hypothesis is accepted. These findings support previous research (Kurnianingsih & Maharani, 2020). Next, on to the testThe second hypothesis is that technological innovation has a significant

positive effect on mobile banking customer satisfaction. This finding is supported by the calculated t value > t table (2.384 > 1.971) and the path coefficient (p-value) of 0.018. These findings indicate that the second hypothesis is accepted. These findings are similar to previous research(Febrianta & Indrawati, 2016).

The results of the third hypothesis test show that mobile banking risk perception has a significant negative effect on mobile banking customer satisfaction. This finding is supported by the calculated t value < t table (-2.527 < 1.971) and the path coefficient (p-value) of 0.012. These findings indicate that the third hypothesis is accepted. These findings support previous research(Kamarudin et al., 2022). Finally, namely the fourth hypothesis test which shows that customer satisfaction has a significant positive effect on mobile banking customer loyalty. This finding is supported by the calculated t value > t table (13.987 > 1.971) and the path coefficient (p-value) of 0.000. These findings indicate that the fourth hypothesis is accepted. These findings are similar to previous research(Markonah, 2019; Pratiwi & Ellyawati, 2023; Triyanti et al., 2021).

5. DISCUSSIONS

The test results of this research show that mobile banking has become one of the main needs for bank customers in this digital era. Bank Negara Indonesia (BNI) is aware of this and has developed an intuitive and comprehensive mobile banking service to meet customer needs. BNI Mobile Banking is designed with various features that not only facilitate financial transactions but also increase customer satisfaction, such as:

1. Ease of Access and Use

One of the main features offered by BNI Mobile Banking is a user-friendly interface. This application is designed to be easy to use by all groups, from young to elderly. The simple menu and intuitive layout make it easier for customers to access various banking services. In addition, this application is available in various languages, making it easier for customers who do not speak Indonesian to still be able to use this service easily.

2. Transaction Security

Security is an important factor that greatly influences customer satisfaction. BNI Mobile Banking is equipped with advanced security technology such as data encryption, two-

factor authentication (2FA), and biometrics (fingerprint or face scanner). These features ensure that customer transactions and data are well protected from potential cyber threats. In addition, real-time notifications for each transaction provide an additional sense of security for customers, because they can immediately know if there is suspicious activity on their account.

3. Various Banking Services

BNI Mobile Banking provides various services that make it easier for customers to manage their finances. Starting from checking balances, transferring between BNI accounts or to other banks, paying bills (electricity, water, telephone, internet), to purchasing credit and travel tickets. With these various features, customers don't need to bother going to an ATM or branch office, because everything can be done easily from the palm of their hand. This convenience certainly increases customer satisfaction because they can save time and energy.

4. Investment and Financial Services

Apart from basic banking services, BNI Mobile Banking also provides features for investment and financial management. Customers can buy or sell mutual funds, invest in bonds, or even open term savings through this application. This feature is very useful for customers who want to grow their assets easily and practically. Apart from that, there are also financial planning features that help customers manage their monthly budget and achieve their long-term financial goals.

5. Responsive Customer Service

BNI Mobile Banking also provides responsive customer service through the live chat feature. Customers can contact customer service at any time if they experience problems or need further information regarding BNI products and services. The fast response and solutions provided by BNI customer service increase customers' sense of satisfaction and trust in this mobile banking service.

6. Promotions and Special Programs

BNI Mobile Banking often offers various promotions and special programs for its loyal users. Starting from shopping discounts at certain merchants, cashback, to prize draws. These promotions not only provide financial benefits for customers, but also increase their loyalty and satisfaction with BNI services.

Bank Negara Indonesia (BNI) has also launched various innovations in its mobile banking services to meet customer needs and increase their satisfaction, including:

1. Biometrics and Two-Factor Authentication (2FA)

Innovation in security systems is one of the most important. BNI Mobile Banking uses biometric technology such as fingerprints and facial scanners for user authentication. Additionally, two-factor authentication (2FA) that sends a verification code to customers' phones ensures that only the account owner can access the service. This innovation provides customers with a sense of security and comfort, reduces the risk of fraud, and increases trust in BNI mobile banking services.

2. AI and Chatbot Integration

BNI also integrates artificial intelligence (AI) in its mobile banking services.

AI-based chatbots help customers answer frequently asked questions, provide application usage guidance, and even assist with simple banking transactions. This innovation increases customer service efficiency, provides fast responses, and minimizes waiting times, which contributes positively to customer satisfaction.

3. Digital Payments and QR Codes

BNI Mobile Banking has adopted digital payment technology such as QR Code to facilitate faster and safer transactions. Customers can make payments at merchants by scanning the QR Code via the application, which speeds up the transaction process and reduces dependence on cash. This feature is very popular and increases convenience in everyday transactions.

4. Personal Financial Management (PFM)

Another innovation is the Personal Financial Management (PFM) feature which helps customers manage their personal finances. This feature provides spending analysis, savings suggestions, and financial planning tools that help customers achieve their financial goals. With PFM, customers feel more helped in managing their finances, which has a positive impact on their satisfaction with BNI mobile banking services.

Even though various technological innovations have been implemented, the perception of risk towards mobile banking remains and can be negatively related to customer satisfaction. One of the main concerns of customers is the security of their personal data. Even though BNI has implemented sophisticated security technology, the perception of risk regarding potential data leaks or misuse of personal information still exists. This concern can certainly reduce customers' trust in mobile banking services and have a negative impact on their satisfaction. Therefore, BNI banking company management needs to continue to strive to educate customers about the security measures they implement, and ensure system reliability to reduce risk perceptions and increase customer trust and satisfaction with their mobile banking services. The latest test results found that BNI mobile banking customer satisfaction was significantly positively related to customer loyalty. This is due to the ease and speed of service provided by the BNI mobile banking application, as well as guaranteed security, responsive customer service, continuous innovation, and various promotions for loyal customers. This is what makes Bank BNI successful in creating a satisfying banking experience for its customers. When customers are satisfied with the service they receive, they tend to be more loyal and loyal to the bank, which ultimately strengthens the relationship between customers and BNI Bank. This customer loyalty not only benefits the bank in the short term, but also builds a strong foundation for long-term growth and success.

6. CONCLUSIONS

The results of this research analysis conclude that BNI's service features and mobile banking technology innovation have a positive and significant effect on savings customer satisfaction at BNI Purbalingga Branch Office. Meanwhile, the perceived risk of BNI mobile banking has a negative and significant effect on savings customer satisfaction at BNI Purbalingga Branch Office. BNI mobile banking customer satisfaction also has a positive effect on savings customer loyalty at BNI Purbalingga Branch Office.

This research makes a significant contribution to the literature regarding mobile banking services, especially in the context of banking in Indonesia. The research results show that service features, technological innovation, and risk perception have a significant influence on customer satisfaction. The theoretical implication of this research is to enrich understanding of how these factors influence customer loyalty through their satisfaction. This research also supports the theory which states that customer satisfaction is an important mediator in the relationship between service quality and customer loyalty. For BNI Bank management, the results of this research provide several important implications. First, improving digital security must be a top priority to reduce risk perceptions and increase customer satisfaction. Second, continuous technological innovation in mobile banking applications must continue to be carried out to meet customer expectations. Finally, personalizing services and improving user experience (UX) will be very important to build strong customer loyalty.

This research is not perfect and has several limitations. First, this research was only conducted at one BNI Bank branch, namely at the Purbalingga Branch Office, so the results may not be generalizable to all BNI or other banking customers in Indonesia. Second, this research uses a survey method that only measures perceptions at one point in time, so it does not capture changes in customer perceptions or satisfaction over time. Suggestions for future research, to expand the scope of research by involving more bank branches or even other banks to get a more comprehensive picture. In addition, the use of longitudinal methods can be considered to understand the dynamics of customer satisfaction and loyalty over time. Finally, adding other variables such as customer service quality or social media influence can provide deeper insight into the factors that influence customer loyalty.

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