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The Effect of Service Quality, AI Service Quality, Green Banking Practices, and Shariah Compliance on Customer Loyalty, with Customer Satisfaction as a Mediating Variable, in Islamic Banking in East Kalimantan

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Abstract
The development of digital technology, especially the use of Artificial Intelligence (AI), has driven the transformation of banking services through increasing efficiency, personalization, and the quality of customer interactions. However, in Islamic banking, the optimization of digital services has not been fully balanced with increasing customer satisfaction and loyalty, especially related to service quality, sharia compliance, and green banking practices. This study aims to analyze the influence of service quality, AI service quality, green banking practices, and shariah compliance on the satisfaction and loyalty of Islamic bank customers in East Kalimantan. This study uses a quantitative method with an explanatory design through a survey of 200 respondents and analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM). The results of the study show that service quality, AI service quality, and shariah compliance have a significant effect on customer satisfaction, while green banking practices have no significant effect. In addition, customer satisfaction has been proven to have a significant effect on customer loyalty. The results of the Multi-Group Analysis (MGA) show that the model applies consistently across gender, age, and length of customer service, thus showing the generalizability of the findings among Islamic banking customers in East Kalimantan. This research is expected to help Islamic banking in improving service quality, developing AI-based services, and strengthening the application of sharia principles to increase customer satisfaction and loyalty. In addition, this research also makes a theoretical contribution to the development of the Stimulus-Organism-Response (SOR) model in the context of Islamic banking and digital technology.

INTRODUCTION

Indonesia is a country with the largest Muslim population in the world, reaching more than 207 million people (Central Statistics Agency, 2024), this condition places Indonesia as one of the main market shares in the development of the Islamic financial and banking industry globally. With a very conducive environment, Islamic banking in Indonesia has a great opportunity to provide alternative financial services as well as implement a banking system based on Islamic economic principles. This potential is increasingly evident from the increasing public preference for financial products and services that are not only profit-oriented, but also pay attention to aspects of sharia compliance, sustainability, and ethical values in carrying out economic activities (Zauro *et al*., 2024). The findings are corroborated by Mohammed *et al*. (2015), which explains that Islamic finance emphasizes the values of justice, welfare, and sustainability as the main foundation in economic activities. With these characteristics, Islamic

banking has a great opportunity to develop as people's preferences for ethical and sharia-compliant financial services increase.

Despite having enormous market potential, the development of Islamic banking in Indonesia has not fully reflected the ideal market strength. Data shows that the national Islamic banking market share during the 2019-2023 period has increased gradually, but is still below 10%. This condition shows that there is a gap between the large demographic potential of the Muslim community and the ability of the Islamic banking industry to optimize national market share in a sustainable manner.

One of the main problems that contributes to the slow strengthening of the Islamic banking market share is the lack of optimal formation of customer satisfaction and loyalty. Customer loyalty plays an important role in maintaining the sustainability of bank operations, because loyal customers tend to make repeat purchases, provide positive recommendations, and survive despite the availability of various financial service options (Amin *et al*., 2011). However, data from the Financial Services Authority (2023) shows that the turnover rate of Islamic bank customers has increased by around 17% in the last two years, which indicates that customer loyalty has not yet been stabilized. This condition is in line with the research of Khattak & Rehman (2010) as well as national surveys which show that the customer satisfaction level of Islamic banks is still below that of conventional banks (Hidayat & Al-Bawardi, 2012).

The problem of low customer satisfaction and loyalty does not only occur at the national level, but is also reflected at the regional level. One of the regions that has great economic potential but still faces challenges in the development of Islamic banking is the province of East Kalimantan. This region shows the dynamics of economic growth that is quite rapid, but it has not been fully balanced with the optimal quality of Islamic banking services.

Based on data from the Financial Services Authority (2024), the Islamic bank service network in East Kalimantan Province consists of 11 operational headquarters and 27 branch offices and sharia service units. The service network is still dominated by one large Islamic bank, while other Islamic banks have a relatively limited number of offices, resulting in a high service load in certain offices, which has an impact on long queues, service delays, and inconsistency in service quality felt by customers.

In line with the limited capacity of the service network, the number of Islamic bank customers in East Kalimantan continues to increase. This condition causes an imbalance between the number of customers, service office capacity, and the readiness of the banking system, so that it has the potential to cause service *pressure*. This imbalance risks lowering service quality, extending service time, and increasing customer dissatisfaction. This phenomenon is in line with Amin *et al* (2011) who emphasized that the mismatch between service capacity and customer expectations can weaken satisfaction and loyalty. This condition distinguishes the problems of Islamic banking in East Kalimantan from other regions and makes it relevant as a research context. Thus, the main problem of this study is the lack of clarity on the empirical mechanism for the formation of customer satisfaction and loyalty of Islamic banks in East Kalimantan under conditions of service pressure, limited network capacity, and the use of digital technology that is not optimal.

In these conditions of service pressure, banking digitalization should play a strategic solution to improve service efficiency and quality. Yaseen & Qirem (2018) emphasized that

the quality of fast, easily accessible and reliable electronic services plays an important role in shaping customer satisfaction. However, in the context of Islamic banking in East Kalimantan, the use of digital services still faces various challenges, especially related to system consistency, service reliability, and technological ability to respond effectively to customer needs. In addition, the implementation of *Artificial Intelligence* (AI)-based services, such as *chatbots* and *automated assistance*, has not been fully able to provide an optimal service experience. This is in line with the findings of Gursoy *et al*. (2019) and Rasiwala & Kohli (2021) who assert that the acceptance of AI is strongly influenced by the perception of benefits, system accuracy, and user trust levels.

Service conditions that are not optimal, both in terms of conventional and digital services, have the potential to have a direct impact on customer loyalty. Khattak & Rehman (2010) and Hidayat & Al-Bawardi (2012) show that dissatisfaction with service quality is one of the main factors that drive switching *intention* of Islamic bank customers. In the context of East Kalimantan, limited service capacity, digitalization challenges, and perceptions of the consistency of the application of sharia principles have the potential to encourage customers to consider other alternative banking services.

Theoretically, service quality is the main factor that affects the satisfaction and loyalty of Islamic bank customers. Along with the development of digital services, service quality is also increasingly influenced by the quality of *Artificial Intelligence* (AI)-based services. Kim & Heo (2021) and Kasilingam (2020) show that AI technology can improve the service experience if it is perceived as safe, responsive, and useful, including in *mobile banking services* that increase satisfaction through feature personalization (Malaquias & Silva, 2020). In addition, *green banking practices* and *shariah compliance* are important elements in shaping the perception of value, trust, and the sustainability of the relationship between banks and customers.

Green banking practices have been proven to play a role in increasing customers' positive perceptions of banks through service efficiency and environmental responsibility. Akbar *et al*. (2025) shows that eco-friendly services have a positive effect on customer satisfaction, while Zhang *et al*. (2022) found that *green financing* contributes to improving the bank's environmental performance. In line with this, compliance with sharia principles is a fundamental element that distinguishes Islamic banks from conventional banks. The CARTER model of Othman & Owen (2001) confirms that sharia conformity is a core dimension of service quality, and the research of Amin *et al*. (2011) shows that the perception of sharia compliance has a direct effect on customer satisfaction and loyalty.

The novelty of this research lies in four key aspects. First, it introduces continuous improvement culture as a mediating variable that explains the mechanism through which lean manufacturing practices and knowledge sharing influence defect reduction performance—a novel approach in the Indonesian manufacturing literature. Second, it focuses specifically on production workers as the unit of analysis, recognizing that frontline employees are directly exposed to work standards, materials, machines, visual inspections, and daily defect findings. Third, it brings together lean practices, knowledge sharing, and continuous improvement culture in a single mediation model that more closely aligns with bicycle factories' operational reality. Fourth, it provides empirical evidence from the Indonesian bicycle manufacturing

context, which has received limited attention in the lean manufacturing and knowledge management literature.

Although various studies have examined service quality, AI *service quality*, *green banking practices*, and *shariah compliance*, previous findings still show inconsistent results and are generally partially tested. Some studies confirm the positive influence of technology and services on satisfaction (Sheth *et al.*, 2022), while other studies highlight the role of trust and risk in the adoption of AI technology (Belanche *et al*., 2020). In addition, research that integrates these four variables in a comprehensive empirical model, especially in the context of areas with service pressure and capacity limitations such as East Kalimantan, is still very limited. Therefore, this research is important to be conducted in order to obtain a more comprehensive empirical understanding of the mechanism for forming customer satisfaction and loyalty of Islamic banks and provide strategic recommendations for the sustainability of Islamic banking in East Kalimantan Province.

METHOD

In this study, primary data collection was carried out through questionnaires to respondents using various platforms such as *Google Form*, email, *LinkedIn*, and *WhatsApp* applications. The likert scale is used to assess the level of approval of respondents' responses to their behavior to each question, where a score of 1 indicates a very low level and a score of 5 indicates a very high level. The sampling method used is *convenience sampling*, chosen because the size of the population of Islamic bank customers in East Kalimantan is quite large and is not known for sure or confidential. This approach allows researchers to flexibly select samples according to the characteristics of respondents representing the population as a sample or data source. The characteristics of the respondents are Islamic banking customers who live in the East Kalimantan region and have been Islamic banking customers for at least one year, with a sample size of 200 respondents.

Research Design

The type of research used in this study is quantitative research with *an explanatory approach*. This study aims to test and explain the causal relationship between service quality, AI *service quality*, *green banking practices*, and *shariah compliance* on the satisfaction and loyalty of Islamic banking customers in East Kalimantan. The data used is primary data obtained through the distribution of questionnaires to Islamic banking customers in East Kalimantan. The collected data were then analyzed using *Structural Equation Modeling-Partial Least Squares* (SEM-PLS), which was chosen because it was able to analyze the structural relationships between latent variables simultaneously and was suitable for research with complex models and data that were not fully distributed normally.

Data Collection Techniques

The data collection method in this study is a questionnaire. The questionnaire was created by the author using existing references from previous research. The questionnaire contains questions that are systematically compiled to be filled in later by the research respondents, and when the questionnaire is filled out, it will be returned to the author. The type of questionnaire used in this study is a closed questionnaire (structured questionnaire), which is presented in such a way as to ask respondents to choose one answer that suits their characteristics by marking *a checklist* in the existing answer column.

In this study, to measure the variables studied using the Likert scale instrument. Sugiyono (2013) explained that the *likert* scale is used to measure the attitudes, opinions, and perceptions of a person or a group of people about social phenomena. Score 1 for the lowest level, and score 5 for the highest level. The likert scale can be seen in Table 1.

Table 1. Likert Scale

Positive Questions	
Answer	**Score**
Strongly agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Source: Data processed, 2026

Data Analysis Techniques

This study uses *the Partial Least Squares Structural Equation Modeling* (PLS-SEM) method to analyze the relationship between latent variables in conceptual models. PLS-SEM was chosen because it is suitable for predictive and exploratory models, handles *non-normal* data, and is able to analyze complex models with moderate sample sizes (Hair *et al*., 2021). Data processing is carried out using SmartPLS software version 4.1.1.7. The analysis was carried out through five stages, namely: (1) evaluation *of Common Method Bias* (CMB), (2) evaluation of measurement models (*outer model*), (3) evaluation of structural models (*inner model*), (4) hypothesis testing, and (5) indirect effect testing (mediation).

The PLS-SEM method is used because it has advantages over *the Covariance-Based* SEM (CB-SEM) approach, among other things, it does not require the assumption of a multivariate normal distribution, it is able to handle complex models with latent variables and reflective indicators, and is suitable for exploratory research with medium to large sample numbers (n > 100). In addition, PLS-SEM focuses more on prediction and is suitable for use in the context of theoretical models based on causal relationships between variables.

The evaluation stage of the measurement model (*outer model*) evaluates the relationship between the construct and its indicators. Convergent validity was measured through *outer loading* values (>0.70) and *Average Variance Extracted* (AVE) (>0.50). Indicators with loads below 0.50 are eliminated (Hair *et al*., 2021). Construct reliability is measured by *Composite Reliability* (CR) and *Cronbach's Alpha*, with a minimum threshold of 0.70. Discriminant validity is tested through the Fornell-Larcker Criterion and HTMT ratio, where discriminant validity is met if HTMT < 0.90 and AVE is higher than the correlation between constructs (Henseler *et al*., 2015).

The evaluation of the structural model (*inner model*) is carried out after the measurement model is declared valid and reliable, to test the causal relationship between latent constructs. The coefficient of determination (R^2) measures the predictive strength of the model, where $R^2 \geq 0.75$ (strong), ≥ 0.50 (moderate), ≥ 0.25 (weak). The significance of the influence between variables was tested by *bootstrapping* using 5,000 subsamples. Predictive *relevance*

testing was carried out using the PLSpredict procedure on SmartPLS 4 with a Q^2Predict value of > 0 (weak), > 0.25 (moderate), > 0.50 (strong). The mediation test was conducted using *the indirect effect bootstrapping* approach recommended by Hayes (2013) and Sarstedt *et al*. (2019), because this approach is considered more accurate in identifying the effects of mediation. To assess the overall suitability of the model, the *Standardized Root Mean Square Residual* (SRMR) indicator was used, with an SRMR value of < 0.08 which indicates a good model fit (Henseler *et al*., 2016).

RESULTS AND DISCUSSION

Descriptive Statistical Analysis of Research Variables

Based on respondents' responses to the service quality variable, the majority of respondents gave a positive assessment of the services provided by Islamic banking, as reflected in the high percentage of "Agree" and "Strongly Agree" choices in all statements, especially in the aspect of employee professionalism (90.2%) and consistent in accordance with what was promised (89.5%). A total score of 6,198 out of a maximum score of 7,000 indicates that the quality of service is in the very high category, showing that the services provided have been able to meet customer expectations and provide comfort and satisfaction in transactions.

The AI *service quality variable* obtained a total score of 6,262 out of a maximum score of 7,000, in the very high category. The highest score was obtained in the aspect of system accuracy in the transaction process (90.1%) and the reliability of the digital system when used (89.8%). This shows that the implementation of AI *service quality* in Islamic banking has been running well and is able to provide a positive service experience and support customer satisfaction.

The green *banking practices variable* showed a total score of 5,323 out of a maximum score of 6,000, in the very high category. The highest score was obtained on the aspect of environmental initiatives that affect customer perception (90.4%) and the bank's commitment to encouraging environmentally responsible behavior (89.4%). This indicates that customers consider that the bank has implemented policies and practices that support environmental sustainability.

The *shariah compliance* variable showed a total score of 5,440 out of a maximum score of 6,000, in the very high category. The highest score was obtained in the aspect of trust in sharia compliance which increases customer confidence (91.3%) and the bank's commitment to implementing sharia principles that influence customer decisions (91.2%). This indicates that customers consider that the bank has implemented sharia principles consistently, transparently, and trustworthily.

The satisfaction variable showed a total score of 3,595 out of a maximum score of 4,000 (very high category), with the highest score in terms of the suitability of the experience of using the service with customer expectations (90.2%) and the satisfactory banking experience (90.1%). Meanwhile, the loyalty variable showed a total score of 3,522 out of a maximum score of 4,000, with the highest score on the intention to continue using the bank in the future (89.2%). The high level of these two values shows that customer satisfaction and loyalty to Islamic banking have been well formed.

Data Analysis

Common Method Biases (CMB) Evaluation

Common Method Bias (CMB) is a potential systematic error that arises when data is collected from the same source, at the same time, and by the same method. To detect CMB, the *Full Collinearity Variance Inflation Factor* (VIF) approach is used as developed by Wibowo (2024). Based on the test results, the VIF value of the indicator used is in the range of 1.542 to 4.802. All of these values are below the recommended threshold of 5, so it can be concluded that the data in this study do not show any significant multicollinearity problems and the research model can be continued to the next stage of analysis.

Evaluation of the Outer Model

The convergent validity test shows that the value on each indicator or *outer loading* is above 0.5, so that all indicators can be said to be valid. The load values of indicators in the model range from 0.706 to 0.933, which suggests that each indicator has a significant contribution in explaining the latent variables it measures.

The discriminant validity test was carried out using *the Fornell-Larcker Criterion* method and *cross loading*. Discriminant validity can be said to be valid if the correlation value of the variable between variables or *cross loading* has the largest value compared to other variables. The results of the discrimination validity analysis are presented in Table 2.

Table 2. Discriminant Validity Test

	M	**X1**	**X2**	**X3**	**X4**	**Y**
M	0.886					
X1	0.538	0.726				
X2	0.726	0.576	0.853			
X3	0.583	0.575	0.705	0.832		
X4	0.781	0.502	0.667	0.634	0.853	
Y	0.784	0.504	0.670	0.594	0.675	0.914

Source: SmartPLS, 2026

Based on the results of the analysis in Table 2, all constructs in the model have a higher value of √AVE (Average *Variance Extracted*) compared to the correlation between other constructs, so that each construct has adequate discriminant validity.

The results of *the Average Variance Extracted* (AVE) test are presented in Table 3. All constructs have an AVE value above 0.50 which indicates that the indicators in each construct are able to explain more than half of the variance measured.

Table 3. Average Variance Extracted (AVE) Test

	Average Variance Extracted (AVE)
M	0.784
X1	0.527
X2	0.727
X3	0.692

	Average Variance Extracted (AVE)
X4	0.728
Y	0.836

Source: SmartPLS, 2026

The reliability test using *Cronbach's Alpha* and *Composite Reliability* showed that all constructs in this study had values that were above the minimum threshold of 0.70. The *results of Cronbach's Alpha* test are presented in Table 4, while the results of the *Composite Reliability test* are presented in Table 5.

Table 4. Cronbach's Alpha Test

	Cronbach's Alpha
M	0.908
X1	0.852
X2	0.937
X3	0.911
X4	0.924
Y	0.934

Source: SmartPLS, 2026

Table 5. Composite Reliability Test

	Composite Reliability (rho_c)
M	0.936
X1	0.886
X2	0.949
X3	0.931
X4	0.941
Y	0.953

Source: SmartPLS, 2026

The results of the Composite Reliability test showed that all constructs in this study had a value above 0.80. The highest value was obtained in the Y construct of 0.953 and the X2 construct of 0.949, while the lowest value was found in the X1 construct of 0.886. This finding is in line with the opinion of Wibowo (2024) who states that the Composite Reliability value ≥ 0.70 indicates that the construct has met the reliability criteria and is suitable for use in structural model analysis.

Inner Model Evaluation

The R-Square value is used to assess the model's ability to explain dependent variables. The results of the analysis in Table 6 show that the model is able to explain the variation of 69.2% in the M variable (satisfaction) and 61.5% in the Y variable (loyalty). These two values are relatively strong according to the criteria of Hair *et al*. (2021), namely $R^2 \geq 0.50$ (moderate)

and $R^2 \geq 0.75$ (strong). The R-Square *Adjusted value* that is not much different indicates that the model is quite stable and does not experience *overfitting*.

Table 6. R-Square Test Results

	R-Square	***R-Square Adjusted***
M	0.692	0.686
Y	0.615	0.613

Source: SmartPLS, 2026

Model *fit* testing aims to assess the extent to which a model fits the data used. The SRMR value in the *Saturated Model* was 0.062 and *the Estimated Model* was 0.069, both below the 0.08 limit recommended by Henseler *et al*. (2016), thus showing an excellent fit model. The full results of the *fit model* are presented in Table 7.

Table 7. Model Fit

	Saturated Model	***Estimated Model***
SRMR	0.062	0.069
d_ULS	2.317	2.850
d_G	1.227	1.244
Chi-square	1278.398	1291.864
NFI	0.796	0.794

Source: SmartPLS, 2026

The results of *the Predictive Relevance* (Q^2) test are presented in Table 8. The Q^2Predict value was 0.669 in the customer satisfaction construct and 0.519 in the customer loyalty construct, both above 0.50, indicating that the research model has strong predictive capabilities.

Table 8. Predictive Relevance (Q^2) Test Results

Endogenous constructs	***Q^2Predict***	**Interpretation**
M (Satisfaction)	0.669	Strong
AND (Loyalties)	0.519	Strong

Source: SmartPLS, 2026

Hypothesis Testing

In statistical hypothesis testing, a significance level (α) of 5% (0.05) is used as the limit for decision-making. If the *p-value* < 0.05, then H0 is rejected and H1 is accepted. Conversely, if the *p-value* ≥ 0.05, then H0 is accepted and H1 is rejected. The results of the hypothesis testing are presented in Table 9.

Table 9. Hypothesis Test Results

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*T Statistics (|O/STDEV|)*	*P Values*
X1 -> M	0.103	0.106	0.062	1.655	0.049
X2 -> M	0.359	0.357	0.086	4.160	0.000
X3 -> M	-0.068	-0.060	0.066	1.021	0.154
X4 -> M	0.532	0.526	0.105	5.061	0.000
M -> Y	0.784	0.785	0.046	16.981	0.000

Source: SmartPLS, 2026

Based on the results of the hypothesis test in Table 9, the quality of service had a significant effect on satisfaction (p = 0.049), H1 was accepted. AI *service quality* had a significant effect on satisfaction (p = 0.000), H2 was accepted. *Green banking practices* had no significant effect on satisfaction (p = 0.154), H3 was rejected. *Shariah compliance* had a significant effect on satisfaction (p = 0.000), H4 was accepted. Satisfaction had a significant effect on customer loyalty (p = 0.000), H5 was accepted.

Indirect Effects Testing (Mediation)

Indirect effect testing was carried out to determine the role of customer satisfaction variable (M) as a mediating variable in the relationship between service quality (X1), AI *service quality* (X2), *green banking practices* (X3), and *shariah compliance* (X4) on customer loyalty (Y). The test results are presented in Table 10.

Table 10. Indirect Effects Test Results

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*T Statistics (|O/STDEV|)*	*P Values*
X1 -> M -> Y	0.081	0.083	0.049	1.643	0.100
X2 -> M -> Y	0.282	0.281	0.072	3.929	0.000
X3 -> M -> Y	-0.053	-0.048	0.052	1.013	0.311
X4 -> M -> Y	0.418	0.413	0.087	4.817	0.000

Source: SmartPLS, 2026

Based on Table 10, customer satisfaction was proven to mediate the influence of AI *service quality* (X2) on customer loyalty (β=0.282; t=3.929; p=0.000), as well as mediate the influence of *shariah compliance* (X4) on customer loyalty (β=0.418; t=4.817; p=0.000). Given that this research model does not include the direct X→Y pathway, the entire influence of exogenous variables on customer loyalty is *fully mediated* through satisfaction. Satisfaction serves as the only psychological mechanism that links service stimuli to loyalty responses, in line with the *Stimulus-Organism-Response* (SOR) framework (Mehrabian & Russell, 1974). The indirect effects of service quality (X1) and *green banking practices* (X3) were not significant, consistent with the results of *the direct effect* testing of each of these variables.

Multi-Group Analysis (MGA)

Multi-Group Analysis (MGA) was used to find out if there were differences between variables in different groups of respondents based on gender, age, and length of time they were customers. Prior to the MGA test, the *Measurement Invariance of Composite Models* (MICOM) test was carried out to ensure that the models could be compared between groups.

The MICOM test in the gender category showed that the model had met *the compositional invariance* but had not fully met the similarity of mean and variance, so that the model was declared to meet *partial invariance*, which was sufficient to proceed to the MGA analysis (Ghozali, 2021). The results of the PLS-MGA analysis by gender are presented in Table 11.

Table 11. PLS-MGA By Gender

	Original (Gender_1)	***Original (Gender_2)***	***Difference***	***1-Tailed p Value***	***2-Tailed p Value***
M -> Y	0.789	0.782	0.007	0.478	0.478
X1 -> M	0.111	0.133	-0.022	0.576	0.424
X2 -> M	0.402	0.288	0.114	0.238	0.238
X3 -> M	-0.019	-0.035	0.016	0.455	0.455
X4 -> M	0.410	0.599	-0.189	0.857	0.143

Source: SmartPLS, 2026

Based on Table 11, all relationships between variables have a *p-value* greater than 0.05, so there is no significant difference based on gender. Similar things were found in the analysis of MGA based on age and length of customer tenure. The MICOM test of the age category shows *full invariance*, while the old category of being a customer shows *partial invariance*. In both categories, the overall *p-value* of MGA was also greater than 0.05, indicating that there was no significant difference between groups. Thus, gender, age, and length of customer stay did not moderate the relationship between variables in this study model.

The Effect of Service Quality on Satisfaction

The results of the Hypothesis 1 (H1) test showed that service quality had a significant effect on customer satisfaction ($p = 0.049$). Service quality which includes service consistency, employee professionalism, speed of service, and the ability to provide solutions has proven to be an *important stimulus* that affects the internal evaluation process of customers and produces satisfaction as a psychological *response* within the framework of SOR theory (Mehrabian & Russell, 1974). Dimensions such as *reliability*, *responsiveness*, assurance, empathy, and physical evidence are important factors in shaping customer perception. These findings are supported by the research of Ramadhan (2025) and Nurlaila *et al*. (2022). Although significant, the path coefficient ($\beta = 0.103$) is relatively small, indicating that the quality of conventional services has been considered a *hygiene* factor by customers, while sharia compliance plays a more dominant motivating factor.

The Influence of AI Service Quality on Satisfaction

Hypothesis 2 (H2) proves that AI *service quality* has a significant effect on customer satisfaction ($p = 0.000$). The quality of artificial intelligence-based services, such as the ability

of digital systems to process transactions accurately, system reliability, AI-based features such as *chatbots*, and useful responses, significantly increase customer satisfaction. The implementation of *chatbots*, automated recommendation systems, and data analytics-based services allows banks to provide a more efficient and relevant service experience. These findings are supported by research by Huang & Rust (2021), Goswami & Rainy (2025), and Kholishoh & Bahjatulloh (2025). In the context of Islamic banking, the application of AI must not only be technologically superior, but must also be in accordance with Islamic values such as transparency, justice, and benefits.

The Influence of Green Banking Practices on Satisfaction

Hypothesis 3 (H3) was rejected because *green banking practices* did not have a significant effect on customer satisfaction (p = 0.154). These findings indicate that although the implementation of environmentally friendly banking practices has a positive value in terms of sustainability, Islamic banking customers in East Kalimantan tend not to make the environmental aspect the main factor in assessing satisfaction. Through the *framework of Expectation-Confirmation Theory* (ECT), a very high descriptive *score of green banking* (5,323/6,000) indicates that *green banking* has become a *hygiene factor*, not *a differentiator*. In addition, *institutional-level* indicators are not always felt in every daily customer interaction. This finding is supported by Rahmawati (2026) and Ullah *et al*. (2023).

The Influence of Shariah Compliance on Satisfaction

Hypothesis 4 (H4) proves that *shariah compliance* has a significant effect on customer satisfaction with the largest path coefficient (β = 0.532, p = 0.000). Compliance with sharia principles which includes the clarity of contracts, compliance with the fatwa of the Sharia Supervisory Board, and transparency strongly affects customer satisfaction. The dominance of *shariah compliance* can be understood in the context of BSI's dominance in East Kalimantan, where the limitations of physical networks encourage customers to rely on sharia trust as a substitute for physical proximity to services—a *trust substitution mechanism for convenience*. These findings are in line with Oktapiani & Anggraini (2022) and Amin *et al*. (2011).

The Effect of Satisfaction on Customer Loyalty

Hypothesis 5 (H5) proved that customer satisfaction has a significant effect on customer loyalty (p = 0.000). Satisfied customers tend to have the desire to continue using services, recommend to others, and build long-term relationships with banks. In the SOR framework, satisfaction is the result of internal processes (*organisms*) that are influenced by various *service stimuli*, then produce a response in the form of loyalty. This finding is supported by Harnianda (2021) and Yusuf (2023), who even found satisfaction as the perfect intervening variable in shaping customer loyalty.

CONCLUSION

This study analyzes the influence of service quality, AI *service quality*, *green banking practices*, and *shariah compliance* on customer loyalty with satisfaction as a mediating variable in Islamic banking in East Kalimantan, using PLS-SEM with 200 respondents. The results showed that service quality (p = 0.049), AI *service quality* (p = 0.000), and *shariah compliance* (p = 0.000) had a significant effect on customer satisfaction, while *green banking practices* had no significant effect (p = 0.154). Customer satisfaction has been shown to have a significant effect on loyalty (p = 0.000) and acts as a *full mediator*, especially for the AI *service quality* (β

= 0.282; p = 0.000) and *shariah compliance* (β = 0.418; p = 0.000) pathways towards loyalty, in line with the SOR framework which emphasizes that service stimuli indirectly generate loyalty without going through the process of internalizing satisfaction. The results *of the Multi-Group Analysis* (MGA) based on gender, age, and length of customer tenure showed that there were no significant differences between groups, proving that the research model was consistent and could be generalized to various segments of Islamic bank customers in East Kalimantan. The practical implications of this research encourage Islamic banking to improve the quality of AI-based services, strengthen the application of sharia principles transparently and consistently, and develop *green banking* programs that are more experiential and directly beneficial to customers, as a comprehensive strategy to increase satisfaction and build sustainable customer loyalty.

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