The Role of Satisfaction in Mediating Self-Service Technology (SST) on Customer Loyalty

Izzatunnisa' Habiba Shalsabila¹, Rini Safitri²
¹²Universitas Islam Negeri Maulana Malik Ibrahim Malang
E-mail: izzatunnisahabiba@gmail.com¹, rinsafitri@gmail.com²

ABSTRACT

Economic growth refers to the gradual improvement of a region's ability to produce products and services over a certain period of time. Attaining a substantial increase in economic output undeniably demonstrates the effective advancement of economic development. This study seeks to determine the influence of Regional Investment and Expenditures on the Economic Growth of West Java Province. The inquiry utilized a descriptive methodology. The data was obtained from the Central Statistics Agency Report spanning the years 2015 to 2021. The data analysis technique use the Multiple Linear Regression equation. The research results suggest that both investment and regional expenditure have a substantial influence on economic growth.

Keywords: Self-Service Technology (SST), Satisfaction, Customer Loyalty.

INTRODUCTION

Banks are one of the financial institutions that have a large role in a country's economy, such as supporting economic growth and maintaining the stability of a country's national economy (Putri & Rachmawati, 2022). According to Republic of Indonesia According to Law No. 10 of 1998 on Banking, a bank is legally defined as a commercial organization that operates as a financial intermediary, collecting public funds through loans or other means to enhance many individuals' overall quality of life. Based on their business activities, the types of banks are divided into two, namely conventional banks which operate following the conventional financial system by setting interest and sharia banks which operate based on the principles of Islamic law with profit sharing provisions (Utama, 2020).

The global financial crisis at the end of 2008 that hit the world, sharia financial institutions were able to prove that they could withstand the attacks of the crisis and remain stable in providing benefits, comfort and security to financing customers and customers
depositing funds in sharia banks (Sultoni & Mardiana, 2021). The existence of Islamic banks in Indonesia began with the fact that when the currency exchange rate collapsed, Islamic banks remained stable compared to conventional banks (Dzhuhri & Nissa, 2022). This requires sharia banking to remain focused on designing strategies so that it can survive in any conditions and continue to develop with the times. One of the strategies used by sharia banking to continue to develop is improving financial technology or what is usually called fintech which makes it easier for users to get information and services to be more effective and efficient (Nuriyah et al., 2022).

Sharia banking in carrying out its operations uses digital technology commonly known as digital banking which includes several services such as Self-Service Technology (SST) encompasses Automatic Teller Machines (ATMs), internet banking, and mobile banking. Self-Service Technology (SST) is a service provided by banks that is carried out by customers independently and makes it easy to carry out banking transactions automatically without being limited by time and space (Arnita et al., 2023). SST services in sharia banking, which are still relatively new compared to conventional banks, must continue to improve. This is what spurs enthusiasm and motivates sharia banks in Indonesia as evidenced by the existence of sharia banks that have won awards through the "Infobank 20th Banking Service Excellence Award (BSEA) 2023" event and sharia banks that have received awards in the digital banking category including, Bank Muamalat, Bank BCA Syariah and Bank Syariah Indonesia (Infobanknews.com, 2023).

The increase in Self-Service Technology (SST) services at Islamic banking institutions must also be in line with better innovation and creativity from products to services offered as well as providing maximum service because this is really needed by customers (Widiya et al., 2022). This can trigger a sense of satisfaction felt by customers because when customers feel satisfied, it can have a good effect on the financial institution (Firmansyah et al., 2022). Maintaining customer satisfaction is important because it can grow loyalty from the customers themselves (Aini et al., 2022). Customer satisfaction and loyalty have an important influence on banking which can have a positive impact, such as customers will not hesitate to provide recommendations for products or services used to people around them and customers will not move to other financial institutions (Nurcahyo et al., 2022).

Previous research conducted by Tamaruddin (2020) explained that self-service technology (SST) had an effect on customer loyalty through customer satisfaction, but this contradicted research conducted by Suprapto (2023) which explained that self-service technology had no effect on customer loyalty through customer satisfaction. This condition triggered researchers to conduct further research aimed at answering inconsistent results in previous studies.

LITERATURE REVIEW

Self-Service Technology (SST)

Self-Service Technology (SST) is technology provided by the bank that can help customers carry out transactions or services independently without the help of employees and without space and time limitations (Sindwani, 2015). Banking institutions offer self-
service technology, including automated teller machines (ATMs), internet banking, and mobile banking. (Argantara et al., 2023). According to Lin dan Hsieh (2011), the indications of Self-Service Technology (SST) encompass functionality, enjoyment, security, design, assurance, ease, and customization. Factors that need to be considered regarding the existence of SST are explained by Wicaksono (2015) including: 1) product quality, 2) services provided; 3) costs; 4) design; 5) a company's problem solving capabilities; 6) other alternatives for each service; 7) innovation. SST in the banking sector provides many benefits, especially in reducing operational costs, wider market reach and can be a long-term investment for companies (Marlina, 2018).

Customer Satisfaction

Customer satisfaction is defined as a situation where the customer feels satisfied with the suitability of the expectations given by the bank in providing the products or services used (Harahap, 2020; Firmansyah et al., 2022). According to Marlina (2018), Indicators for measuring customer satisfaction include; 1) Conformity of service quality with existing expectations; 2) Level of satisfaction when compared with the same/similar; 3) There are no complaints. Wahyuningsih & Janah (2018) also explained several factors that can determine the level of customer satisfaction, such as product quality, service quality, emotional factors, pricing appropriate to what is provided and the cost and ease of obtaining bank products and services. The benefits of measuring customer satisfaction according to Nurkariani (2022) are stated to be able to build good relationships between customers and the company, can create a good basis in generating customer desire to repeat orders and can build customer loyalty.

Customer Loyalty

According to customer loyalty is a behavior of repurchasing products or services provided by the bank which can arise due to satisfaction in receiving products or services. Customer loyalty is also defined as a long-term customer commitment that is positive in nature and can end due to a mismatch between the customer and the company (Ramadhani & Pertiwi, 2023). Indicators of customer loyalty according to Griffin (2005) namely; 1) Repeat or make purchases repeatedly/routinely; 2) Purchases outside the line of products and services; 3) Recommend to others; 4) Show immunity from competitor attraction. As for the factors that can affect customer loyalty described by Erawati (2016) such as customer satisfaction, customer behavior or habits, customer commitment, preference for products and switching costs.

METHOD

This study uses a quantitative approach and is conducted on customers of three Islamic Commercial Banks in Indonesia who were awarded the "Infobank 20th Banking Service Excellence Award (BSEA) 2023" including Bank Muamalat, BCA Syariah Bank and Bank Syariah Indonesia. This study uses the Malhotra formula (2009) namely the number of question items multiplied by 5. The question items amounted to 27 x 5 = 135 respondents and used Purposive Sampling technique with the criteria of being one of the three bank
customers who used at least one Self-service technology service, namely ATM, Mobile Banking and Internet Banking with at least 6 months of use. The data collection technique in this study was by distributing questionnaires, from the results of the questionnaire then processed the data using SmarPLS Version 3 software using the outer model, inner model and hypothesis testing.

**Table 1. Research Indicators**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Indicators</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Service Technology</td>
<td>1. Functionality 1. Islamic bank self-service technology can process transactions in a short time. 2. Self-service technology does not require time and effort.</td>
<td></td>
</tr>
<tr>
<td>(Lin dan Hsieh 2011)</td>
<td>2. Enjoyment 1. Happy with the self-service technology 2. The existence of self-service technology provides various information and transactions needed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Security 1. Islamic banks have mechanisms to ensure the security of their users' information. 2. The bank guarantees security in customer transactions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Design 1. The design appearance of self-service technology services is aesthetically good. 2. Self-service technology services use up-to-date technology.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Assurance 1. The Islamic bank that I use is a sharia bank that has a good reputation 2. Islamic bank self-service technology services provide appropriate assurance and trust to customers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Convenience 1. Self-service technology services make it more convenient when transacting anywhere and anytime. 2. The existence of self-service technology services facilitates transactions.</td>
<td></td>
</tr>
<tr>
<td>7. <strong>Customization</strong></td>
<td>1. Self-service technology services have features that can be adjusted to your needs.</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Customer Satisfaction</strong></td>
<td>1. Feel happy to use self-service technology services in finding information and transacting.</td>
<td></td>
</tr>
<tr>
<td><em>(Marlina, 2018)</em></td>
<td>2. Feel the services provided by the bank are in line with expectations.</td>
<td></td>
</tr>
<tr>
<td><strong>Conformity of service quality with existing expectations</strong></td>
<td>1. Self-service technology services at Islamic banks are more reliable than other banks.</td>
<td></td>
</tr>
<tr>
<td>2. The level of satisfaction when compared with the same/similar</td>
<td>2. Satisfied with the self-service technology services provided by Islamic banks.</td>
<td></td>
</tr>
<tr>
<td><strong>No complaints</strong></td>
<td>1. Feel that the Self – Service Technology services of Islamic banks used do not make it difficult.</td>
<td></td>
</tr>
<tr>
<td>2. Feel that the bank's response is very responsive in overcoming problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer Loyalty</strong></td>
<td>1. More often use Self – Service Technology services when making transactions.</td>
<td></td>
</tr>
<tr>
<td><em>(Griffin, 2005)</em></td>
<td>2. More often buy products or make transactions by utilizing the Self – Service Technology service feature.</td>
<td></td>
</tr>
<tr>
<td><strong>Repeat</strong></td>
<td>1. In addition to using Self-Service Technology services, I also save at Islamic banks.</td>
<td></td>
</tr>
<tr>
<td>2. Purchases outside the line of products and services</td>
<td>2. Utilizing other banking services or products at the Islamic bank that I use.</td>
<td></td>
</tr>
<tr>
<td><strong>Recommend to others</strong></td>
<td>1. Be happy to recommend to others about a positive experience when using Islamic bank services or products.</td>
<td></td>
</tr>
</tbody>
</table>
2. Never tell the weaknesses of Islamic bank Self-Service Technology services to others.

4. Shows
   1. Will not be affected by promotions made by other banks.
   2. If you are going to make a transaction, you will prioritize Islamic bank services first.

RESULTS AND DISCUSSION

Figure 1. Structural Model Results Output (Inner Model)

Source: Data Processed With PLS, 2024

Validity Test

The requirement used to assess validity is >0.05, which means that when the resulting loading factor value is above 0.05, it can be stated that the indicator is feasible and valid. In this study using the Self-Service Technology (SST), loyalty and satisfaction variables known in Figure 1, that all statement items to measure all variables are valid and can be used to measure valid variables and can be used because the value is >0.05.
Reliability Test

Table 2. Reliability Test Results

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability (CR)</th>
<th>Keterangan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Service Technology (SST)</strong></td>
<td>0.925</td>
<td>0.935</td>
<td>Reliable</td>
</tr>
<tr>
<td>Loyalitas</td>
<td>0.878</td>
<td>0.904</td>
<td>Reliable</td>
</tr>
<tr>
<td>Kepuasan</td>
<td>0.887</td>
<td>0.914</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

*Source: Data processed by researchers (2024)*

The reliability value is determined by examining the Cronbach alpha and composite reliability values. It can be considered dependable if the Cronbach alpha value is more significant than 0.7 and the composite reliability value is more significant than 0.7. The results presented in Table 2.2 indicate that all variables are deemed dependable, as their ultimate value exceeds 0.7.

**R-Square (R2)**

Based on Figure 1, it can be concluded that in the customer loyalty variable, 0.770 indicates that about 77% of the variables in customer loyalty can be explained by other variables such as customer satisfaction (Z) and self-service technology (X). While the rest, about 23%, is influenced by other factors not included in this study. Meanwhile, the R-Square value on the customer satisfaction variable of 0.657 indicates that about 65.7% of the variables in customer satisfaction can be explained by other variables such as customer loyalty (Y) and self-service technology (X). While the remaining 34.3% is influenced by other factors not included in this study.

**Q-Square (Q2)**

Table 3. Q-Square (Q2) Value

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Loyalty</td>
<td>0.392</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.400</td>
</tr>
</tbody>
</table>

*Source: Data Processed by Researchers, 2024*

In table 3, it can be concluded that the Q2 value for the two research variables, namely customer loyalty and customer satisfaction, is accepted. The two variables obtained Q2 values of 0.392 and 0.400, both of which exceeded 0. This shows that the model is able to maintain both variables well.
Hypothesis Test

Table 4. Hypothesis Test Results

|                | Original Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (|O/STDEV|) | P Values | Original Sample (O) |
|----------------|--------------------------|-----------------------------|------------------------|----------|---------------------|
| SST (X) -> Loyalty (Y) | 0.815                    | 0.810                        | 0.050                  | 16.307   | 0.000 Significant   |
| SST (X) -> Satisfaction (Z) | 0.810                    | 0.804                        | 0.056                  | 14.502   | 0.000 Significant   |
| Satisfaction (Z) -> Loyalty (Y) | 0.556                    | 0.551                        | 0.077                  | 7.192    | 0.000 Significant   |

Source: Data Processed by Researchers, 2024

The t-test findings comparing the self-service technology (SST) variable and customer loyalty indicate a t-value of 16.307, more significant than the critical value of 1.96 from the t-table, suggesting statistical significance. The significance level of 0.000 is also lower than the predetermined threshold of 0.05. Thus, the self-service technology (SST) variable has a favorable and substantial impact on consumer loyalty. Thus, it can be inferred that H1 can be accepted.

The t-test findings comparing the self-service technology (SST) variable and customer satisfaction indicate a significant difference. The t-value of 14.502 is larger than the critical value of 1.96, with a significance level of 0.000, lower than the threshold of 0.05. The data suggest that self-service technology (SST) has a favorable and substantial impact on consumer satisfaction. Thus, it can be inferred that H2 is acceptable.

The t-test findings for the variables of customer happiness and customer loyalty also point to a significant impact. The calculated t-value of 7.192, exceeding the critical t-value of 1.96, and a significance value of 0.000, less than the predetermined significance level of 0.05, indicate statistical significance. This suggests that the variable of customer satisfaction has a substantial and favorable influence on customer loyalty, confirming H3.

Table 5. Mediation Test Results
The t-test results demonstrate a positive and substantial association between the variables of self-service technology (SST) and customer loyalty, namely through the mediating factor of customer satisfaction. The t-count value of 6.069 is greater than the critical t-value of 1.96 (obtained from the t-table) at a significance level of 0.000, less than the threshold of 0.05. The results of the mediation test indicate that customer satisfaction serves as a partial mediator in the relationship between self-service technology (SST) and customer loyalty. Thus, hypothesis H4 is valid and can be accepted.

Discussion

Self-Service Technology (SST) Affects Customer Loyalty

The results of hypothesis testing show that the self-service technology (SST) variable (X) has a positive and significant effect on customer loyalty (Y) with a significance value of 0.000 < 0.05, which means that the better the availability of Self-Service Technology (SST) services, the more customer loyalty increases, on the contrary, if the worse the availability of self-service technology (SST) services provided, customer loyalty will also decrease. With the convenience of self-service technology services, customers are more loyal in determining their choice of Islamic commercial banks, whether Bank Muamalat, BCA Syariah Bank or Bank Syariah Indonesia.

The results of this study reinforce the results of research conducted by Ramadhani (2023), Yum & Yoo (2023) Suprapto (2023) and Tamaruddin (2020) that there is a significant influence between self-service technology variables on customer loyalty. In the Islamic view, it reminds us that we must choose our actions wisely. In a business context, companies that maintain customer loyalty should consider the use of technology wisely, ensuring that the services provided are in line with customer needs and values. Customer loyalty can be influenced by their experience with a product or service, which then reflects the company's discretion in choosing the influence and technology used, such as the message contained in Q.S Al-Isra verse 36 which reads:

اَتَّقِنْنَمَا لَيْسَ لَكَ بِهِ حَقٌّ عَلَمَ إِنَّ الْبُصُورَ وَالْفَوْقَاتِ كَانَ أَوَّلِكَ مَنْ عَلَى مِنْهَا مَسَّوُّا

224
It means: "And do not follow what you have no knowledge of. Indeed, hearing, sight, and heart will all be held accountable" (Al-Isra: 36)

Self-Service Technology (SST) Affects Customer Satisfaction

The results of the hypothesis test indicate that the variable self-service technology (SST) (X) has a statistically significant and positive impact on customer satisfaction (Z), with a significance value of 0.000 < 0.05. This implies that customer satisfaction increases as the availability of self-service technology (SST) services improves. Implementing self-service technology at Bank Muamalat, Bank BCA Syariah, and Bank Syariah Indonesia has enhanced customer loyalty and generated a heightened sense of satisfaction. This is attributed to the services provided aligning with customer expectations, resulting in greater satisfaction than similar services offered by other banks.

The results of this study strengthen the results of research conducted by Argantara et al., (2023), Yusuf et al., (2022), Fadilah (2023), Syahrani & Daulay (2023) and Arnita et al., (2023) namely, there is a significant influence between self-service technology variables on customer satisfaction. We need to understand that the Quran focuses more on moral and ethical principles in life, not on aspects of modern technology. However, the concept of contentment and service to others can be found in many verses that talk about the need to do good and give the best to others. Although this verse is not directly related to modern technology, the message of doing good to others and giving the best to others can be applied in the context of life. The use of self-service technology is expected to improve service to customers, thus creating satisfaction in business interactions including customer satisfaction. One example of a relevant verse is verse 36 of QS An-Nisa, which reads:

وَاتَعَبَّرُوا لَهُ وَلَيْنَا وَلَيْسَ شَرَّ الْيَمِينِ وَلَيْسَ شَرَّ الْيَمِينِ وَلَيْسَ شَرَّ الْيَمِينِ وَلَيْسَ شَرَّ الْيَمِينِ وَلَيْسَ شَرَّ الْيَمِينِ وَلَيْسَ شَرَّ الْيَمِينِ وَلَيْسَ شَرَّ الْيَمِينِ

وَاعْدُوْلَا إِنَّ خَيْرَ الْيَمِينِ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ وَلَا يَحْمِدُ إِلَّا الْمُلِكُ الْقَدِيمُ الْعَزِيزُ

It means: "Worship God and do not associate Him with anything. And do good to two parents, relatives, orphans, poor people, near neighbors and distant neighbors, and colleagues, Ibn Sabil and your servant Sahaya. Surely God does not like those who are proud and boastful." (QS An-Nisa: 36)

Customer Satisfaction Affects Customer Loyalty

The findings of the hypothesis test indicate that the variable consumer satisfaction (Z) has a statistically significant positive impact on customer loyalty (Y), with a significance value of 0.000 < 0.05. This implies that as customer satisfaction improves, customer loyalty
also grows. The satisfaction provided by customers will also cultivate a heightened level of customer loyalty.

Furthermore, the results of this study reinforce the results carried out by Tamaruddin (2020), Yum & Yoo (2023), Suprapto & Setyawardani (2023) and Ashari et al., (2023) that there is a significant influence between customer satisfaction variables on customer loyalty. In the Islamic view, the Quran which reflects the meaning of the influence of customer satisfaction on customer loyalty we can refer to the principles contained in the Quran about the importance of providing good service and treating others well. Providing good service to customers and treating them well can increase customer satisfaction, which in turn can affect customer loyalty to the company or Sharia Commercial Bank. As the message contained in Q.S Al-Baqarah verse 195:

وَانْفِقُوا فِيْ سَبِيلِ اللّٰٰه وَلاَ تُلْقُوْا بِاَيْدِيْكُمْ إِلَى التَّهْلُكَةِ وَاَحْسِنُوْا إنَّ اللَّٰٰه يُحِبِّ الْمُحْسِنِيْنَ

It means: "Be in the way of Allah, do not plunge yourselves into perdition, and do good. Verily God loves those who do good." (Al-Baqarah: 195)

**Self-service technology (SST) affects customer loyalty through customer satisfaction as a mediation variable.**

The hypothesis test results indicate that the Self-Service Technology (SST) variable has a statistically significant and positive impact on customer loyalty through customer satisfaction. This implies that improved availability of self-service technology (SST) services can enhance satisfaction, increasing customer loyalty. The self-service technological services provided by the three Sharia Commercial Banks (Bank Muamalat, Bank BCA Syariah, or Bank Syariah Indonesia) result in customer satisfaction and enhance client loyalty.

The findings of this study further support the findings of Yum & Yoo (2023) and Ashari et al. (2023) that there is a notable correlation between self-service technology factors and customer loyalty, mediated by customer satisfaction factors. Consistent with these findings, self-service technology impacts customer loyalty by influencing customer satisfaction as a mediating factor. Based on this scenario, it may be inferred that customer satisfaction acts as a mediating variable, partially mediating the relationship.

**CONCLUSION**

Based on the results of research and discussions carried out by researchers, it can be concluded, namely: Self-Service Technology (SST) has a positive and significant effect on customer loyalty, which means that the better the availability of Self-Service Technology (SST) services, the more customer loyalty increases, on the other hand, if the worse the availability of self-service technology (SST) services provided, customer loyalty also decreases. Self-Service Technology (SST) has a positive and significant effect on customer loyalty.
satisfaction, which means that the better the availability of self-service technology (SST) services from the bank, the more customer satisfaction will increase. Satisfaction has a positive and significant effect on customer loyalty, which means that the better customer satisfaction, the more customer loyalty increases. Self-Service Technology (SST) has a positive and significant effect on customer loyalty through customer satisfaction as a mediating variable, which means that the better the availability of self-service technology (SST) services can increase customer satisfaction which can later grow customer loyalty.

REFERENCES


Yum, K., & Yoo, B. (2023). The Impact of Service Quality on Customer Loyalty through Customer Satisfaction in Mobile Social Media.


© 2024 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC Attribution-NonCommercial-ShareAlike 4.0) license (https://creativecommons.org/licenses/by-nc-sa/4.0/).