The Influence of Service Quality, Ease of Use, and Trust on User Satisfaction of BNI Mobile Banking

Putra Apriandika[1]; Aldina Shiratina[2]

[1] putraapriandika87@gmail.com, Mercu Buana University, Jakarta, Indonesia
[2] aldina.shiratina@mercubuana.ac.id, Mercu Buana University, Jakarta, Indonesia
[*] Corresponding Author

ABSTRACT

Objective: *This study aims to analyze the effects of service quality, ease of use, and trust on user satisfaction with mobile banking in Indonesia, specifically at Bank BNI.*

Methodology: *This research employs a quantitative approach with the population consisting of users of BNI's mobile banking. A total of 160 respondents aged 18 to 55 years were selected as samples using the Hair formula and purposive sampling technique. Data was collected through a survey using a questionnaire distributed via Google Form. Data analysis was conducted using Structural Equation Modeling (SEM) with SmartPLS software*

Findings: *The analysis results indicate that service quality has a positive and significant effect on user satisfaction, with an original sample value of 0.220 and a T-statistic of 2.166. Ease of use also shows a positive and significant effect with an original sample of 0.439 and a T-statistic of 5.268. Additionally, trust positively and significantly affects user satisfaction with an original sample of 0.214.*

Conclusion: *These findings indicate that factors such as service quality, ease of use, and trust have a significant influence on user satisfaction with mobile banking at Bank BNI. This research provides important insights for the bank in efforts to enhance mobile banking services and user satisfaction.*

Keyword : *Service Quality, Ease of Use, Trust, and satisfaction with BNI Mobile Banking.*

INTRODUCTION

The rapid development of information technology has significantly impacted various sectors, including the banking industry. One of the important innovations arising from this digital transformation is mobile banking services, which provide customers with the convenience of conducting banking transactions without having to visit a branch office. In Indonesia, mobile banking services have become an absolute necessity for large banks to retain customers, capture market share, and achieve competitive advantage. Bank Negara Indonesia (BNI) is one of the national banks that has adopted this service, enabling its customers to perform financial transactions quickly, securely, and efficiently. This transformation not only enhances the bank's operational efficiency but also meets the needs of customers who increasingly rely on digital technology in their daily lives.

BNI's mobile banking service allows for various banking transactions such as fund transfers, bill payments, mobile top-ups, and balance inquiries. According to Faizal (2021), BNI has successfully become one of the best mobile banking service providers in Indonesia, with the number of users reaching 8.56 million in the first quarter of 2021, an increase of

58.4% compared to the same period the previous year. The transaction value recorded through the BNI Mobile Banking application in March 2021 reached IDR 138 trillion, up 33.2% compared to March 2020. This indicates a significant increase in the adoption of digital services by BNI customers, especially during the COVID-19 pandemic, which accelerated the shift in consumer behavior towards digital banking services. However, despite the comprehensive features of BNI Mobile Banking, the success of this service heavily relies on user satisfaction. User satisfaction is a key indicator that reflects how well mobile banking services meet the expectations and needs of customers. In an era of intense competition in the banking industry, maintaining customer satisfaction is a crucial strategy to retain customer loyalty and prevent them from switching to other banking services. This research aims to explore the factors that influence user satisfaction with the BNI mobile banking application, focusing on aspects such as ease of use, reliability, security, and the features offered.

Several previous studies have explored various aspects influencing user satisfaction with digital services. For instance, research conducted by De Leon et al. (2020), Oppong et al. (2021), Li et al. (2021), and Zhou et al. (2021) explain that the quality of Self-Service Technology (SST) in mobile banking applications significantly affects perceived value and customer satisfaction. The quality of SST, consisting of seven dimensions such as reliability, security, ease of use, and interaction design, is viewed as a secondary factor that plays a comprehensive role in shaping user perceptions. The analysis results indicate that the better the service quality provided by mobile banking applications, the higher the perceived value by users, which in turn enhances their satisfaction. This underscores that positive user experience in accessing banking services through self-service technology, particularly mobile banking, greatly depends on the service quality offered. Therefore, banks and application providers are expected to focus on developing efficient and reliable services to enhance user experience and ensure higher satisfaction. Additionally, research by Saputri & Rivai (2022) on service quality and user satisfaction with Transjakarta public transportation during the COVID-19 pandemic shows that service quality has a significant impact on user satisfaction. This emphasizes the importance of service quality as a key factor in building customer satisfaction. Nugraha et al. (2021) in their study on the Grab application in Semarang also found that ease of use has a positive and significant impact on user satisfaction. This research confirms that ease of use is one of the important factors influencing customer satisfaction in digital services.

Furthermore, other studies have shown that ease of access to mobile banking leads to higher job satisfaction for consumers (Yenny, 2022; Mahmud et al., 2023; and Samara & Susanti, 2023). This occurs because mobile banking allows users to access financial services quickly and easily at any time without being burdened by time-consuming banking affairs, enabling them to focus more on their work and feel more comfortable and satisfied in their jobs. Research related to mobile banking also supports the importance of trust and service quality in determining user satisfaction. Nawangasari & Putri (2020), Margareta et al. (2023), Rojuaniah et al. (2024), and Oktariani et al. (2024) found that trust has a positive and significant impact on the satisfaction of mobile banking customers at Bank DKI, which is also relevant for BNI customers. This is reinforced by findings from Dewi et al. (2022), which show that trust and service quality influence customer satisfaction in using CIMB Niaga's branchless banking services. These studies indicate that trust, alongside service quality, is a critical factor influencing the level of satisfaction among mobile banking users.

Previous research has shown that service quality, ease of use, and trust significantly influence user satisfaction with digital services, including mobile banking. For example, De Leon et al. (2020) revealed that the quality of Self-Service Technology (SST) in mobile banking affects perceived value and customer satisfaction. Additionally, studies by Saputri & Rivai (2022) and Nugraha et al. (2021) emphasize that ease of use and service quality are important in enhancing user satisfaction. However, despite various studies addressing the impact of service quality, ease of use, and trust on user satisfaction, there is a gap in a deeper understanding of how the overall user experience influences satisfaction and loyalty among mobile banking customers, particularly in the context of BNI. Therefore, this research aims to fill that gap by further exploring the relationship between BNI mobile banking service quality and user satisfaction, as well as how factors such as ease of use, reliability, security, and offered features contribute to user experience and satisfaction. This study is expected to contribute to the development of BNI's strategies for improving its service quality in the future. Thus, BNI can maintain its position as one of the leading mobile banking service providers in Indonesia while strengthening customer loyalty amid the increasingly intense competition in the digital banking industry.

LITERATURE REVIEW
Marketing Management
According to Sudarsono (2020), marketing management is the process of planning and implementing marketing operations within a company, involving the organization, direction, and coordination necessary to efficiently and effectively achieve organizational goals. The main activities in marketing management include market analysis and marketing environment assessment, aimed at identifying opportunities and threats in the market. Kotler & Keller (2016) add that marketing management encompasses analysis, planning, implementation, and control of programs aimed at creating mutually beneficial exchanges with buyers, enabling the achievement of organizational objectives. In general, marketing management includes activities related to planning, supervising, innovating, and evaluating the processes of introducing products or services to consumers.

User Satisfaction
User satisfaction is often understood similarly to customer satisfaction, though there are differences in their subjects. According to Hafidz & Muslimah (2023), a customer is an individual who purchases products based on various considerations, while a user is someone who utilizes the product. The goal of user satisfaction is to ensure that users' needs and expectations are met, as stated by Schnaars. User satisfaction is deemed achieved when users' responses to service quality meet or exceed their expectations. User satisfaction is the perspective of users regarding a specific computer program they are using. Positive experiences gained from using a system will impact an increase in user satisfaction. This research evaluates actual usage by measuring the amount of information requests from users or the connection time used (Saadilah et al., 2021). They state that indicators of user satisfaction include system performance, ease of use, efficiency, system availability, responsiveness, and overall satisfaction. System performance is measured through speed and error rates, while ease of use is evaluated based on navigation and understanding of instructions.

Service Quality

Arianto (2018) defines service quality as the effort to meet customers' needs and expectations in a timely manner. Service quality applies to all forms of service provided by the company to clients. The development of the service and its quality concept began with research conducted by Churchill and Surprenant in 1982, as well as Asubonteng et al. in 1996. They highlighted the importance of customer satisfaction theory, which measures how well a company can deliver services that meet customer expectations. In this regard, service quality is measured through a company's ability to meet customers' desires and needs, even exceeding their expectations (Zygiaris et al., 2022). Several factors influence service quality, such as security, ease of use, speed, and responsiveness in services, which are crucial in determining service quality, particularly in the context of digital services. Kotler & Keller (2016) identify five key dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy.

Ease of Use

Ease of use refers to an individual's perception of how effortlessly technology can be utilized without excessive effort. According to Jogiyanto (2019), the perception of ease of use is based on the belief that technology is easy to learn and use. Dirnaeni et al. (2021) state that applications designed with user-friendly interfaces and simple displays can enhance users' perceptions of ease of use. This explanation shows that when users feel comfortable and are not confused by an application's design, they are more likely to use and explore the available features. Understanding how to use an application is crucial for ensuring a positive user experience. If an application has clear navigation and an intuitive interface, users can quickly learn how to operate it without feeling overwhelmed. This not only increases user satisfaction but can also contribute to higher adoption rates, as users feel more confident using straightforward applications.

Consumer Trust

Consumer trust is the belief that the other party in a transactional relationship will fulfill its obligations as expected. Daryanto (2013) explains that trust is an individual's ability to act based on the belief that a company can meet expectations and adhere to the demands desired by consumers. This explanation indicates that trust plays a crucial role in the relationship between companies and their consumers. When consumers believe that a company will keep its promises, they tend to be more loyal and willing to engage further with that company. This trust is built through consistency in product or service quality, transparency in communication, and the company's ability to meet established expectations. Kotler & Keller (2016) state that trust is the willingness of business partners to collaborate with another company. This explanation underscores the importance of trust in inter-company relationships, particularly in the context of business cooperation. When business partners feel assured that another company will fulfill its commitments and maintain integrity in their relationship, they are more likely to engage in productive and mutually beneficial cooperation. According to Kotler and Keller, indicators of trust in business relationships include commitment, transparency, integrity, consistency, and positive experiences. Commitment reflects the seriousness of partners in executing cooperation, while transparency shows openness in communication and decision-making. Integrity relates to the belief that partners will act ethically and fulfill promises, while consistency refers to the ability of partners to deliver reliable outcomes.

Research Framework and Hypotheses
The Influence of Service Quality on User Satisfaction
Service quality plays a crucial role in creating user satisfaction. According to Arianto (2018), service quality involves efforts to meet user needs and expectations in a timely manner. When a company can provide high-quality services—in terms of reliability, responsiveness, and empathy—users will experience greater satisfaction. This aligns with the statement by Zygiaris et al. (2022), which indicates that companies that exceed user expectations will enhance their satisfaction levels. Therefore, the better the quality of service provided, the higher the user satisfaction that will be achieved.
H1: Service quality has a positive and significant effect on user satisfaction.

The Influence of Ease of Use on User Satisfaction
Ease of use is a crucial factor in the user experience. According to Jogiyanto (2019), the perception of ease of use stems from the belief that technology or applications are easy to learn and use. If an application is designed with an intuitive interface and clear navigation, users will feel comfortable and unimpeded while using the service (Dirnaeni et al., 2021). This will contribute to increased user satisfaction, as they can access the available features more effectively without encountering difficulties.
H2: Ease of use has a positive and significant effect on user satisfaction.

The Influence of Trust on User Satisfaction
Consumer trust is an important element in the relationship between users and companies. Daryanto (2013) explains that trust is built through consistency in service quality and transparency in communication. When users believe that the company will fulfill its promises, they are likely to feel satisfied with their user experience. In line with the explanation by Kotler & Keller (2016), high levels of trust will foster user loyalty, thereby enhancing their satisfaction.
H3: Trust has a positive and significant effect on user satisfaction.
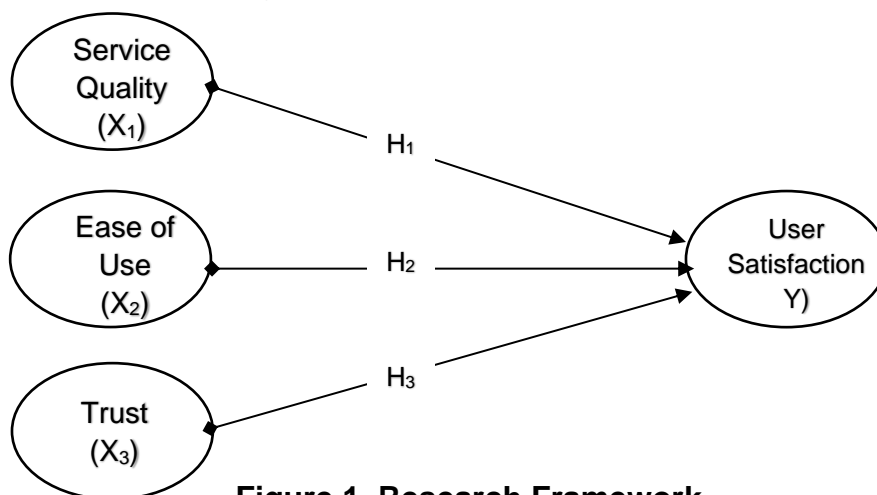

Figure 1. Research Framework

RESEARCH METHODOLOGY
Measurement Development
　　User Satisfaction (Y): This refers to the level of satisfaction experienced by users regarding the products or services they receive. This satisfaction is significantly influenced

by user expectations and perceptions of the experiences provided (Hafidz & Muslimah, 2023). According to them, several indicators are used to measure user satisfaction, including the alignment of expectations, which reflects the extent to which the product or service meets user expectations. Additionally, the quality of the product or service encompasses users' perceptions of the quality received. The value perceived by users is also important, where users assess the value obtained compared to the costs incurred. The overall user experience while interacting with the product or service contributes to satisfaction, along with users' willingness to recommend the product or service to others, indicating a high level of satisfaction.

Service Quality (X1): This is the degree to which the service provided can meet or even exceed customer expectations (Kotler & Keller, 2016). Service quality includes various dimensions that influence the customer experience. Indicators used to assess service quality include tangibles, which encompass the physical aspects of the service, such as facilities and employee appearance. Reliability focuses on the ability to provide promised services consistently and accurately, while responsiveness evaluates the readiness and speed in addressing customer requests or complaints. Assurance refers to employees' ability to provide guarantees and build customer trust, and empathy reflects the level of care and understanding shown to customers as individuals (Kotler & Keller, 2016).

Ease of Use (X2): This is the user's perception of how easy an application or technology is to understand and use without requiring excessive effort (Dirnaeni et al., 2021). Indicators of ease of use include an intuitive interface, which is a design that is easy for users to understand and navigate. Clarity of instructions is also a crucial factor, reflecting the quality and clarity of the guidance provided for using the application (Dirnaeni et al., 2021). Additionally, the user's ability to quickly learn the system is a critical indicator. Responsiveness to user needs demonstrates how well the application can adapt to user requirements, and technical support refers to the availability of assistance that users can access when they encounter difficulties.

Trust (X3): This is the willingness of business partners to cooperate with other companies, highlighting the importance of trust in inter-company relationships, especially in the context of business cooperation (Kotler & Keller, 2016). Indicators of trust include Trusting Belief, which encompasses consumers' confidence in sellers, including beliefs about sellers' ability to meet needs and honesty in providing services. Meanwhile, Trusting Intention reflects consumers' intentions to trust sellers, demonstrated by their willingness to provide personal information to sellers, confidence that the information will not be misused, and readiness to follow the recommendations provided by sellers. These two aspects are interrelated and contribute to greater trust in the relationship between consumers and sellers (Monica & Marlius, 2023).

Data Analysis Method

The analysis methods in this research consist of instrument testing and analysis using Partial Least Squares (PLS). Instrument testing is conducted to assess the validity and reliability of the questionnaire. Validity is measured using the loading factor, where an indicator is considered valid if its value is above 0.70, while reliability is measured using composite values and Cronbach's alpha, which should ideally be at least 0.7.

Once the instruments are confirmed to be valid and reliable, data analysis is performed using PLS version 4.0. PLS can handle multiple variables and examine causal relationships among latent variables. The evaluation of the measurement model (outer model) includes

testing for convergent and discriminant validity, as well as composite reliability. In the structural model (inner model), the R-Square value is used to assess the influence of exogenous variables on endogenous variables, and the predictive relevance (Q^2) test is used to evaluate the relevance of the model. Hypothesis testing is conducted using path coefficients with the bootstrapping method, where a hypothesis is accepted if t-values are ≥ 1.96.

RESEARCH RESULTS AND DISCUSSION
Research Results
Respondent Description

PT Bank Negara Indonesia (Persero) Tbk, or BNI, was established in 1946 as the central bank under the name "Bank Negara Indonesia." Its status was later changed to a State-Owned Commercial Bank based on Law No. 17 of 1968. BNI subsequently became a public company after listing its shares on the Jakarta Stock Exchange and the Surabaya Stock Exchange in 1996. To enhance its financial structure and competitiveness, BNI undertook several corporate actions, including recapitalization processes by the government and the divestment of government shares. Currently, 60% of BNI's shares are owned by the Government of the Republic of Indonesia, while the remaining 40% is owned by the public.

BNI offers deposit services and loan facilities for corporate, medium, and small segments, as well as having several subsidiaries that support integrated financial services. In an effort to improve service quality and security, BNI has made several changes to its organizational structure. One example is the revision of labor laws carried out by BNI's Human Resources Division. This change aims to enhance operational efficiency and security at BNI.

Table 1. Description of Respondent Characteristics

Respondent Characteristics	Frequency	%
Male	104	65%
Female	56	35%
Total	160	100%
< 18 Yeras	1	0,6%
18 – 30 Yeras	123	76,9%
31 – 40 Yeras	35	21,9%
> 40 Yeras	1	0,6%
Total	160	100%
West Jakarta	160	100%
Total	160	100%
College student (S1)	76	47,5%
Entrepreneur	36	22,5%
Employee	40	25%
Lecture	1	0,6%
Others	7	4,4%
Total	160	100%
Income Rp 500.000	15	9,4%
Income Rp 500.000 - Rp 2.000.000	31	19,4%

Respondent Characteristics	Frequency	%
Income Rp 2.000.000 - Rp 4.500.000	42	26,3%
Income Rp 4.500.000 - Rp 8.000.000	65	40,6%
Income >Rp 8.000.000	7	4,4%
Total	160	100%
<5 Moth	20	12,5%
6 - 10 Month	45	28,1%
11 - 15 Month	54	33,8%
>15 Month	41	25,6%
Total	160	100%

Based on Table 1, it shows a detailed overview of the demographic characteristics of 160 respondents, revealing several trends and key insights. The gender distribution indicates that 65% of the respondents are male, while 35% are female, suggesting a male dominance in this sample, which may influence the results and generalizations of the study. In terms of age, the majority of respondents, at 76.9%, fall within the age range of 18 to 30 years, reflecting the views and experiences of younger individuals that may align with current trends. Respondents aged 31 to 40 years comprise only 21.9%, while those under 18 and over 40 each represent just 0.6%, indicating limited engagement from these age groups. Additionally, all respondents are from West Jakarta, providing a homogeneous geographic representation that may affect the applicability of the findings in a broader context. Regarding occupation, 47.5% of respondents are college students, consistent with the previously identified age range, followed by 22.5% who are entrepreneurs and 25% who are employees, while the representation of lecturers and other categories is minimal, emphasizing a young and dynamic workforce. For income distribution, 40.6% of respondents have an income between Rp 4,500,000 and Rp 8,000,000, while 26.3% earn between Rp 2,000,000 and Rp 4,500,000. A smaller proportion, namely 9.4%, earn less than Rp 500,000, and 4.4% have an income above Rp 8,000,000, indicating that most respondents are within the low to middle-income range.

Table 2. Description of Respondents' Answers for User Satisfaction Variables

Indicator	N	Mean	Standard Deviation
I find BNI's mobile banking very easy to access and use.	160	4.013	0.981
I feel that accessing BNI's mobile banking is very fast.	160	4.025	0.987
I feel that BNI's mobile banking meets my transaction needs.	160	4.138	0.991
I am satisfied after using BNI's mobile banking.	160	4.112	0.994
I believe the functionality of BNI's mobile banking features is quite good.	160	4.062	0.96
I believe the BNI mobile banking system is not prone to errors.	160	3.938	1.053
I feel that the BNI mobile banking application handles systems effectively.	160	4.156	1.016
I feel that BNI responds well to issues regarding errors in the mobile banking system.	160	4.131	1.038

Finally, the duration of interaction with relevant products or services shows that 33.8% of respondents have been engaged for 11 to 15 months, and 28.1% for 6 to 10 months, while 25.6% have been involved for over 15 months. Only 12.5% have interacted for less than 5 months, reflecting a variation in experience and understanding that could influence satisfaction and feedback. Overall, the characteristics of the respondents indicate a young population, predominantly male, with significant representation from students and individuals in the low to middle-income bracket, reflecting certain demographic trends that should be considered when interpreting research findings and making generalizations.

Descriptive statistics is a data analysis approach used to describe and summarize information from a collected dataset. This method aims to provide a better understanding of the distribution, trends, and patterns of the observed data. In the context of this research, descriptive statistics is used to outline the mean of each variable indicator. From the statistical analysis results in this study, it can be explained that from 32 instrument indicators presented to 160 respondents, the following results were obtained:

Table 3. Description of Respondents' Answers for Service Quality Variables

Indicator	N	Mean	Standard Deviation
I feel that the service process provided by BNI is good.	160	4.062	1.105
I feel that the appearance of BNI bank staff is neat and friendly towards the service provided.	160	4.181	1.06
I believe the ability of staff to use tools in the service process is quite good.	160	4.188	1.056
I feel that the service provided by BNI has clear time standards	160	4.112	1.019
I believe the staff responds well to each user seeking service	160	4.144	1.123
I believe my complaints are responded to well by BNI staff	160	4.112	1.14
I feel that BNI staff provides assurance in their service	160	4.05	1.083
I feel that BNI staff can explain all features in the BNI mobile banking application	160	4.269	0.986
I believe that BNI staff is easy to understand when serving mobile banking users.	160	4.3	0.947

Based on Table 2, the analysis presents descriptive statistics regarding user satisfaction with BNI's mobile banking services, drawing data from 160 respondents. The mean score for ease of access is 4.013, indicating that users find the application easy to use. A mean score of 4.025 for the speed of access shows the application's efficiency. The highest indicator, with a mean of 4.138, suggests that BNI's mobile banking meets users' transaction needs. Users also report satisfaction with a mean score of 4.112 and assess the quality of features at a mean of 4.062. Although there are concerns regarding ease of errors, which received a mean of 3.938, the application is still viewed as effective in handling systems (mean of 4.156) and BNI's responsiveness to issues with a mean of 4.131. Overall, these results reflect a positive user satisfaction towards BNI's mobile banking services, despite some concerns.

Based on Table 3, the descriptive statistics of respondents' answers regarding service quality variables reveal several insights into customer perceptions of BNI's services. The mean scores indicate a generally positive assessment of the service quality. The highest

mean score of 4.300 suggests that respondents find the BNI staff's communication clear and easily understandable during mobile banking interactions. Additionally, the mean score of 4.269 reflects that respondents feel the staff can effectively explain all features within the BNI mobile banking application. Other indicators, such as the staff's professionalism and response to complaints, also receive positive evaluations, with mean scores ranging from 4.050 to 4.188. However, the standard deviations, which vary from 0.947 to 1.140, indicate a moderate level of variability in responses, suggesting that while many respondents are satisfied, there are differing opinions on specific service aspects.

Table 4. Description of Respondents' Answers for Ease of Use Variables

Indicator	N	Mean	Standard Deviation
I find the system in BNI mobile banking easy to learn.	160	4.081	1.055
I feel the system used is quite easy to operate.	160	4.106	1.004
I believe the system used in BNI mobile banking is easy to control when used.	160	4.106	1.016
I think the system used in BNI mobile banking is easy to control when needed.	160	4.088	0.971
I find the instructions on the BNI mobile banking system quite clear.	160	4.000	1.000
I believe the system used in BNI mobile banking is easy to understand.	160	4.119	0.983
I find the BNI mobile banking system easy to use.	160	4.263	0.905
I feel the BNI mobile banking application is easy for users to operate.	160	4.237	0.952

Based on Table 4, the descriptive statistics of respondents' answers regarding the ease of use variables provide valuable insights into customer perceptions of BNI's mobile banking system. The mean scores indicate a generally positive evaluation of the system's usability. The highest mean score of 4.263 suggests that respondents find the BNI mobile banking application easy to use. Furthermore, the mean score of 4.237 indicates that users feel comfortable operating the application. Other indicators, such as the clarity of system instructions and the ease of controlling the system, also received positive assessments, with mean scores ranging from 4.000 to 4.119. The standard deviations, which range from 0.905 to 1.055, indicate a moderate level of variability in responses, suggesting that while many respondents are satisfied with the ease of use, there are some differing opinions regarding specific features of the mobile banking system.

Based on Table 5, the descriptive statistics of respondents' answers regarding trust variables reveal key insights into customer perceptions of BNI's mobile banking services. The mean scores indicate a mixed but generally positive assessment of trust in BNI. The highest mean score of 4.188 suggests that respondents have a strong belief in the advice provided to BNI. Additionally, mean scores of 4.112 and 4.062 indicate that respondents trust BNI to handle their personal information responsibly and not misuse it. In contrast, mean scores for confidence in BNI's ability to meet mobile banking needs (3.850) and handling system errors honestly (3.888) are lower, suggesting some concerns among respondents. The standard deviations, ranging from 0.987 to 1.074, indicate a moderate

level of variability in responses, reflecting differing opinions on specific trust-related aspects of BNI's services.

Table 5. Description of Respondents' Answers for Trust Variables

Indicator	N	Mean	Standard Deviation
I trust BNI in their mobile banking services.	160	3.769	1.074
I believe BNI has the ability to meet the needs of mobile banking customers.	160	3.85	1.05
I believe BNI is honest in handling users when system errors occur.	160	3.888	1.019
I trust that my personal information provided to BNI will not be disclosed.	160	4.062	1.004
I believe that my personal information provided to BNI will not be misused by certain parties.	160	4.112	0.987
I trust the advice given to BNI.	160	4.188	1.007

Model Evaluation

According to Ghozali & Latan (2020), the measurement model reveals how manifest variables represent the latent variables being measured. The outer model serves to determine the relationship between latent variables and their indicators. This analysis is conducted through validity and reliability testing using PLS. Indicators are considered valid if their values are above 0.70, while loading factors are deemed acceptable if they fall between 0.50 and 0.60. Loading factors below 0.50 will be removed from the model.

Based on the initial validity test, several indicators with values less than 0.70 do not meet the criteria. According to Ghozali (2020), indicators are considered valid if their values exceed 0.70, and loading factors are deemed acceptable if they range between 0.50 and 0.60. Therefore, loading factors below 0.50 will be removed from the model (Ghozali, 2020). Consequently, modifications were made by removing indicators that have values less than 0.70, which can be stated as invalid.

Variable	Indicators	Outer Loadings	Description
	X1.KPL1	0.729	Valid
	X1.KPL2	0.801	Valid
	X1.KPL3	0.801	Valid
	X1.KPL4	0.776	Valid
Service Quality (X1)	X1.KPL5	0.817	Valid
	X1.KPL6	0.855	Valid
	X1.KPL7	0.83	Valid
	X1.KPL8	0.857	Valid
	X1.KPL9	0.838	Valid
	X1.KPL10	0.805	Valid
Ease of Use (X2)	X2.KMP5	0.749	Valid
	X2.KMP6	0.903	Valid

Variable	Indicators	Outer Loadings	Description
	X2.KMP7	0.897	Valid
	X2.KMP8	0.85	Valid
	X3.KN1	0.778	Valid
	X3.KN2	0.799	Valid
Trust (X3)	X3.KN3	0.801	Valid
	X3.KN4	0.81	Valid
	X3.KN5	0.826	Valid
	X3.KN6	0.766	Valid
	Y.KP4	0.852	Valid
	Y.KP5	0.823	Valid
User Satisfaction (Y)	Y.KP6	0.898	Valid
	Y.KP7	0.875	Valid
	Y.KP8	0.816	Valid

After removing several indicators with values less than 0.70, a retest was conducted on the Convergent Validity test. Based on the results shown in Table 7, all indicators from each construct have outer loading values ≥ 0.70, indicating that these indicators are valid and meet the criteria according to Ghozali (2020).

Discriminant Validity: In the Discriminant Validity stage, an analysis was conducted to ensure that each concept from each latent variable is distinct from other variables. The discriminant validity test is used to evaluate whether each loading factor value is the largest compared to loading values for other latent variables. The results of the discriminant validity testing are as follows:

Table 8. Discriminant Validity Test (Fornell-Larcker)

Variable	Service Quality	Ease of Use	Trust	User Satisfaction
Service Quality (X1)	0.812			
Ease of Use (X2)	0.303	0.852		
Trust (X3)	0.629	0.384	0.797	
User Satisfaction (Y)	0.488	0.588	0.521	0.853

The Discriminant Validity Test based on the Fornell-Larcker criterion, as shown in Table 8, assesses the distinctiveness of each construct by comparing the square root of the Average Variance Extracted (AVE) with the correlations between constructs. The diagonal entries represent the square root of AVE, while the off-diagonal entries reflect the correlations. Service Quality (X1) has a square root of AVE of 0.812, indicating strong representation and a moderate positive correlation of 0.629 with Trust (X3), affirming its distinctiveness. Ease of Use (X2) has the highest square root of AVE at 0.852, with a correlation of 0.588 with User Satisfaction (Y), confirming its uniqueness. Trust (X3), with an AVE of 0.797, shows moderate correlations with Service Quality and User Satisfaction, reinforcing its distinct nature. Finally, User Satisfaction (Y) has an AVE of 0.853, with lower correlations to other constructs, further demonstrating its distinctiveness. Overall, the results indicate that all constructs exhibit adequate discriminant validity, as their square roots of

AVE exceed the correlations with other constructs, supporting the validity of the measurement model.

Construct Reliability dan Validity

Tujuan pengujian reliabilitas komposit adalah untuk mengevaluasi reliabilitas instrumen pada model penelitian. Struktur yang konsisten memiliki nilai reliabilitas komposit dan nilai cronbach alpha setidaknya 0,7 dapat dianggap memiliki reliabilitas yang baik. Oleh karena itu, kuesioner yang digunakan dapat disimpulkan telah andal atau konsisten, dan nilai average variance extracted menunjukkan jika masing – masing konstruk memiliki nilai > 0,50. Hal ini menunjukkan jika masing – masing konstruk valid dan memenuhi ketentuan average variance extracted.

Table 9. Construct Reliability and Validity

Variable	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
Service Quality (X1)	0.943	0.95	0.951	0.659
Ease of Use (X2)	0.872	0.882	0.913	0.726
Trust (X3)	0.885	0.888	0.913	0.635
User Satisfaction (Y)	0.906	0.907	0.93	0.728

Table 9 presents the construct reliability and validity statistics for the variables in the study. Cronbach's alpha values indicate the internal consistency of each construct, with all values exceeding the commonly accepted threshold of 0.70, suggesting high reliability. Service Quality (X1) has a Cronbach's alpha of 0.943, indicating excellent reliability, while Ease of Use (X2), Trust (X3), and User Satisfaction (Y) also demonstrate strong reliability with values of 0.872, 0.885, and 0.906, respectively.

Composite reliability, which assesses the overall reliability of the constructs, further supports these findings. Service Quality (X1) has a composite reliability of 0.950, and Ease of Use (X2) shows a composite reliability of 0.882. Trust (X3) and User Satisfaction (Y) also have solid reliability scores of 0.888 and 0.907, respectively.

The Average Variance Extracted (AVE) values provide additional insights into construct validity. AVE values above 0.50 indicate that a substantial portion of the variance in the indicators is explained by the construct. Service Quality (X1) has an AVE of 0.659, Ease of Use (X2) has an AVE of 0.726, Trust (X3) has an AVE of 0.635, and User Satisfaction (Y) has an AVE of 0.728. These results confirm that all constructs demonstrate adequate reliability and validity, indicating that they are suitable for further analysis in the research.
.

Inner Model Testing

After the model in the study meets the criteria for the Outer Model, the researcher proceeds to test the Structural Model. Inner Model testing involves developing the model based on concepts and theories, analyzing the relationships between exogenous and endogenous variables that have been outlined in the previous conceptual framework. Thus, the steps taken by the researcher to test the structural model (Inner Model) can be identified through the following processes.

R-Square (R^2) Nilai

According to Ghozali (2020), the R-Square value serves as a goodness-of-fit test for the model. The R-Square value is used to explain the influence of specific exogenous latent variables on endogenous latent variables and whether they have a substantive impact. An R-Square value of 0.75 is considered strong, 0.5 moderate, and 0.25 weak. The coefficient of determination R² for the User Satisfaction construct is 0.477. This indicates that the exogenous variables, namely Service Quality, Ease of Use, and Trust, can explain 47.7% of the endogenous variable, User Satisfaction, while the remaining 52.3% is explained by other exogenous variables.

Effect Sizes (F^2)

According to Ghozali & Latan (2020), the F-square criterion can be used to assess the effect of exogenous variables on endogenous variables. The criteria are as follows: if the F value is 0.02, the effect of the exogenous variable on the endogenous variable is considered small. If the F value is 0.15, the effect is considered moderate. If the F value is 0.35, the effect is considered large. Thus, this criterion helps determine the significance and strength of the relationships between variables in the statistical model. The Effect Sizes (F²) for the exogenous construct Service Quality show a small effect on the endogenous construct with a value of 0.056. The exogenous construct Ease of Use has a large effect on the endogenous construct with a value of 0.312. The exogenous construct Trust has a small effect on the endogenous construct with a value of 0.049.

According to Ghozali & Latan (2020), the F-square criterion can also be used to evaluate the effects of exogenous variables on endogenous variables, further supporting the aforementioned criteria.

Predictive Relevance (Q^2)

According to Ghozali (2020), the goodness-of-fit test for the inner model utilizes the predictive relevance (Q²) value. A Q-square value greater than 0 indicates that the model has predictive relevance. The predictive relevance test (Q²) employs a blindfolding procedure, which is an analysis used to assess the relevance level of a construct model. This analysis process uses the Q-square value. The Q-square value of 0.331 indicates a value greater than 0, suggesting that the model has relevant predictive value. Therefore, it can be concluded that this research model has good predictive relevance as it exceeds the threshold of 0, consistent with Ghozali's (2020) criteria. A Q-square value of 0.331 indicates that the analyzed model has relevant predictive value. This means that approximately 33.1% of the variance in the dependent variable can be explained by the model, suggesting that the independent variables significantly impact the dependent variable. This indicates that the model is not only relevant but also robust in explaining the relationships between the variables, providing confidence in the analysis results and their practical applications.

Uji Hipotesis Statistik

Based on the hypothesis testing results presented in Table 10 and Figure 2, indicate the outcomes of the hypothesis testing concerning the influence of independent variables—Service Quality (X1), Ease of Use (X2), and Trust (X3)—on the dependent variable, User Satisfaction (Y). For Service Quality, the original sample coefficient of 0.220 signifies a positive effect on User Satisfaction, with a T-statistic of 2.166, which exceeds the critical value of 1.96, and a P-value of 0.031, indicating a statistically significant relationship. Similarly, Ease of Use exhibits the strongest influence, with a coefficient of 0.439, a T-statistic of 5.268, and a P-value of 0.000, all confirming its highly significant

impact on User Satisfaction. Trust also shows a positive relationship with a coefficient of 0.214, a T-statistic of 2.056, and a P-value of 0.040, which indicates a significant effect as well.

Table 10. Summary of Hypothesis Testing Results

Variable	Original sample (O)	Standard deviation (STDEV)	T statistics	P - value
Service Quality (X1)→ User Satisfaction (Y)	0,220	0,102	2,166	0,031
Ease of Use (X2)→ User Satisfaction (Y	0,439	0,083	5,268	0,000
Trust (X3)→ User Satisfaction (Y	0,214	0,104	2,056	0,040

Overall, all three variables are confirmed to significantly impact User Satisfaction, with Ease of Use being the most influential, followed by Service Quality and Trust, each contributing meaningfully to enhancing user satisfaction. Among the three variables, Ease of Use has the greatest influence, meaning that when users find a system or service easy to use, they are more likely to be satisfied. Service Quality ranks second, indicating that good service also significantly contributes to user satisfaction. Finally, Trust has a smaller impact compared to the previous two variables, but it still plays an important role in enhancing user satisfaction. Overall, these results demonstrate that all three factors complement each other and collectively contribute to creating a positive user experience.
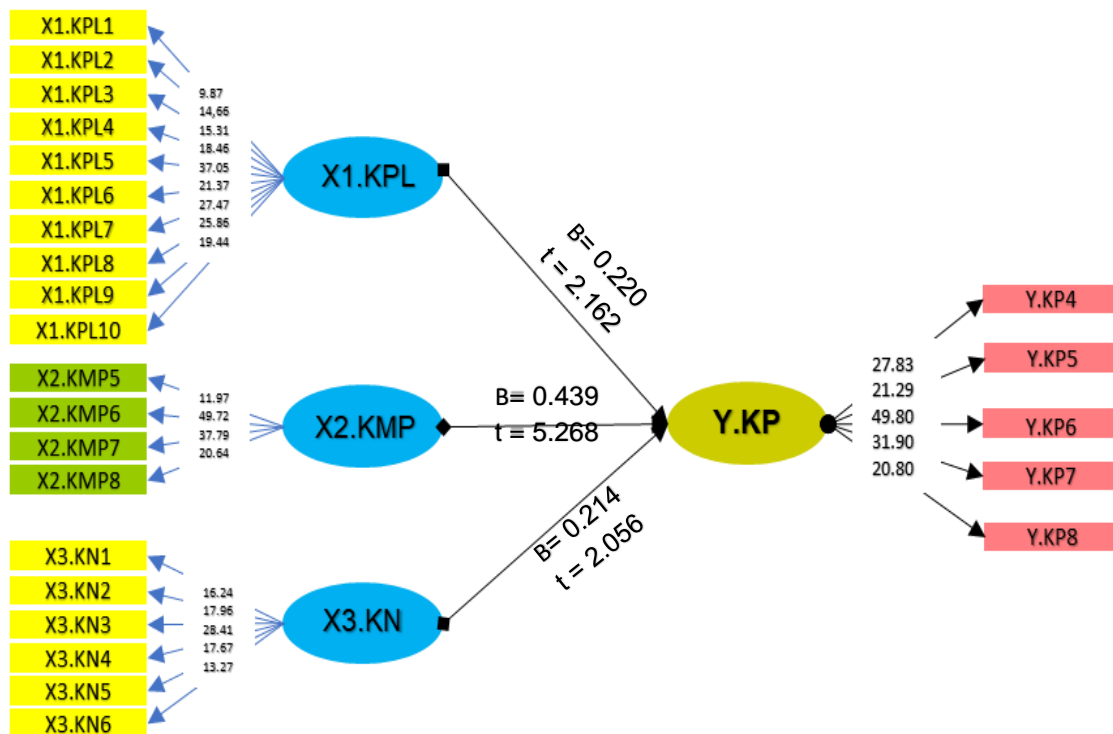

Figure 2. Output Algorithm dan Bootstrapping

Practically, these results indicate that user trust in a service or product has a significant and positive impact on user satisfaction levels. The original sample value of 0.214 suggests that every increase in trust results in a 21.4% increase in user satisfaction. With a T-statistic of 2.056 (greater than 1.96) and a P-value of 0.040 (less than 0.050), we can conclude that this influence is significant, meaning it is unlikely to have occurred by chance.

Theoretically, this aligns with the concept that trust is a key element in building long-term relationships between organizations and users. According to trust theory in marketing, users who believe in the credibility, integrity, and capability of service providers tend to feel more satisfied. This is because trust reduces uncertainty and perceived risks, allowing users to feel more comfortable and confident in using the product or service. Therefore, organizations that focus on enhancing trust—such as through transparency, consistent service quality, and effective communication—can directly improve user satisfaction levels. Practically, this means that organizations must continually build and maintain trust with users to ensure higher satisfaction, which ultimately can contribute to loyalty and long-term success.

Discussion

The description of respondents in this study provides a clear picture of the characteristics of the population participating in the research. PT Bank Negara Indonesia (Persero) Tbk, or BNI, as the central bank established in 1946, has a significant historical background in Indonesia's financial landscape. As a state-owned bank registered as a public company, BNI is primarily owned by the Government of the Republic of Indonesia, holding 60% of the shares, while the remainder is owned by the public. This ownership structure gives BNI a strong position in providing banking services to corporate, medium, and small segments, making it more focused on enhancing service quality and security.

The analysis of respondent characteristics indicates that the majority are male (65%), with the age group of 18-30 years dominating participation (76.9%). The users of BNI's mobile banking services largely consist of the younger generation, who tend to adopt digital technology. All respondents are from West Jakarta, emphasizing the relevance of this study for the community in that area. Additionally, 47.5% of respondents are students, followed by employees and entrepreneurs. This illustrates that BNI's mobile banking services are widely used by students and workers seeking convenience and efficiency in banking transactions. Most respondents have an income range of IDR 4,500,000 to IDR 8,000,000, indicating they belong to the upper-middle class, which is more familiar with financial technology. The use of BNI's mobile banking services shows positive results, with the majority of respondents having used the service for 11 to 15 months. The descriptive statistics analyzed in the subsequent tables provide an overview of user satisfaction, service quality, ease of use, and trust in BNI's services.

Influence of Service Quality on User Satisfaction

Service quality is a crucial factor affecting user satisfaction in the context of mobile banking services. According to Table 2, the indicators for user satisfaction reveal that respondents feel the BNI mobile banking application handles the system effectively, with the highest mean score of 4.156. However, there is also a low mean score for the indicator indicating that the BNI mobile banking system does not easily encounter errors. This reflects areas for improvement that BNI needs to focus on to enhance user experience. Good service quality contributes to the value perceived by users and increases their satisfaction. Aspects such as reliability, responsiveness, and system resilience need to be improved to ensure that the services provided meet or exceed user expectations.

Influence of Ease of Use on User Satisfaction

The ease of use of the mobile banking application plays a significant role in creating user satisfaction. In Table 4, the ease of use of the application is highlighted as a crucial point for users, with the majority of respondents feeling that the BNI mobile banking system is user-friendly. Nugraha et al. (2021) found that ease of use is directly related to user satisfaction levels. Therefore, banks need to invest in developing a simple and easily navigable interface. A responsive design and providing tutorials for new users can enhance usability, contributing to higher user satisfaction.

Influence of Trust on User Satisfaction

Trust is an important element in the relationship between users and service providers. Table 5 highlights the level of trust respondents have in BNI. Although there is a relatively good level of trust, indicators related to confidence in the services still need improvement. Research by Nawangasari & Putri (2020) indicates that trust has a significant impact on mobile banking user satisfaction. Trust can be built through transparency in communication, transaction security, and service consistency. By creating a secure and transparent environment, BNI can not only enhance user satisfaction but also build strong loyalty among customers.

Conclusion

Based on the results of this study, it can be concluded that service quality, ease of use, and trust have a significant influence on user satisfaction with BNI's mobile banking services. While the majority of respondents feel satisfied with the services provided, there are several areas that need improvement. Good service quality and system reliability are critical in enhancing user satisfaction, while ease of use of the application contributes directly to a positive user experience. The combination of these three aspects can increase user satisfaction and loyalty towards banking services. Additionally, high trust in the bank significantly influences customer loyalty. Therefore, BNI needs to continuously invest in enhancing these three aspects to meet user expectations and attract more customers.

Recommendations

To improve the quality of this research and provide a more significant contribution to the development of mobile banking services, several recommendations can be proposed. First, future research is advised to broaden the scope of respondents by including users from various regions in Indonesia, not limited to West Jakarta. This will provide a more comprehensive picture of user experiences across different social and economic backgrounds. Additionally, researchers could consider exploring other factors that may influence user satisfaction, such as data security and additional features in the mobile banking application.

BNI is advised to continue improving the quality of its mobile banking services by focusing on three main aspects: service quality, ease of use, and trust. In terms of service quality, BNI needs to ensure that bank staff are regularly trained to provide more responsive and efficient service, as well as pay attention to user feedback for continuous improvement. Regarding ease of use, developing a more intuitive and user-friendly application interface is essential, including providing tutorials and guides for new users. Furthermore, BNI should enhance the transparency and security of its services by providing clear information regarding transaction security measures. Through these efforts, it is hoped that BNI can increase user

satisfaction levels, build stronger loyalty, and expand its market share in the mobile banking sector.

The limitations of this study include the restricted sample, which only covers users in one area, meaning the results may not fully reflect user experiences in other regions. Additionally, this study employs a quantitative approach that may not completely explore the nuances of user experiences in depth. Future research could utilize qualitative approaches, such as interviews or focus groups, to gain deeper insights into users' perceptions and expectations of mobile banking services. By taking these steps, it is hoped that future research can provide a better understanding and more applicable recommendations for improving mobile banking services in Indonesia.

REFERENCES

Arianto, N. (2018). Pengaruh Kualitas Pelayanan terhadap Kepuasan dan Loyalitas Pengunjung dalam Menggunakan jasa Hotel Rizen Kedaton Bogor. *Jurnal Pemasaran*, *1*(2), 83–101.

Daryanto. (2013). *Konsep Dasar Manajemen Pendidikan Di Sekolah.* Yogyakarta: Gavamedia.

De Leon, M. V., Atienza, R. P., & Susilo, D. (2020). Influence of Self-service Technology (SST) Service Quality dimensions as a second-order factor on Perceived value and Customer Ssatisfaction in a Mobile Banking Application. *Cogent Business and Management*, *7*(1), 1–17. https://doi.org/10.1080/23311975.2020.1794241

Dewi, E., Pambudi, J. E., & Priyatna, E. H. (2022). Minat Menggunakan Dompet Digital Ovo: Kemudahan Penggunaan Dan Kepuasan Pelanggan. *Digital Business Journal*, *1*(1), 1–13. https://doi.org/10.31000/digibis.v1i1.6598

Dirnaeni, D., Handrijaningsih, L., T.R, S. M., & Anisah. (2021). Persepsi Kemudahan, Customer Relationship Management dan Kualitas Layanan terhadap Loyalitas Pelanggan E-Wallet melalui Kepuasan. *Ultima Managament*, *13*(20), 287–303.

Faizal, M. (2021). *Mobile Apps BNI Terbaik diAntara Bank Nasional.* Retrieved from Sindonews.Com: Survei BSEM2021: Mobile Apps BNI Terbaik Di Antara Bank Nasional.

Ghozali, I., & Latan, H. (2020). *Partial Least Square Konsep, Teknik Dan Aplikasi Menggunakan Program SmartPLS 3.0. Edisi 2.* Semarang: Badan penerbit- Undip.

Hafidz, G. P., & Muslimah, R. U. (2023). *Pengaruh Kualitas Layanan, Citra Merek, Kepercayaan Pelanggan dan Kepuasan Pelanggan terhadap Loyalitas Pelanggan Produk Herbalife. 7*(1), 253–274.

Jogiyanto, H. M. (2019). *Analisis Dan Desain Sistem Informasi, Pendekatan Terstruktur Teori Dan Praktek Aplikasi Bisnis.* Andi Offset.

Kotler, P., & Keller, K. L. (2016). *Marketing management, 15th ed., Global edition.* London : Pearson Education.

Li, F., Lu, H., Hou, M., Cui, K., & Darbandi, M. (2021). Customer satisfaction with bank services: The role of cloud services, security, e-learning and service quality. *Technology in Society, 64*, 1–11. https://doi.org/10.1016/j.techsoc.2020.101487

Mahmud, Setyahuni, S. W., S.W, M. E., & Pratiwi, G. T. (2023). Suhita Whini Setyahuni. *Jimmu*, *8*(2), 186–206.

Margareta, Ashary, A., & Verawaty. (2023). Pengaruh Servicescape Dan Layanan Mobile Banking Terhadap Kepuasan Nasabah Melalui Kepercayaan Sebagai Variabel

Intervening Pada PT . Bank Negara Indonesia (Persero), Tbk , Cabang Mattoangin Makassar. *SEIKO : Journal of Management & Business*, *6*(2), 325–333.

Monica, C., & Marlius, D. (2023). Pengaruh Kualitas Pelayanan Terhadap Kepuasan Nasabah Pada Bank Nagari. *Jurnal Pundi*, *07*(01), 53–62. https://doi.org/10.31575/jp.v7i1.465

Nawangasari, S., & Putri, N. D. (2020). Pengaruh E-Service Quality Dan E-Trust Terhadap Kepuasan Nasabah Pengguna Bni Mobile Banking Melalui Citra Bank Sebagai Variabel Intervening. *Jurnal Ilmiah Matrik*, *22*(1), 55–63. https://doi.org/10.33557/jurnalmatrik.v22i1.839

Nugraha, D., Putra, G., & Raharjo, S. T. (2021). Analisis Pengaruh Kemudahan Penggunaan, Kualitas Layanan, Dan Persepsi Manfaat Terhadap Loyalitas Pengguna Dengan Kepuasan Pengguna Sebagai Variabel Intervening (Studi pada Pengguna Aplikasi Grab di Kota Semarang). *Diponegoro Journal of Management*, *10*(6), 1–15. http://ejournal-s1.undip.ac.id/index.php/dbr

Oktariani, F., Panorama, M., & Bayumi, M. R. (2024). Pengaruh Fitur Layanan Dan Keamanan Terhadap Kepuasan Nasabah Menggunakan Mobile Banking Pada Bank Syariah Indonesia Kc Palembang Demang Dengan Kepercayaan Sebagai Variabel Intervening. *Jurnal Ekonomi Dan Bisnis Digital*, *01*(03), 618–626.

Oppong, E., Hinson, R. E., Adeola, O., Muritala, O., & Kosiba, J. P. (2021). The effect of mobile health service quality on user satisfaction and continual usage. *Total Quality Management and Business Excellence*, *32*(1–2), 177–198. https://doi.org/10.1080/14783363.2018.1541734

Rojuaniah, Anugraheni, S., Syah, T. Y. R., Havidz, I. L. H., & Sari, B. M. (2024). Analisis Faktor yang Berpengaruh Terhadap Kepercayaan dan Kepuasan Nasabah Pengguna Mobile Banking. *Ekonomis: Journal of Economics and Business*, *8*(1), 321–328. https://doi.org/10.33087/ekonomis.v8i1.1385

Saadilah, M. R., Hurriyati, R., & Dirgantari, P. D. (2021). Determination of User Satisfaction in Mobile Banking Services Using the Information Systems Success Model (ISSM) Perspective. *Atlantis Press*, *187*, 257–263.

Samara, A., & Susanti, M. (2023). Pengaruh Kemudahan Penggunaan , Pengalaman Pengguna Dan Kepuasan Pelanggan Terhadap Loyalitas Pelanggan Pada Penggunaan Aplikasi Dompet Digital (E-Wallet) di Kalangan Mahasiswa Universitas Buddhi Dharma. *Jura: Jurnal Riset Akuantansi*, *1*(2), 1–12.

Saputri, C. N., & Rivai, A. R. (2022). Pengaruh Kemudahan Penggunaan , Sikap Konsumen dan Kepercayaan Konsumen Terhadap Niat Beli Ulang E-Wallet Shopeepay. *Journal of Management & Business*, *5*(1), 153–163. https://doi.org/10.37531/sejaman.v5i1.1522

Sudarsono, H. (2020). *Manajemen pemasaran modern.* Jakarta: Gramedia.

Yenny, D. (2022). Pengaruh Kemudahan Internet Banking Terhadap Kepuasan Nasabah PT Bank Central Asia Kantor Cabang Utama Suryopranoto. *Jurnal Jemper*, *1*(1), 1–8.

Zhou, Q., Lim, F. J., Yu, H., Xu, G., Ren, X., Liu, D., Wang, X., Mai, X., & Xu, H. (2021). A study on factors affecting service quality and loyalty intention in mobile banking. *Journal of Retailing and Consumer Services*, *60*, 0–22. https://doi.org/10.1016/j.jretconser.2020.102424

Zygiaris, S., Hameed, Z., Alsubaie, M. A., & Rehman, S. U. (2022). Service Quality and Customer Satisfaction in the Post Pandemic World : A Study of Saudi Auto Care Industry. *Frontiers in Psychology*, *13*, 1–9. https://doi.org/10.3389/fpsyg.2022.842141