The Influence of Sumut Mobile Development on Custom Satisfaction and Customer Loyalty

Gadis Eldy Aulia[1]*, Pristiyono[2], and Bhakti Helvi Rambe[3]

[1,3] Faculty of Economic and Business University of Labuhan batu, Indonesia
[2] Faculty of Engineering and Technology, University of Shinawatra, Thailand

*Corresponding Author – Email Addres : gadiseldy78@gmail.com[1]

ABSTRACT

Introduction/Main Objectives: This study was used to measure the effect of sumut mobile development on customer satisfaction. **Background Problems:** this research is a quantitative study, the object used is Bank Sumut customers who use sumut mobile **Novelty:** This research was conducted using the sampling technique used was purposive sampling, one of the non-random sampling techniques. The number of samples used in this study were 100 respondents. Data analysis was carried out by applying statistical techniques to examine the relationship between mobile service development variables and their impact on customer satisfaction and loyalty. The design used in this research is hypothesis testing using structural equaitation model (SEM) – SmartPLS 3.2.9. **Research Methods:** The results of this study provide an explanation that the variables of customer satisfaction and the development of Sumut Mobile have an effect on customer loyalty. The findings of this study show a significant positive effect of the progress of Sumut Mobile on customer satisfaction, which in turn contributes to increasing customer loyalty. **Finding/Results:** These results contribute to the development of theory about digital services in the banking sector and offer practical implications for mobile banking service management. This research also highlights how crucial it is to improve the quality of mobile banking services as a strategic step to maintain and expand the customer base

1. Introduction

In this modern era, economic and technological developments in Indonesia from year to year continue to grow rapidly. One example of economic and technological development in Indonesia is the establishment of an increasingly widespread internet network. Information technology is already a very important need for everyone because in addition to being a source of information it can also alleviate work and problems. Over time, the development of information technology, especially the role of computers, has received very serious attention. This development is getting faster every day. The number of people in Indonesia who use the internet also encourages the business world and the internet is a medium for making buying and selling transactions quickly (Annur and Tanjung 2023).

2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

Customer loyalty is a long-term commitment of a customer which is implemented in the form of behavior and attitudes that are loyal to the company including its products and services, by consuming regularly and repeatedly the company's goods or services. (Priansa and Kurniati 2017) Therefore, it is important for a company to know the factors that influence customer loyalty. Research conducted by (Siburian, Djoko, and Widayanto 2020) that service quality has a positive and significant effect on customer loyalty.

According to Khakim in (Marcella, Haris, and Fawzia 2022) Loyalty is a measure of customer purchase transactions about the company's results and they managed to prove that its quality is related to satisfaction and confidence to have a good relationship about loyalty. Company performance and maintaining business existence.

Customer loyalty can be built effectively through the implementation of an effective Customer Relationship Management (CRM) System (Sudirman, 2024). Through this system, companies can design a comprehensive database to provide incentives that are aligned with customer preferences. Thus, CRM allows companies to guarantee an optimal customer experience as expected.

Table 1
Data on the Number of Customers of PT Bank Sumut KCP Kampung Pajak

Year	Number of Customers
2023	8.769
2024	9.644

Source: Bank Sumut KCP Kampung Pajak

Based on table 1 and the results of the interview researcher on one of the employees can be seen that the number of customers of Bank Sumut KCP Kampung Pajak has increased every year. Where in 2023 the number of customers amounted to 8,769 customers, and the number of customers continued to increase in 2024 which amounted to 9,644 customers.

Customer loyalty and the desire to buy other bank products are influenced by general satisfaction with the bank. From the customer's point of view, the most important attributes that affect satisfaction are questions related to interactions between people, such as improving quick errors, polished staff and behavior. Appropriate service and personalized service. (Sondakh 2014) Emphasizes the importance of friendly service to customers, open communication and sympathy with the problems faced by customers to increase loyalty. Loyalty relationships regarding technological developments in the present, emphasizing technology adoption and behavioral intentions, often ignore important aspects of customer satisfaction and loyalty. For example (Prasetyo, Udayana, and Cahyani 2023) investigated behavioral intentions and risk perceptions, which did not include the long-term implications of customer satisfaction and loyalty in technology development.

In contrast, recent research highlights the importance of technology development in increasing customer satisfaction and loyalty. Similarly, (Aritonang and Afifah 2021) found that perceived value and trust in technology development services are critical in influencing customer loyalty, suggesting a direct correlation between service quality and customer retention. These findings collectively indicate the need for further exploration of how technological developments can be optimized to increase customer satisfaction and loyalty.

Bank Sumut Kampung Pajak Branch Office provides a mobile banking service called "Sumut Mobile" which offers various features to facilitate customer transactions, such as balance inquiry, interbank transfers, bill payments, and credit purchases. One of the featured features is Cardless, which allows customers to use

2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

cash withdrawals at ATMs without a card. During the pandemic, the number of users of this application increased by 67 thousand or around 50%, so that the total number of users currently reaches 192 thousand (Manik, 2021).

Bank Sumut continues to adapt to technological developments to improve the quality of its digital services. With the rapid pace of digitalization, banks need to understand the importance of technology in providing broader and more accessible financial services. Therefore, Bank Sumut strives to appear modern with a global perspective and presents digital services such as Sumut Mobile to meet customer needs more efficiently and practically (Cesariana, Juliansyah, and Fitriyani 2022).

Rapid development in the banking sector triggers intense competition, so retaining customers is a big challenge for every financial institution. To face this competition, the use of technology is a must in improving banking services and facilities. With digital innovation, customers can enjoy the convenience of transactions. Realizing this, Bank SUMUT continues to strive to develop Mobile Banking services to increase satisfaction and provide a more practical and efficient banking experience. Based on the description above, the authors are interested in researching about: "The Effect of North Sumatra Mobile Development on Customer Satisfaction and Customer Loyalty".

The purpose of the research is to find out how much influence the development of sumut mobile has on customer satisfaction and customer loyalty at bank sumut kcp kampung pajak. This research is focused on examining and testing the real influence of the progress of Sumut Mobile on the level of customer satisfaction, as well as the subsequent consequences on customer loyalty at Bank Sumut Branch Office Kampung Pajak.

2. Literature Review
Customer Satisfaction

According to (Riadi 2019), customer satisfaction is closely related to dissatisfaction, where their response is influenced by the comparison between initial expectations and actual experience after using the product or service. According to Kotler and Keller in Priansa (2020), consumer satisfaction arises when the results obtained match or exceed expectations, while dissatisfaction occurs if product performance does not meet expectations. (Fandy Tjiptono in Dwi nurpitasari (2019)). Now, the concept of customer satisfaction that is developing is the concept of customer-oriented marketing. Apart from selling products or services, companies also focus on customers, which makes their marketing activities based on customer needs. Furthermore, it is important for companies to open space for customers to express opinions, suggestions, and criticisms. Including useful things for companies to pay attention to the voice of customers, including paying attention to their needs or desires and trying to meet their expectations. (Pristiyono 2019) also suggests a number of indicators that can be used in measuring the level of customer satisfaction.

The indicators of customer satisfaction are as follows:

1. *Confirmation of Expectations*
   in this concept, customer satisfaction is not measured directly, but is concluded from the extent of the match or mismatch between customer expectations and actual product performance.
2. *Repurchase Intent*
   Customer satisfaction is assessed based on their behavior, one of which is by asking whether they plan to buy or use services from the company again in the future.
3. *Willingness to Recommend*
   Customer readiness to recommend a product or service to family and friends is an important indicator that needs to be analyzed and followed up.

2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

4. *Customer Dissatisfaction*

Some aspects that are often used to measure customer dissatisfaction include complaints, product returns, warranty costs, product *recalls*, spreading negative opinions, and switching customers to other brands.

Customer Loyalty

Loyalty reflects a person's psychological attachment to a brand, while repurchase is more about the habit of buying the same brand repeatedly. This can happen due to limited choices, lower prices, or market dominance strategies by companies. In some cases, customers have no other options, so they continue to use the product. However, without market dominance and strong promotions, customers can easily switch to other brands. Conversely, truly loyal customers will continue to choose the same brand even though there are many alternatives on the market (Arifah 2021).

Indicators of customer loyalty according to (Kotler and Simamora 2001)

1. *Repeat purchase* (loyalty to product purchases)

2. *Retention* (resistance to negative influences on the company)

3. *Referalls* (referring in total to the company's existence)

Mobile Banking

According to (Yoli Eka Putri et al., 2019), Mobile banking is a banking service that allows customers to make transactions via cell phones or smartphones. This service can be accessed through the SIM Card menu, USSD, or applications downloaded and installed by the user. According to Turban in Harish (2017), mobile banking is one form of application of mobile commerce in the financial sector, which allows customers to make various transactions like at an ATM with the help of a mobile device.

With mobile banking, customers can conduct financial transactions more easily without having to visit branch offices or queue at ATMs. This service provides flexibility for users to access banking anytime and anywhere. In addition to increasing convenience, mobile banking is also a practical solution for people who want to manage their finances efficiently without the limitations of time and place.

One of the disadvantages of mobile banking is its dependence on cellular networks. If the network is unavailable, the service cannot be accessed, hence hampering transactions. Nevertheless, mobile banking still offers convenience, smoothness, and convenience in transactions. In addition, the security aspect is also a priority, where each customer must enter a password first before being able to access the service, in order to protect their personal data.

Mobile Banking Service Indicators According to Tatik Suryani in Dwi nur pitasari (2019), *electronic banking* service indicators are as follows:

4. *Efficiency* (*efficientcy*), namely the bank's ability to create a site that is easy and simple for customers to use.

5. Promise *fulfillment*, which is the bank's willingness to fulfill the delivery of messages and information promised to customers.

6. *System availability*, which is the bank's ability to make the correct technical functions on the bank's website.

Privacy, namely the level of the bank's ability to provide trust to customers to feel safe, free from risk and doubt.

CONCEPTUAL FRAMEWORK

In carrying out the research, the authors compiled a conceptual framework to facilitate the preparation of the proposal.
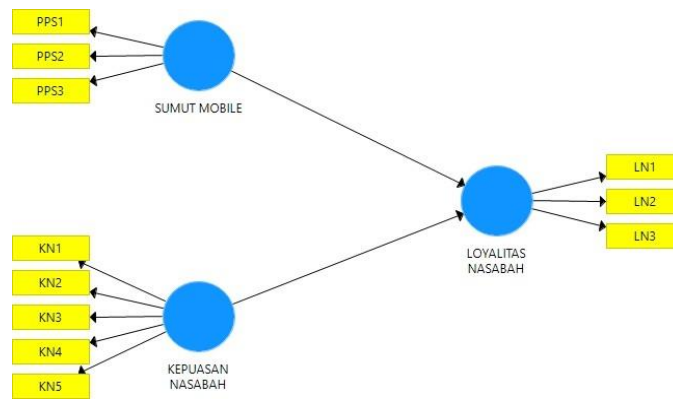
2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

Figure 1 Conceptual Framework

HYPOTHESIS

Hypotheses are conclusions or temporary answers to research problems that will be proven by empirical data. (Notoatmojo 2018) The hypotheses in this study are:

1. H1 : There is a partially significant effect of the sumut mobile variable on customer loyalty.
2. H2 : There is a partially significant effect of the customer satisfaction variable on customer loyalty.
3. H3 : There is a simultaneous significant influence of the sumut mobile variable, customer satisfaction on customer loyalty.

3. Method, Data, and Analysis

Research Location

This research was conducted online, using a google form distributed to customers of PT Bank Sumut Branch Office Kampung Pajak.

Population

According to Sugiyono in Harish (2017), population is a generalization area consisting of objects or subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions. The population in this study were 100 customers.

Sample

Samples according to Sugiyono in Fijrani (2018), define samples as part of the number and characteristics possessed by the population. The sampling technique used is *purposive sampling*, one of the *non-random sampling* techniques, researchers determine sampling with specific characteristics that are in accordance with the research objectives. According to Dana P. Turner (2020), *purposive* sampling is a sampling technique used by researchers to target individuals with characteristics that match the research.

Data Collection Technique

The data collection techniques used in this study were questionnaires (questionnaires), and interviews. According to Sugiyono in Harish (2019), a questionnaire is a data collection technique that is carried out by giving a set of questions or written questions to respondents to answer.

The questionnaire in the study used an ordinal scale with the Likert scaling technique. Likert scale is a method of calculating questionnaires distributed to respondents to determine the attitude

2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

scale of a particular object (Adela, 2020). The scoring in this questionnaire contains five levels of answer preferences with choices:

No	Description	Score
1	Strongly Disagree (STS)	1
2	Disagree (TS)	2
3	Neutral	3
4	Agree (S)	4
5	Strongly Agree (SS)	5

This study aims to determine the effect of the development of North Sumatra Mobile on customer satisfaction and customer loyalty. For the purposes of analysis and hypothesis testing, it is processed systematically using *Smart PLS SEM Software (Partial Least Square - Structural Equation Modeling)* version 3.2.9.

Techniques and Data Analysis

Data processing in this study used *Smart PLS SEM software (Partial Least Square - Structural Equation Modeling)* version 3.2.9. PLS explains relationship between variables and perform analysis in one test. The purpose of PLS is to help researchers explain the theory about the presence or absence of a relationship between latent variables. According to Imam Ghozali (2016: 417) the PLS method is able to describe latent variables (not directly measured) and measured using indicators.

In data analysis using the *Smart PLS SEM software* method *(Partial Least Square - Structural Equation Modeling)* version 3.2.9. The following is the analysis technique for the PLS SEM method.

1. *Outer model* analysis

   According to Husein (2015: 18), the outer model analysis aims to ensure that the measurement instruments used are valid and reliable. Some aspects analyzed in this test include:

   a. *Convergent validity*, namely the factor loading value on the latent variable on its indicators, where the expected value is more than 0.7.

   b. *Discriminant validity*, which is testing the *cross-loading* value to assess whether a construct has a clear difference compared to other constructs, provided that the measured construct value must be higher than the value of other constructs.

   c. *Composite reliability*, which is an indicator of the reliability of a construct, where the value is considered high if it is more than 0.7.

   d. *Average Variance Extracted* (AVE), which is the average variance extracted, which ideally has a minimum value of 0.5.

   e. *Cronbach's Alpha*, which is a reliability measurement method that strengthens the results of composite reliability, with a minimum recommended limit of 0.5.
   composite reliability, with a recommended minimum limit of 0.6.

2. *Inner model* analysis

   In this model analysis is to test the relationship between latent constructs.

   Some calculations in this analysis:

   a. *R Square* is the coefficient of determination on endogenous constructs. According to Sarwono (2015: 30) explains that "the criteria for limiting the value of *R Square* in three

2ⁿᵈ FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

classifications are 0.67 as substantial, 0.33 as moderate and 0.19 as weak".

b. *Prediction relevance (Q square)* or *Stone-Geisser's.* This test is conducted to determine the predictive capability of how well the resulting value is. If the value obtained is 0.02 (small), 0.15 (medium) and 0.35 (large). Can only be done for endogenous constructs with reflective indicators.

4. Result and Discussion

Description of Research Variables

The results of descriptive analysis of respondents' responses to the variables used in this study can be seen in table 2.

Table 2
Outer model validity analysis results

	CUSTOMER SATISFACTION	CUSTOMER LOYALTY	SUMUT MOBILE
KN1	0.744		
KN2	0.731		
KN3	0.731		
KN4	0.712		
KN5	0.866		
LN1		0.833	
LN2		0.864	
LN3		0.778	
PPS1			0.833
PPS2			0.841
PPS3			0.845

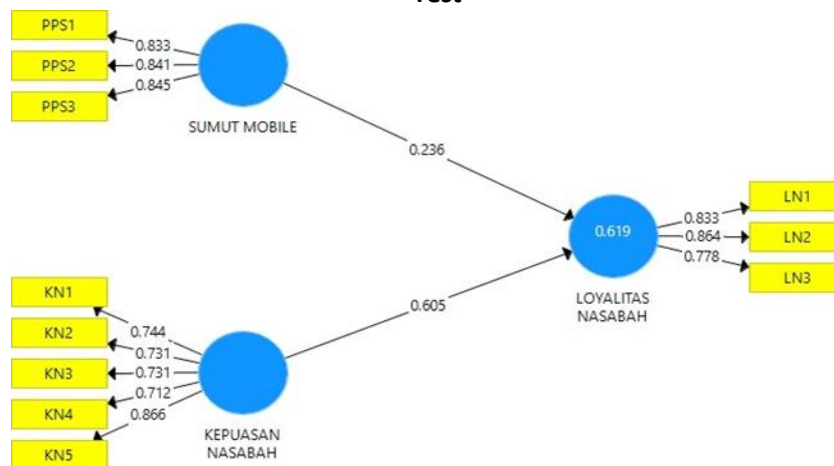**Source: Results of Data Analysis processed**

Outer Model Evaluation

Outer Model Test Analysis

This research analysis uses PLS which is carried out with two analysis models, namely the measurement model *(outer model)* and the structural model *(inner model).* according to Hilmawan, (2020) indicators are considered valid if the *outer loading* value is above 0.7 and the *Average Variance Extract* (AVE) value must be greater than 0.5. A construct is said to be reliable if the *Cronbach's alpha* and *composite reliability* values are above 0.7. The results of the data measurement model can be seen in table 2. Based on the results of testing the indicators of this study, it can be seen that the *outer loading* value of all indicators is above

0. It can be concluded that this measuring instrument or indicators are the right measuring instrument to measure the variable.

2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

Figure 1
Outer Model
Test

Structural Model Evaluation

The structural model test is carried out by looking at the *R-Square* which is a *goodness-fit* model test. *The goodness-fit model* test is tested by looking at the results of the *R-Square* value in the following table:

Table 3 R Square Test

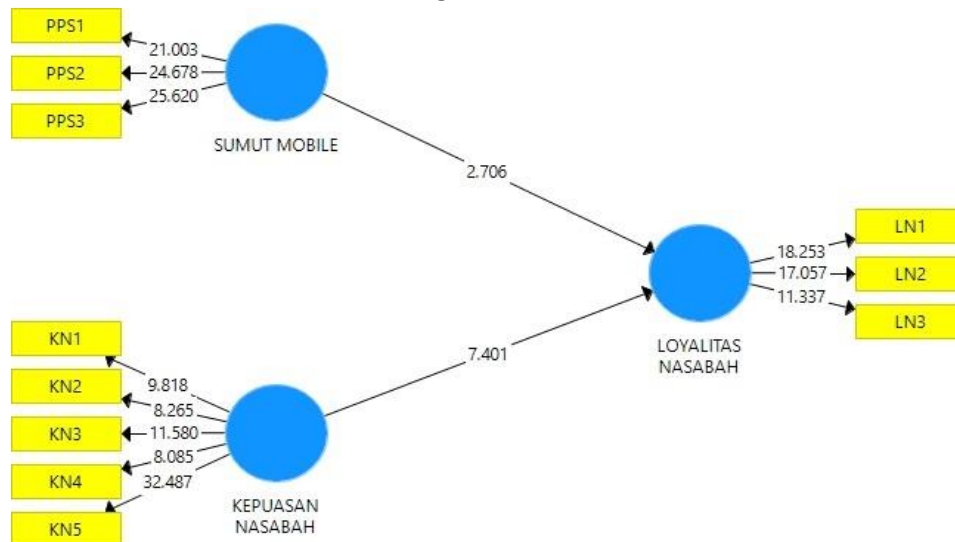|	R Square	R Square Adjusted
LOYALTY NASABILITY	0.619	0.611

Source: Data processed

Based on table 3, the *R-Square* value on the customer loyalty variable is 0.619, which means that the customer loyalty variable explained by sumut mobile and customer satisfaction, which means that it falls into the *moderate* category with an *R-Square* value above 0.619.

Measurement Model Analysis and Evaluation Results

The results of the following measurement model aim to determine institutional pressure on performance mediated by business management. The structural model built in this study is as follows:

2ⁿᵈ FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

Figure 2 Structural

Model Results
Source: data processe

Hypothesis Testing

Table 4
Hypothesis Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
CUSTOMER SATISFACTION -> CUSTOMER LOYALTY	0.605	0.611	0.082	7.401	**0.000**
SUMUT MOBILE -> CUSTOMER LOYALTY	0.236	0.234	0.087	2.706	**0.007**

Source: Data processed

Based on the research results, the hypothesis results in this study are:

Customer satisfaction on customer loyalty

The results on *path coefficients* show the effect of customer satisfaction on customer loyalty has an original value of 0.605, this value indicates that this variable has a positive influence. The result of the *t-statistic* is 7.401> 1.96 so that it shows significant results. Based on these results, hypothesis 1 in this research is accepted because customer satisfaction has a positive influence on customer loyalty.

Sumut mobile on customer loyalty

The results on *path coefficients* show the effect of sumut mobile on customer loyalty has an original value of 0.236, this value indicates that this variable has a positive influence. The result of the *t-statistic* is 2.706> 1.96 so that it shows significant results. Based on these results, hypothesis 2 in this study is accepted because sumut mobile has a positive influence on customer satisfaction.

5. Conclusion and Suggestion

Based on this data, it can be concluded that the independent variable, customer satisfaction (X) has a significant effect on customer loyalty, while the effect of sumut mobile on customer loyalty also has a significant effect on customer satisfaction.

Based on these findings, the recommendation that can be given to Bank Sumut is to improve the Sumut Mobile application service. Bank Sumut must also carry out more in- depth socialization to customers, especially for those who are not familiar with how to operate this application. In this way, customers can take advantage of existing facilities, which in turn can increase their satisfaction and loyalty to the bank.

We hope that future studies will include additional independent variables that may affect customer loyalty, which were not analyzed in this study. In addition, future research is expected to explore further the banking elements that can support customers in using online services.

6. Reference

Annur, Rahmadina, Riski, and Yahya Tanjung. 2023. "The Effect of Mobile Banking Service Quality on Customer Satisfaction at PT Bank Sumut." *Jurnal Bintang Manajemen* 1(1): 192- 205.

Arifah, G. 2021. "Analysis of Priority Banking Officer (PBO) Marketing Strategy in Increasing the Number of Priority Customers at PT Bank Sumut Medan Syariah Branch Office." http://repository.uinsu.ac.id/12595/%0Ahttp://repository.uinsu.ac.id/12595/1/SKRIPSI GUSTI ARIFAH BISMILLAH SIDANG %282%29 %281%29.pdf.

Aritonang, Rosalin Yunita, and Isnadul Noer Afifah. 2021. "ANALYSIS OF CUSTOMER SATISFACTION WITH M-BANKING SERVICES AT PT BANK SUMUT KC KISARAN."
: 450-58.

Cesariana, Carmelia, Fadlan Juliansyah, and Rohani Fitriyani. 2022. "MODELING PURCHASING DECISIONS THROUGH CUSTOMER SATISFACTION IN THE MARKETPLACE: PRODUCT QUALITY AND SERVICE QUALITY (MARKETING MANAGEMENT LITERATURE REVIEW)." 3(1): 211-24.

Eka Putri, Yolli, Sudarso Kaderi Wiryono, Yunieta Anny Nainggolan, and Tomy Dwi Cahyono. 2019. "Method of Payment Adoption in Indonesia E-Commerce." *The Asian Journal of Technology Management (AJTM)* 12(2): 94–102. doi:10.12695/ajtm.2019.12.2.2.

Hafizh, Afwan, Tri Inda Fadhila Rahma, and Nurul Jannah. 2023. "The Effect of Service Quality and Convenience on BSI Mobile Banking Customer Loyalty with Satisfaction as an Intervening Variable." *Journal of Islamic Economics and Business* 7(2): 427–40. doi:10.30868/ad.v7i02.5133.

Kotler, P, and B Simamora. 2001. "2.1. Theoretical foundation 2.1. 1. Product 2.1. 1.1. Definition of Product." *Eprints.Walisongo.Ac.Id*: 9-33. http://eprints.walisongo.ac.id/id/eprint/2047/.

Marcella, I, P A Haris, and P Fawzia. 2022. "Determinants of Customer Satisfaction and Loyalty: Service Quality and Trust (Literature Review of Marketing Management)." *Journal of Education Management and Social Sciences* 3(1): 286-300. https://dinastirev.org/JMPIS/article/view/874.

Notoatmojo. 2018. "Research Conceptual Framework and Hypothesis." *Angewandte Chemie International Edition, 6(11), 951-952*: 2013-15.

Prasetyo, Dwi Endra, Ida Bagus Nyoman Udayana, and Putri Dwi Cahyani. 2023. "The Effect of Service Quality and Brand Image on BCA Syariah Customer Loyalty with Customer Satisfaction as a Variable." *Journal of Sharia Economic Law* 6(1): 55.

2nd FEBIC: Faculty of Economics and Business International Conference
Universitas Pekalongan, Indonesia
E-ISSN: xxxx.xxxx
.

doi:10.30595/jhes.v6i1.16738.

Priansa, Donni Juni, and Angger Tresna Kurniati. 2017. "Swot Analysis as a Basis for Formulating Marketing Strategies (Case Study on Indihome Products Pt. Telekomunikasi Indonesia Witel Solo)." *e-Proceeding of Applied Science* 3(2252): 513.

Pristiyono, Pristiyono,. 2019. "Factors Affecting Customer Satisfaction and Its Impact on Customer Loyalty Pt.Bri Simpang Enam Rantauprapat." *Ecobisma (Journal of Economics, Business and Management)* 4 (1): 19–28. doi:10.36987/ecobi.v4i1.697.

Riadi, Ahmad. 2019. "Strategies to Improve the Quality of Customer Service at the State Islamic University of North Sumatra."

Sari, Rosa Jatnika, and Ine Aprianti. 2020. "The Effect of Service Quality and Trust on Customer Loyalty Decisions." *JEMPER (Journal of Banking Management Economics)* 2(2): 77. doi:10.32897/jemper.v2i2.377.

Siburian, Ind Tigana Prasetyo, Handoyo Djoko, and Widayanto. 2020. "The Effect of Service Quality and Customer Satisfaction on Customer Loyalty at Bank Mandiri Semarang." *Journal of Business Administration*: 1-10.

Sondakh, Conny. 2014. "Service Quality, Brand Image and Its Effect on Customer Satisfaction and Savings Customer Loyalty (Study on BNI Taplus Customers, Manado Branch).Manado)." *Journal of Business and Management Research* 3 (1): 19-32. https://ejournal.unsrat.ac.id/v3/index.php/jrbm/article/view/7525.

Sudirman, Muh Sajjaj, Muhammad Imran, and Dimas Prayoga. 2024. "The Effect of Risk and Service Quality on Customer Loyalty of BSI Mobile Banking Users." *Equilibrium: Journal Economics-Management-Accounting* 20(1): 71. doi:10.30742/equilibrium.v20i1.2963.