Analysis of Factors Influencing Customer Satisfaction and Its Impact on Mobile Banking Customer Loyalty

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ABSTRACT

Various studies have tested customer satisfaction factors in mobile banking services that have a direct influence on loyalty. The main objective of this study is to determine customer satisfaction factors in Mobile Banking Service Quality (MBSQ) services that have a direct and indirect influence on customer loyalty. This study uses a quantitative method approach, the research type design uses descriptive and verification, in testing the research model using the Structural Equation Model Partial Least Square (SEM-PLS) approach. The results of the study show that expense, security, responsiveness, relative advantage, and convenience factors have a direct effect on customer satisfaction, the findings of this study confirm that costs have an indirect effect on customer loyalty through customer satisfaction. Customer satisfaction becomes a process or helps transmit service quality to loyalty in the banking industry. The benefits of this research provide benefits both theoretically and in managerial practice, this research can enrich knowledge related to digital-based banking service marketing strategies, so that it has an impact on customer satisfaction and loyalty, and can increase sustainable competitiveness for the company.

Keywords: Mobile Banking Service Quality (MBSQ); Customer Satisfaction; Customer Loyalty; Mediation Effects

INTRODUCTION

The development of banking services based on digital banking innovation continues to increase, with the aim of increasing customer satisfaction and loyalty.(Baabdullah et al., 2019). The quality of mobile banking services affects customer trust and satisfaction. Trust is associated with security/privacy and utility (considered as useful factors), while satisfaction is determined by pleasure and sociability (more hedonistic aspects)(Arcand et al., 2017), which ultimately provides customer satisfaction and has an impact on customer loyalty.(Sugiat, Novrizon, et al., 2023);(Gautam & Sah, 2023);(Saibil, 2023). BRI encourages literacy and integration of mobile banking services in the East Nusa Tenggara (NTT) region, including providing convenience for people to transact through the penetration of the Quick Response Code Indonesian Standard (QRIS) through BRImo (Michael Umbu, 2023). The number of BRImo NTT application users reached 240,000 users, increasing by 103,000 users in 2023 (Michael Umbu, 2023). The results of initial observations and analysis at the BRI Kupang branch showed that customers were still very vulnerable to switching to other mobile banking service products, this was indicated by other

products being friendlier and easier to use, cheaper transaction cost efficiency, other problems that occurred were customers complaining about difficulty logging in when in certain areas, errors such as exiting the application by themselves, difficulty making transactions(Lomi et al., 2024), when changing the phone number it is difficult to reactivate, slow notification messages, monotonous display(Imelda & Huwaida, 2019), error often occurs(Alawiyah & Ariyanty, 2019). Another phenomenon is that various studies related to mobile banking-based banking services in Indonesia have been carried out quite a lot, however, these studies test the direct impact of Mobile Banking service quality on customer satisfaction or loyalty, there are still very few that test the direct and indirect impact of online Mobile Banking service quality (OBSQL) on customer loyalty, even though there are other variables that are part of the process in creating customer loyalty, such as customer satisfaction.(Amin, 2016);(Gautam & Sah, 2023);(Saibil, 2023);(Khan et al., 2023),and under what conditions, when, and in which groups that customer satisfaction is more effective in impacting customer loyalty, such as self-efficacy(Saibil, 2023).

Findings in Indonesia that the quality of mobile banking services leads to increased customer loyalty, the influence of electronic banking services in Islamic banks on customer loyalty operates directly and through electronic satisfaction.(Saibil, 2023);(Melinda et al., 2023);(Supriyanto et al., 2021). Customer satisfaction and trust as mediators do not have a direct effect on service quality towards loyalty, and provide evidence that service quality has an impact on customer loyalty through the combined mediation of customer satisfaction and trust.(Firmansyah et al., 2014), However, there are various views and research findings that customer experience influences customer loyalty, but customer satisfaction does not influence customer loyalty.(Pritjahjono et al., 2023), satisfaction is not always linear with loyalty because consumers need a variety of products and services.(Djayapranata, 2020).

Various previous studies have shown differences in methods of data analysis, research populations and samples, and indicators in measuring Mobile Banking Service Quality (MBSQ), such as research conducted byArcand et al., (2017)using indicators of security/privacy, practice/user friendliness, interface design/aesthetics, perceived sociality, perceived enjoyment/convenience, in line with(Mostafa, 2020)in Egypt using indicators of perceived ease of use, usefulness, security/privacy, enjoyment, whileKhan et al., (2023)develop indicators for Personal Needs, Website Organization, User Friendliness, and Website Efficiency, whileJahan & Shahria (2022)conducted research in Bangladesh using indicators; expense, security, relative advantage, responsiveness, convenience. Various studies in Indonesia to measure Mobile Banking Service Quality (MBSQ) using indicators design, responsiveness, safety, user, personal needs, efficiency, speed(Heidy et al., 2022), various indicators developed by various studies show that at times, conditions and groups are increasingly dynamic in increasing customer satisfaction.This study is to fill the gap or gap in previous research which emphasizes more on the direct effect of online mobile banking service quality on customer loyalty, this study specifically analyzes the factors that influence customer satisfaction on mobile banking services, as well as testing the indirect effect of Mobile Banking Service Quality (MBSQ), that customer loyalty is predicted or transmitted through an indirect process through customer satisfaction.(Amin, 2016);(Raza et al., 2020); Saibil, 2023);(Gautam & Sah, 2023);(Khan et al., 2023).

LITERATURE REVIEW

Empirical results show that the most relevant model for analyzing technology utilization uses the UTAUT2 approach, including in the banking sector in Indonesia.(Marpaung et al., 2021), the UTAUT2 approach in the Saudi Arabian banking sector which explains that the factors of performance expectations, price value, facility conditions, hedonic motivation, habits, system quality, and service quality are found to have an impact on mobile banking user behavior.(Baabdullah et al., 2019). Another finding using the UTAUT approach is that the factors of effort expectation, social influence, habits, hedonic motivation, security perception, and personal innovation influence omni-channel purchasing intentions.(Sugiat, Saabira, et al., 2023).

Service innovation continues to change, namely changing the way we provide services to customers digitally so that they are more effective and efficient.(Usman et al., 2023). Web-based

banking services (internet banking) and mobile banking services have experienced significant growth, increasing interaction between customers and service providers, especially interaction between banking transaction services, so that it is expected to be able to increase the productivity of users of these banking services, the results of the study show that the quality of technology-based banking services has an effect on customer satisfaction.(Amin, 2016);(Arcand et al., 2017);(Raza et al., 2020);(Gautam & Sah, 2023);(Marliyah et al., 2021);(Khan et al., 2023);(Jahan & Shahria, 2022).Factors that influence customer satisfaction according toJahan, N., & Shahria, G. (2021) used the expense, security, relative advantage, responsiveness, convenience factor approach. Cost factorsTransaction costs charged to customers must be competitive, high costs have an impact on customer satisfaction, they may stop using the product and switch to another, this indicates and causes customers to be disloyal to the product(Achieng & Ingari, 2015);(Jahan & Shahria, 2022).

The security factor of customer data and information is an important thing that must be considered, the security factor influences customer satisfaction (Jahan, N., & Shahria, G.; 2021);(Kabir, 2013). The relative advantage factor has an influence on customer satisfaction (Jahan, N., & Shahria, G.; 2021), that competitive advantage when compared to other products, which is able to increase work effectiveness(Shankar, 2016);(Shaikh & Karjaluoto, 2015). Responsiveness is the ability to respond to customer complaints, it must be addressed and responded to immediately, so that customers feel cared for and satisfied, the responsiveness factor has an effect on customer satisfaction.(Jahan & Shahria, 2022). Meanwhile, the convenience factor of mobile banking users who are able to meet customer needs is able to provide satisfaction for customers, which is perceived as ease in using mobile banking services.(Kabir, 2013);(Jahan & Shahria, 2022).

Customer satisfaction is an important variable in creating customer loyalty, but there are other things that also influence it, such as employee behavior, information technology, convenience of decision making, convenience of transactions, convenience of benefits, convenience of access and perception of price and fairness have a significant influence on customer loyalty, but the presence of customer satisfaction helps in intensifying the relationship on customer loyalty.(Kaura et al., 2015);(Amin, 2016);(Raza et al., 2020);(Gautam & Sah, 2023);(Marliyah et al., 2021);(Jahan & Shahria, 2022).
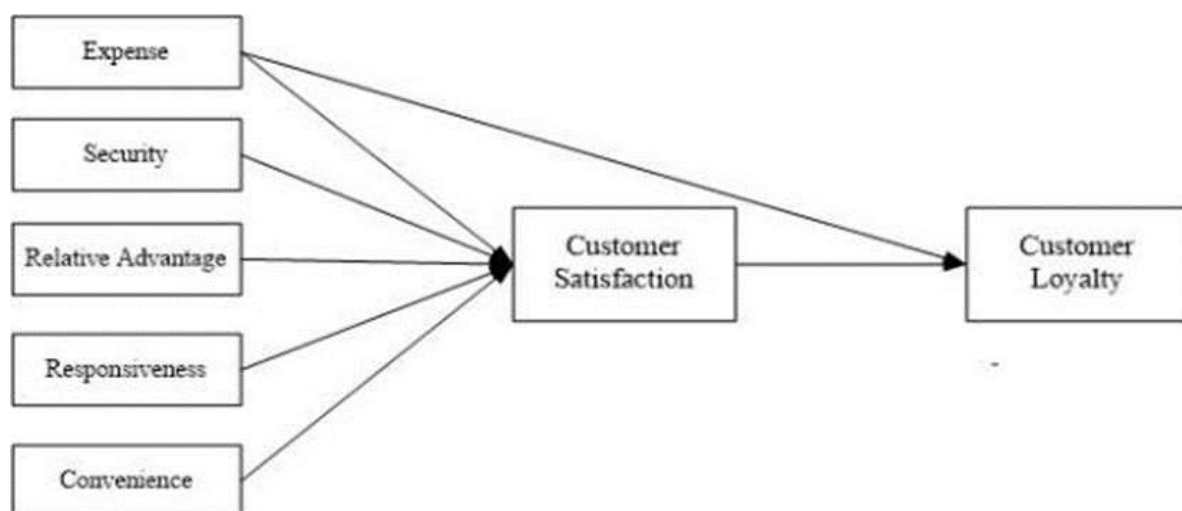
Figure 1. Research Framework

Figure 1: Research Framework

Hypothesis 1: Cost factors (expense) in using Mobile Banking Service Quality (MBSQ) have an effect on customer satisfaction.

Hypothesis 2: Security factors in the use of Mobile Banking Service Quality (MBSQ) have an effect on customer satisfaction.

Hypothesis 3: The relative advantage factor in the use of Mobile Banking Service Quality (MBSQ) has an effect on customer satisfaction.

Hypothesis 4: The speed of response (responsiveness) factor in the use of Mobile Banking Service Quality (MBSQ) has an effect on customer satisfaction.

Hypothesis 5: Convenience factors in using Mobile Banking Service Quality (MBSQ) have an effect on customer satisfaction.

Hypothesis 6: Customer satisfaction with Mobile Banking Service Quality (MBSQ) has an effect on customer loyalty.

Hypothesis 7: Cost factors (expense) in the use of Mobile Banking Service Quality (MBSQ) have an effect on customer loyalty.

Hypothesis 8: Cost factors (expense) in the use of Mobile Banking Service Quality (MBSQ) have an effect on customer loyalty through customer satisfaction.

METHOD

Based on the variables studied, this type of research is descriptive and confirmatory research. Descriptive research aims to provide an overview of the research variables, while verification is to test the causal relationship between research variables (Sugiyono, 2018; Ferdinand, 2014) namely to test the mediation effect of E-Customer Satisfaction in the influence of Mobile Banking Service Quality (MBSQ) on E-Customer Loyalty.

Operationalization of variables describes variables, subvariables, operational definitions (indicators), number of items, and measurement scales, in more detail as in Table 1.

Table 1. Operational Research Variables

Variables	Variable Definition	Dimensions	Indicator	Scale/ Data Types
Mobile Banking Service Quality (Variable X)	Mobile banking service qualityis a service in the form of a technology-based application (app), so that it can serve and facilitate purchase transactions, order payments, and mobile delivery for banking customers (Jahan, N., & Shahria, G., 2021).	1. Expense (cost). Mobile banking fees include transaction fees, bank fees and cellular or internet network fees. Although mobile banking reduces transportation costs, it provides facilities for utility bill payments, shopping discounts, restaurant bill discounts etc.	1. *Transaction fees*(transaction fee) 2. *Transportation costs*(transportation costs) 3. *Discount*(discounts)	Likert Scale/ Ordinal Data
		2. Security. Safety and protection of information, including security of monetary matters against fraud and hacking	1. *Monetary safety*(monetary security) 2. *Safety of personal information*(personal data security)	Likert Scale/ Ordinal Data
		3. Relative advantage. The comparative benefits that users derive from mobile banking include social prestige, time saving, etc.	1. *Time savings*(time saving) 2. *Social image*(social prestige) 3. *Retrieval of account balance and history*(Transaction data storage)	Likert Scale/ Ordinal Data
		4. Responsiveness (response speed). Speed of feedback or responsedirectly from the bank, customer care or	1. *Customer care*(customer service) 2. *Agent and helpline*(agent / network operator)	Likert Scale/ Ordinal Data

Variables	Variable Definition	Dimensions	Indicator	Scale/ Data Types
		agent/internet network operator	3. *Prompt correction of error*(speed in correcting errors that occur)	
		5. Convenience. To what extent can mobile banking applications serve user needs, including ease of use, benefits provided, etc.	1. *Accessibility*(easy access) 2. *Continuous update*(Continuous updates) 3. *Reduce physical and mental effort*(efforts to reduce physical and direct transactions) 4. *Easy function*(easy to understand application functions) 5. *Proper instructions*(proper instructions)	Likert Scale/ Ordinal Data

Variables	Definition of Variable	Indicator	Scale/ Data Types
Customer Satisfaction(Variable X)	Customer satisfaction in banking is the feeling or attitude of a banking customer towards mobile banking services after using the service. (Jahan, N., & Shahria, G., 2021)	1. *Choice preference*(Preference selection) 2. *Pleased feelings*(Feeling happy) 3. *Satisfying experience*(Satisfying experience)	Likert Scale/ Ordinal Data
Customer Loyalty (Variable Y)	Banking customer loyalty is a manifestation of an individual's attitude or association towards the mobile banking application services that have been enjoyed by banking customers associated with a commitment that encourages them to reuse the application services (Jahan, N., & Shahria, G., 2021).	1. *Continuity*(Continuity) 2. *Objection*(Object) 3. *Recommend*(Recommend)	Likert Scale/ Ordinal Data

Source: adiopsis from various journals

Population and Sample

Population is an object or thing that has a certain amount and nature that is determined so that researchers can study it and draw conclusions (Sugiyono, 2017), in this study the population is customers of Bank BRI Kupang branch who use BRImo products, namely 103,785 customers. In connection with the research population that was not taken all, the use of sampling techniques to select a group of elements from a population that allows researchers to understand its nature and characteristics (Sugiyono, 2017; Ferdinand, 2014), the research sample uses the Taro Yamane formula (Slovin), obtained a total of 398, 46 = 398 research samples.

Testing the Validity and Reliability of Instruments

Data validity indicates the level of suitability or accuracy of the research instrument measuring instrument (Sugiyono, 2018), an instrument has a high level of validity if it can carry out its measuring function well, or provides results that are in line with the meaning and purpose of data validity testing using the Pearson product moment correlation approach, the statement is said to be valid if the correlation coefficient value is the same or exceeds 0.300, while the reliability test shows the reliability of the statement instrument, the measurement results are relatively consistent or close to the same if measurements are taken at different places and times (Sugiyono, 2017), it is said to be reliable if the results obtained are the same or higher than 0.700, the instrument reliability test uses Cronbach's Alpha.

Data Analysis Techniques

Answering models and hypothesesWhichdeveloped, this study uses the Structural Equation Modeling (SEM) method approach where in carrying out calculations and processing it uses SMART PLS software. SEM-PLS has flexibility for research in the social field which is able to analyze the relationship between variables and link theory to data (Ghozali, I., & Latan, H., 2014).

Partial Least Square(PLS) is not based on assumptions so it does not need to do the data normalization process and can also be applied well to a small number of samples. One of the benefits of the PLS approach is that it is able to estimate the relationship between 2 variables X and Y theoretically, in addition the PLS approach is able to predict latent variables which are a linear combination of an indicator so that it is able to anticipate indeterminacy problems (Ghozali, I., & Latan, H., 2014).

RESULT AND DISCUSSION
A. Research result

Table 2. Respondent Characteristics

No	Variables	Classification		Total	Percentage %
1	Gender	Man		157	39.45
		Woman		241	60.55
			Total	**398**	**100**
2	Age	15 - 24 years		65	16.33
		25 – 34 years		118	29.65
		35 – 44 years		137	34.42
		> 44 years old		78	19.60
			Total	**398**	**100**
3	Level of education	High school and equivalent		183	45.98
		Diploma		112	28.14
		Bachelor		79	19.85
		Postgraduate		24	6.03
			Total	**398**	**100**
4	Time to use BRImo	< 1 year		78	19.60
		13 years old		172	43.22
		4 - 6 years		102	25.63
		> 6 years		46	11.56
			Total	**398**	**100**
5	Work	State Civil Apparatus (ASN)/TNI/Polri		57	10.80
		Teacher / Lecturer / Education Personnel		78	47.99
		Self Employed / Entrepreneur		217	34.17
		Student / Housekeeping / Others		46	7.04
			Total	**398**	**100**
6	Monthly income	< Rp. 2,000,000,-		43	10.80
		Rp. 2,000,000,- - 5,000,000,-		191	47.99
		Rp. 5,000,000,- - 10,000,000,-		136	34.17
		> Rp. 10,000,000,-		28	7.04
			Total	**398**	**100**

Source: Author's data processing, 2024

Table 2 explains that the demographics of mobile banking users are; male respondents as many as 39.45% and female respondents as many as 60.55%. The age of respondents varies greatly, data shows that 16.33% are aged 15-24 years, 29.65% are aged 25-34 years, 34.42% are aged 25-44 years, and the remaining 19.60% are aged >44 years. Respondents' education shows that; as many as 45.98% have a high school education or equivalent, 28.14% have a Diploma education, 19.85% have a Bachelor's degree, and the remaining 6.03% have postgraduate education. Using mobile banking to support banking activities and transactions, respondent data shows that; 19.60% have a period of <

years, 43.22% use 1-3 years, 25.63% use 4-6 years, and the remaining 11.56% have been more than > 6 years.

The respondents' varied jobs when supported by the use of technology, especially using mobile banking, respondent data shows that; 14.32% as State Civil Apparatus / TNI / Polri, 19.60% as Teachers / Lecturers / Educators, 54.52% as private employees / entrepreneurs / businessmen, and the remaining 11.56% as students / Managing households, and others. Respondents' income is also a determining factor in using Mobile Banking services in carrying out financial transaction activities, data shows that; 10.80% have income <Rp 2 million, 47.99% have income of Rp 2-5 million, 34.17% have income of Rp 5-10 million, and the remaining 7.04% with income> 10 million.

Table 3. Results of Data Processing on Factors
Mobile Banking Services (MBSQ)

No	Indicator	Performance Score	Score Mom	%	Category
1	Expense	4.275	5,970	71.61	Good
2	Security	3,651	5,970	61.16	Good
3	Relative advantage	3.865	5,970	64.74	Good
4	Responsiveness	3,854	5,970	64.56	Good
5	Convenience	4.131	5,970	69.20	Good
	Amount	**19,776**	**29,850**	**66.25**	Good

Source: Author's data processing, 2024

Table 3 shows that the cost variable with an achievement score of 71.61% in the good category, the security variable with an achievement score of 61.16% in the good category, the relative advantage variable with an achievement score of 64.74% in the good category, the responsiveness variable with an achievement score of 64.56% in the good category, and the convenience variable with an achievement score of 69.20% in the good category, so that overall the quality factor of mobile banking services with an achievement score of 66.25% and in the Good category.

Table 4. Results of Data Processing on Customer Satisfaction

No	Indicator	Performance Score	Score Mom	%	Category
1	Preference Options	4.030	5,970	67.50	Satisfied
2	Happy Feeling	3,682	5,970	61.68	Satisfied
3	Satisfying Experience	3,877	5,970	64.94	Satisfied
	Amount	**11,589**	**17,910**	**64.71**	Satisfied

Source: Author's data processing, 2024

Table 4 shows that the preference indicator with an achievement score of 67.50% is in the good category, the indicator of feelings of pleasure with an achievement score of 61.68% is in the good category, and the indicator of a satisfying experience with an achievement score of 64.94% is in the good category, so that overall the level of customer satisfaction of mobile banking users with an achievement score of 64.71% and in the satisfied category.

Table 5. Results of Data Processing on Customer Satisfaction

No	Indicator	Performance Score	Score Mom	%	Category
1	Continuity	3.725	5,970	62.40	Good
2	Object	3,673	5,970	61.52	Good
3	Recommend	3,565	5,970	59.72	Good
	Amount	**10,963**	**17,910**	**61.21**	Good

Source: Author's data processing, 2024

Table 5 shows that the continuity or sustainability indicator with an achievement score of 64.20% is in the good category, the objection indicator with an achievement score of 61.52% is in the good category, and the recommendation indicator with an achievement score of 59.72% is in the good category, so that overall the level of customer loyalty of mobile banking users has an achievement score of 61.21% and is in the good category.

Table 6. Summary of Outer Measurement Model Results

Variables Latent	Indicator	VIF	Outer Loading	Indicator Reliability = Loading2	Composite reliability	Convergent Validity=AVE
Expense	Exp-1	1,056	0.556	0.360	0.741	0.550
	Exp-2	1.152	0.695	0.422		
	Exp-3	1,170	0.831	0.609		
Security	Sec-1	1,032	0.557	0.420	0.733	0.548
	Sec-2	1.169	0.701	0.453		
	Sec-3	1.197	0.803	0.558		
Relative Advantage	R. Adv-1	1,462	0.806	0.408	0.843	0.641
	R. Adv-2	1,444	0.801	0.407		
	R. Adv-3	1,353	0.795	0.435		
Responsiveness	Res-1	1,962	0.880	0.415	0.883	0.716
	Res-2	1,864	0.885	0.457		
	Res-3	1,547	0.769	0.300		
Convenience	Con-1	1,041	0.623	0.507	0.711	0.545
	Con-2	1.130	0.703	0.449		
	Con-3	1,088	0.688	0.535		
Satisfaction	Sat-1	1,658	0.516	0.148	0.843	0.538
	Sat-2	1,524	0.542	0.161		
	Sat-3	1,431	0.543	0.157		
	Sat-4	1,389	0.484	0.128		
	Sat-5	1.35	0.548	0.151		
	Sat-6	1,577	0.668	0.198		
	Sat-7	1,763	0.709	0.198		
	Sat-8	1,654	0.717	0.229		
	Sat-9	1,736	0.754	0.224		
Loyalty	Loy -2	1,923	0.677	0.193	0.812	0.538
	Loy -3	1,842	0.637	0.207		

Variables Latent	Indicator	VIF	Outer Loading	Indicator Reliability = Loading2	Composite reliability	Convergent Validity=AVE
	Loy -5	1.207	0.553	0.249		
	Loy -6	1,631	0.605	0.209		
	Loy -7	1,610	0.589	0.181		
	Loy -8	1,332	0.584	0.207		
	Loy -9	1.274	0.677	0.362		

Source: Author's data processing, 2024

Table 6 shows a summary of the results of the outer measurement model, validity and reliability tests using outer loading item values, reliability results of more than 0.70 will be better, but ≥ 0.50 can also be accepted (Wong, 2013), so that the test results as shown in table 6 are worthy of acceptance. Measuring the consistency of the reliability of the research instrument using the composite reliability value to measure the internal consistency of the research instrument, it is said to be reliable if ≥ 0.70 (Hair, 2011; Wong, 2013; Jahan, N., & Shahria, G., 2021). The test results as shown in table 6 show a score of ≥ 0.70 and within an acceptable range. Table 6 also presents the Average Variable Extracted (AVE) value used to check convergent validity, the test results can be accepted if the value is ≥ 0.50, the test results show that all data values are ≥ 0.50 which can be categorized as good validity, it can also use the cross-loading discriminant method, the loading value charged must be higher than the cross-loading loading value of the variable, the results of the outer model discriminant test are as in Figure 2.
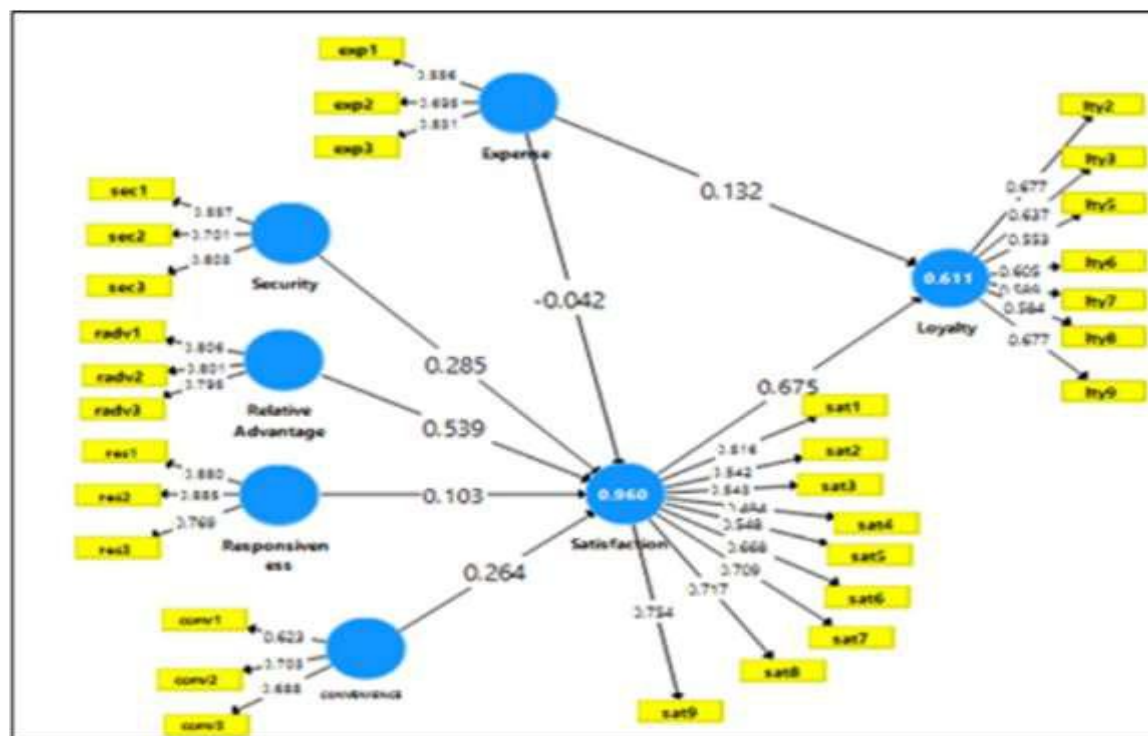
structural model that tests the effect of each path coefficient of the exogenous or independent variable on the endogenous or dependent variable, the Variance Inflation Factor (VIF) analysis is the initial part of the analysis used to measure and ensure that there is no multicollinearity, the results of the analysis are presented in table 6 which shows a VIF value > 0.01 and < 10, which means that there is no multicollinearity.

The results of testing the research structural model hypothesis are presented in table 7 and figures 2 and 3, namely:

The cost variable on customer satisfaction obtained a coefficient value of -0.042, with a t-test value of 2.065, and a p-value of $0.039 \leq 0.05$, a significant test result indicating that costs have a negative and significant effect on customer satisfaction. The cost variable on customer loyalty obtained a coefficient value of 0.132, with a t-test value of 2.005, and a p-value of $0.045 \leq 0.05$, a significant test result indicating that costs have a positive and significant effect on customer loyalty.

Table 7. Research Model Results - Path coefficient

Information	Path Coefficient	t-test	p-value	Criteria
H1: Expense→satisfaction	-0.042	2,065	0.039	Accepted
H2: Security→satisfaction	0.285	13,703	0.000	Accepted
H3: Relative Advantage →satisfaction	0.539			Accepted
		20,514	0.000	
H4: Responsiveness→satisfaction	0.103	6,535	0.000	Accepted
H5: Convenience→satisfaction	0.264	9,834	0.000	Accepted
H6: Satisfaction→Loyalty	0.675	11,697	0.000	Accepted
H7: Expense→Loyalty	0.132	2.005	0.045	Accepted
H8: Expense→Loyalty through Satisfaction				
	-0.028	1,960	0.050	Accepted

Source: Author's data processing, 2024

The security variable on customer satisfaction obtained a coefficient value of 0.285, with a t-test value of 13.703, and a p-value of $0.000 \leq 0.05$, a significant test result indicating that security has a positive and significant impact on customer satisfaction. The relative advantage variable on customer satisfaction obtained a coefficient value of 0.539, with a t-test value of 20.514, and a p-value of $0.000 \leq 0.05$, a significant test result indicating that relative advantage has a positive and significant impact on customer satisfaction. The variable of responsiveness on customer satisfaction obtained a coefficient value of 0.103, with a t-test value of 6.535, and a p-value of $0.000 \leq 0.05$, a significant test result indicating that responsiveness has a positive and significant impact on customer satisfaction.

The variable of convenience on customer satisfaction obtained a coefficient value of 0.264, with a t-test value of 9.834, and a p-value of $0.000 \leq 0.05$, a significant test result indicating that convenience has a positive and significant impact on customer satisfaction.

Satisfaction on customer loyalty obtained a coefficient value of 0.675, with a t-test value of 11.697, and a p-value of $0.000 \leq 0.05$, significant test results indicating that satisfaction has a positive and significant effect on customer loyalty. Also, the mediation effect is part of the process that explains how cost variables affect customer loyalty through customer satisfaction, the test results obtained a coefficient value of -0.028, with a t-test value of 1.960, and a p-value of $0.050 \leq 0.05$, significant test results, this value is at the threshold of being accepted or rejected the test results or the proposed hypothesis, which indicates that costs have an indirect effect on customer loyalty through customer satisfaction.
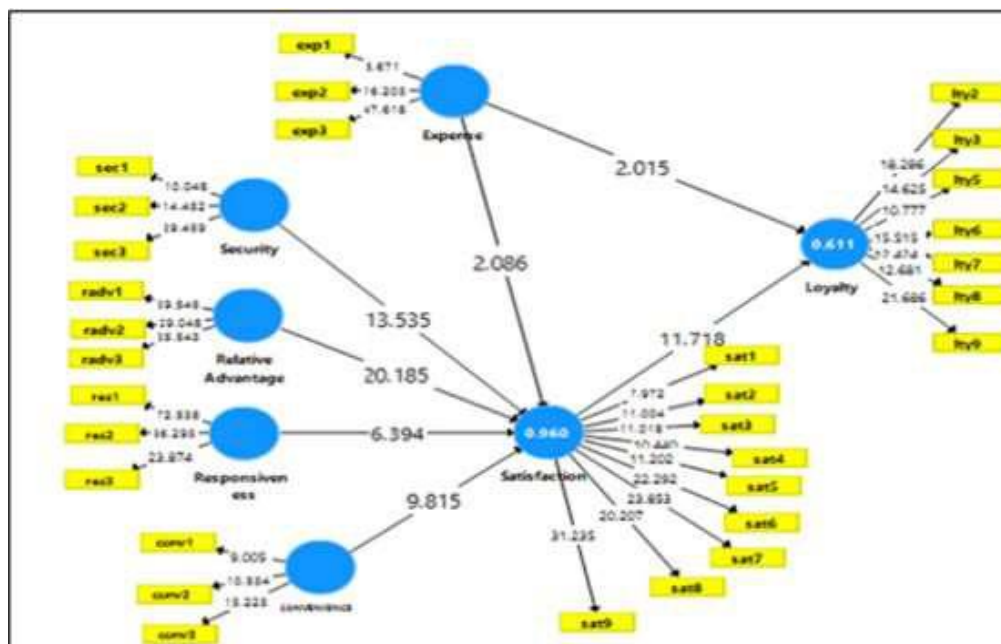
Figure 3: Output of the Research Structural Model

B. Discussion

Customer satisfaction in the banking sector is a priority, research results show that satisfaction has an influence on customer loyalty, efforts to fulfill and exceed customer expectations in using internet banking are important, because of the many demands or expectations of customers to be able to provide customer satisfaction.(Amin, 2016).Service*Online Mobilebanking*growing rapidly in increasing banking transactions, one of the modern techniques in providing banking services is the provision of financial and banking transaction services that utilize mobile banking applications.(Ahmadi Danyali, 2018),which is the development of integrated service system analysis based on technology.

The results of the study explain that the burden of financial transaction costs has a negative influence on customer satisfaction, this result is in line with research.(Shankar, 2016), that customers have difficulty getting compensation for the transaction costs, so customers will avoid using the transaction service. However(Jahan & Shahria, 2022)providing different research results that costs have a positive influence on customer satisfaction, this is possible because the costs charged to customers are replaced by receiving special discounts when the customer makes shopping transactions at the mall or at a restaurant, the benefits are felt by customers and especially for developing countries.

Factors that are able to provide customer security, especially personal data and customer transactions, will have an impact on increasing customer satisfaction. Research results explain that security factors have a positive and significant impact on customer satisfaction, in line with research.(Jahan & Shahria, 2022)that customer data and information security factors must be protected, including from hacking and fraud.(Kabir, 2013); this is because customers are very concerned about the protection and confidentiality of customer data.(Gautam & Sah, 2023).

Relative advantage has an impact on customer satisfaction, the results of this study are in line with research(Jahan & Shahria, 2022)that comparative advantage when compared with other products, able to save time and become social prestige when using mobile banking, ease in using new technology

and systems(Achieng & Ingari, 2015), and is able to increase the effectiveness of activities and productivity of customers who utilize mobile banking, thereby increasing customer satisfaction.

The company's responsiveness in responding to important events that can cause customer complaints must be resolved immediately, research findings show that the responsiveness factor has an effect on customer satisfaction, in line with research.(Jahan & Shahria, 2022)that direct and fast response from operators is an important key in increasing customer satisfaction, as well as being able to provide information needs for customers.(Prasetio et al., 2024).

Convenience of mobile banking users that is able to meet customer needs, the results of this study are in line with research(Jahan & Shahria, 2022)which shows that the convenience factor is able to increase customer satisfaction of mobile banking users, the convenience factor can be represented by the appearance, complete facilities, and ease of use in financial transactions (Kabir, 2013).

The research results clearly show that satisfaction has an influence on customer loyalty, along with increasing customer satisfaction it will have an impact on customer loyalty.(Amin, 2016);(Raza et al., 2020);(Jahan & Shahria, 2022), mDetermining customer loyalty of electronic users in the context of online and offline banking, especially mobile banking, can be created by the level of satisfaction felt by customers.(Gautam & Sah, 2023);(Khan et al., 2023).

Transaction costs incurred by customers must provide a sense of fairness for customers, high costs can encourage customers to stop using mobile banking and switch to using other products, research results show that costs have an effect on customer loyalty, this finding is in line with research(Jahan & Shahria, 2022);(Hanif et al., 2010), research findings that show a positive effect of price on loyalty, are possible when there is a reasonable increase in transaction costs and accompanied by quality of service, customers will receive it positively and remain satisfied with the service, customers remain loyal and are not tempted to switch to using other service products.(Hanif et al., 2010), however, the costs charged to customers must be effective and efficient, so that customers will remain loyal to the products provided by the company.

How the process of mobile banking service factors (MBSQ) occurs on customer loyalty, the findings of this study indicate that it is more effective and apparent that customer satisfaction is part of the process of increasing loyal customers of mobile banking users. These findings prove that the quality of mobile banking-based banking services does not necessarily directly affect customer loyalty, but there are other variables that are also part of creating customer loyalty. The findings of this study strengthen various previous studies showing that there is a direct and indirect relationship between the quality of mobile banking services and customer loyalty, and more effectively occurs through customer satisfaction(Kaura et al., 2015);(Amin, 2016);(Raza et al., 2020);(Ul Haq & Awan, 2020);(Marliyah et al., 2021);(Phi & Huong, 2023);(Khan et al., 2023);(Saibil, 2023);(Gautam & Sah, 2023);(Shafiya et al., 2023), carrying out sustainable marketing innovations based on digital or social media(Sugiat et al., 2020), as well as the role of human resources who have extensive networks, are adaptive in responding to change, have an entrepreneurial spirit and commercial thinking.(Santoso et al., 2020), so that it can provide a positive contribution to the company's competitiveness.

CONCLUSION

The conclusion of the study shows that; mobile banking service quality factors (MBSQ) consisting of cost, security, relative advantage, responsiveness, and convenience for BRImo users are in the good category, as well as the level of customer satisfaction and loyalty for BRImo users are also in the good category, this shows that the company in providing mobile banking-based transaction services has been running well, but the security factor needs serious attention so that customers continue to feel safe regarding customer data and information.

The results of the analysis of factors that influence customer satisfaction show that; Security factors, relative advantage, responsiveness, and convenience have a positive effect on customer

satisfaction, however, cost factors have a negative effect on customer satisfaction, the costs incurred by customers must provide a sense of justice for customers. Cost factors have a positive effect on customer loyalty, this shows that a reasonable increase in costs can still be accepted by customers. The findings of the study show that there is an indirect effect of cost factors on customer loyalty, the effect occurs and is more effective through customer satisfaction, this shows that customer satisfaction is part of the process of increasing customer loyalty. Therefore, customers must get a replacement or benefit for the burden of transaction costs such as getting special discounts when shopping at the mall or at a restaurant, so that customers will continue to feel satisfied and remain loyal to use the products provided by the company.

Various limitations of the study and can be used as attention for further researchers are; it is necessary to test the direct and indirect effects of all factors of Mobile Banking Service Quality (MBSQ) on customer loyalty, not only limited to cost factors, so that it can form a new pattern that Mobile Banking Service Quality (MBSQ) has a direct or indirect effect on customer loyalty.

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