

Banking Service Quality, Financial Literacy, and Trust in Financial Service Utilization among Bank Muamalat Customers

Article History

Agussalim Agussalim ^a✉, Ahmad Firman ^a , Fitriani Latief ^a 

^a, Institut Teknologi dan Bisnis Nobel Indonesia, Makassar, Indonesia

✉ Corresponding email: agoes.salim@yahoo.co.id

Submitted:

July 22, 2026

Reviewed:

August 01, 2026

Revised:

September 23, 2026

Accepted:

October 01, 2026

Abstract

Purpose— This study examines how banking service quality, financial literacy, and trust are associated with financial service utilization among active customers of PT Bank Muamalat Indonesia, Makassar Branch.

Research Methodology— A quantitative cross-sectional survey of 96 purposively selected active customers who had used the bank's digital services for at least six months was analyzed using multiple linear regression.

Results— Banking service quality, financial literacy, and trust were each positively associated with financial service utilization. Banking service quality showed the strongest standardized association, followed by trust and financial literacy.

Research limitations/Implications— The single-branch, nonprobability, cross-sectional design limits statistical generalization and causal interpretation. The findings support attention to service reliability and responsiveness, practical financial education, transaction security, data protection, and complaint resolution.

Originality— The study distinguishes formal financial access from post-access utilization and integrates service quality, financial literacy, and trust in an Islamic banking context.

Keywords: Banking Service Quality; Financial Literacy; Trust; Financial Service Utilization; Islamic Banking.

Paper type: Research Paper

HOW TO CITE:

Agussalim, A., Firman, A., & Latief, F. (2026). Banking Service Quality, Financial Literacy, and Trust in Financial Service Utilization among Bank Muamalat Customers. *Advances: Jurnal Ekonomi & Bisnis*, 4(5), 1633–1646. <https://doi.org/10.60079/ajeb.v4i5.1026>

1. Introduction

The financial services industry has changed rapidly with advances in information technology and the expansion of digital delivery channels. Banks are consequently expected not only to perform an intermediation function but also to provide services that are accessible, timely, secure, and usable by diverse groups of customers. Financial inclusion therefore concerns both access to and use of formal financial products and services (Khera *et al.*, 2022; Sharma & Changkakati, 2022). Formal access, however, does not necessarily translate into active and sustained use because product understanding, digital capability, service accessibility, and confidence in financial institutions can shape how customers use available services (Alqam & Hamshari, 2024; Morgan, 2022).

The distinction between access and use is especially important in banking research. Financial access and financial capability are related but conceptually distinct, and growth in accounts or service infrastructure does not itself demonstrate that customers understand or actively use available products (Alqam & Hamshari, 2024; Khera *et al.*, 2022). For

individuals who already hold accounts and use digital banking, the analytically relevant outcome is therefore not initial entry into the formal system, but the degree, continuity, and perceived accessibility of financial service utilization.

PT Bank Muamalat Indonesia, a pioneer of Islamic banking in Indonesia, has continued to develop digital banking functions through Muamalat DIN, QRIS-related services, internet banking, and other technology-enabled transaction facilities (PT Bank Muamalat Indonesia Tbk., 2025). These institutional developments provide relevant context for studying why financial service utilization differs across individual customers, while aggregate bank-level developments do not by themselves explain customer-level variation.

Customer utilization may be related to service quality, financial capability, and trust. Digital services can make transactions easier, faster, and more flexible (Latief *et al.*, 2024; Rizieq & Suwarsit, 2024) and can broaden opportunities to use Islamic banking products (Harsanto & Susanti, 2025). Nevertheless, the instrument used in this study assesses tangibles, reliability, responsiveness, assurance, and empathy. Because these dimensions cover customers' broader banking-service experience rather than digital-channel performance alone, the measured construct is treated as banking service quality. Likewise, the second predictor is treated as financial literacy because its indicators capture knowledge, product understanding, money-management capability, and financial decision-making rather than exposure to a specific educational intervention.

Trust is also relevant because banking requires customers to rely on an institution to protect funds, personal data, and transaction integrity. In digital settings, confidence in security, privacy protection, institutional credibility, and service reliability can reduce perceived uncertainty. The Theory of Planned Behavior provides a broad conceptual lens for understanding how evaluations and beliefs may relate to behavior (Maryam *et al.*, 2022), but the present study does not directly measure attitudes, subjective norms, perceived behavioral control, or behavioral intention. Accordingly, it does not test or claim to confirm the Theory of Planned Behavior.

Prior findings are not fully consistent across settings and outcome definitions. Astohar *et al.*, (2022) reported positive relationships between technology-based financial services and financial inclusion, whereas Alvira *et al.*, (2025) reported a nonsignificant relationship between service quality and financial inclusion in a QRIS context. Fanta and Mutsonziwa (2021) and Salsabila and Amri (2025) linked financial literacy with financial inclusion. Siregar *et al.*, (2025) identified trust as relevant to fintech-based financial inclusion, while Nurrohmah and Purbayati (2020) associated trust with saving interest in an Islamic banking context. These differences suggest that results vary with respondent characteristics, measurement choices, and banking context. More importantly, studies of existing bank customers sometimes retain the label financial inclusion even when respondents have already achieved formal access, creating a conceptual gap between initial access and subsequent utilization.

To address that gap, this study focuses on active customers of PT Bank Muamalat Indonesia, Makassar Branch, and treats financial service utilization as the outcome. Its novelty lies in clarifying the outcome as post-access utilization among formally included customers, examining three conceptually distinct predictors in a single model, and doing so within an Islamic banking setting in Makassar. Given the cross-sectional survey and nonprobability sampling design, the contribution is evidence about statistical associations rather than causal effects or population-wide generalization.

The study asks: How are banking service quality, financial literacy, and trust related to financial service utilization among customers of PT Bank Muamalat Indonesia, Makassar Branch, both individually and jointly? The objective is to examine these relationships and to provide context-specific evidence for service improvement, customer learning, and trust-building strategies in Islamic banking. The remainder of the paper reviews the literature and develops the hypotheses, explains the research methodology, presents and discusses the results, and concludes with contributions, implications, limitations, and directions for future research.

2. Review of Literature

2.1 Financial Inclusion and Financial Service Utilization

Financial inclusion refers to the process through which individuals and groups obtain access to affordable, secure, and appropriate formal financial products and services. The concept extends beyond account ownership to dimensions of access, use, and service quality that should be distinguished in measurement. Service availability does not necessarily lead to active use or a satisfactory service experience (Sharma & Changkakati, 2022). Effective inclusion therefore also depends on the capability to understand products, consumer rights and protections, and financial choices (Alqam & Hamshari, 2024). Variation in indicators and research contexts can produce different interpretations and empirical results (Ozili *et al.*, 2022). For individuals who already hold bank accounts, measurement should therefore emphasize product use, transaction continuity, the range of services used, and service experience rather than initial access alone.

Digitalization can reduce geographic, time, and transaction-cost barriers, but its benefits depend on infrastructure, digital capability, and security (Khera *et al.*, 2022). Fintech and digital banking can extend services to previously underserved households and firms, yet their effective use also requires digital literacy, consumer protection, and technology-risk management (Morgan, 2022). Institutional quality, provider credibility, regulatory effectiveness, and public trust further shape access and use (Zeqiraj *et al.*, 2022). Because all respondents in this study were active Bank Muamalat customers and digital-service users, the dependent construct is interpreted as financial service utilization among individuals who already have formal access.

2.2 Banking Service Quality

Service quality reflects customers' evaluations of how reliably, responsively, safely, and appropriately a bank delivers its services. In digital channels, service quality may include efficiency, system reliability, fulfillment, security, ease of use, transaction speed, and problem resolution (Adiningtyas & Auliani, 2024; Hijazi, 2022). Information accuracy, accessibility, security, and responsiveness can also shape customer satisfaction and continuity of use (Khan *et al.*, 2023), while privacy protection is particularly important when transactions occur without direct interaction with bank staff (Martínez-Navalón *et al.*, 2023).

The distinction between digital service quality and broader banking service quality is important in the present study. A purely digital construct should be measured with indicators specific to applications or electronic channels. The instrument used here, however, includes tangibles, reliability, responsiveness, assurance, and empathy, which span branch-based and digital experiences. The predictor is therefore labeled banking service quality throughout the empirical model to maintain consistency between conceptual interpretation and measurement.

2.3 Financial Literacy

Financial literacy refers to the knowledge and capability required to understand financial products, manage finances, and make informed financial decisions. It should be distinguished from financial education, which is a learning process or intervention intended to develop such knowledge and capability. Financial education can improve knowledge and downstream behavior, although effects vary across interventions and participant contexts (Kaiser *et al.*, 2022). Active approaches involving exercises, discussion, simulations, and problem solving can produce stronger learning than one-way instruction (Kaiser & Menkhoff, 2022), while randomized evidence also shows that implementation context matters for educational outcomes (Sconti *et al.*, 2024).

In technology-enabled financial services, customers need to understand product benefits, costs, risks, and procedures while also recognizing digital-security and consumer-protection concerns (Jonker & Kosse, 2022). Access or product-use incentives do not necessarily substitute for learning because experience alone may not generate adequate

understanding (Oberrauch & Kaiser, 2024). In this study, the measured indicators assess financial knowledge, product understanding, financial management capability, and decision-making capability. The construct is therefore consistently labeled financial literacy rather than financial education.

2.4 Trust

Trust is the customer's belief that a bank is competent, reliable, honest, and able to manage funds and services in the customer's interest. In mobile banking, trust is directed both toward the institution and toward the technology used to complete transactions. Institutional reputation and lower perceived risk can strengthen confidence that digital services will operate safely and reliably (Nguyen *et al.*, 2022). The strength of these relationships can vary across social, cultural, and institutional contexts (Kumar *et al.*, 2023), while system quality, perceived service quality, and provider image also shape judgments of credibility (Ahmed *et al.*, 2024).

Digitalization changes the basis of trust because financial transactions increasingly occur without face-to-face interaction. Protection of personal data, responsible use of transaction information, security, transparency, and effective problem resolution become central to customer confidence (Jafri *et al.*, 2024; Tronnier *et al.*, 2022). In this study, trust encompasses perceived bank integrity, competence, transaction security, data confidentiality, and service reliability. It is treated as conceptually distinct from both service quality and satisfaction.

2.5 Banking Service Quality

2.5.1. Banking Service Quality and Financial Service Utilization

High-quality banking services can lower operational barriers, improve transaction convenience, and make it easier for customers to use a broader range of products. Prior studies associate technology-enabled financial services and service quality with access, ease of use, and financial service participation (Astohar *et al.*, 2022; Zai *et al.*, 2024), although Alvira *et al.*, (2025) reported a nonsignificant relationship for service quality in a QRIS context. Differences across studies may reflect variation in customer characteristics, infrastructure, instruments, and institutional context. Because the present instrument measures broader banking service quality, the hypothesis is stated in terms of that construct rather than digital service quality alone.

H1. Banking service quality is positively associated with financial service utilization among customers of PT Bank Muamalat Indonesia, Makassar Branch.

2.5.2 Financial Literacy and Financial Service Utilization

Financial literacy can help customers understand product benefits, costs, risks, rights, obligations, and usage procedures. Evidence links financial literacy with participation in formal financial services (Fanta & Mutsonziwa, 2021; Salsabila & Amri, 2025), while the strength of the relationship may vary with demographic characteristics, technology adoption, and access conditions. Customers with stronger financial knowledge and decision capability are therefore expected to use services more effectively, while recognizing that a cross-sectional design cannot establish the direction of causation.

H2. Financial literacy is positively associated with financial service utilization among customers of PT Bank Muamalat Indonesia, Makassar Branch.

2.5.3 Trust and Financial Service Utilization

Trust can reduce uncertainty about data misuse, failed transactions, cyber threats, and financial loss. Reputation, perceived security, institutional credibility, and the quality of problem resolution contribute to confidence in banking and fintech services (Jafri *et al.*, 2024; Nguyen *et al.*, 2022). Siregar *et al.*, (2025) likewise identified trust as relevant to participation in formal and digital financial services. Customers who have stronger

confidence in the bank's integrity, competence, security, and reliability are therefore expected to report greater service utilization.

H3. Trust is positively associated with financial service utilization among customers of PT Bank Muamalat Indonesia, Makassar Branch.

2.5.4 Joint Relationship of the Predictors with Financial Service Utilization

Banking service quality, financial literacy, and trust represent distinct but potentially complementary aspects of customer experience. Service quality reflects how customers experience the bank, financial literacy reflects their capability to understand and choose products, and trust reduces uncertainty when customers rely on the bank to handle funds and information. Prior literature suggests that service quality supports continued use (Hijazi, 2022), financial capability helps users obtain benefits while managing risk (Jonker & Kosse, 2022), and trust supports acceptance of financial technology (Kumar *et al.*, 2023). A joint regression model can therefore assess whether the three predictors, considered together, explain variation in financial service utilization.

H4. Banking service quality, financial literacy, and trust are jointly associated with financial service utilization among customers of PT Bank Muamalat Indonesia, Makassar Branch.

3. Research Methodology

3.1 Research Design, Population, and Sample

This study used a quantitative, cross-sectional survey design to examine associations between banking service quality, financial literacy, trust, and financial service utilization at one point in time. The design is treated as associative rather than causal because cross-sectional data and nonprobability sampling do not establish temporal ordering or causal effects. Regression coefficients are therefore interpreted as adjusted statistical associations.

The population comprised customers of PT Bank Muamalat Indonesia, Makassar Branch. Because the number of customers meeting the study criteria was not available as a fixed population count, participants were selected through purposive sampling. Eligibility required respondents to (1) be active customers of the Makassar Branch; (2) have used Muamalat DIN, mobile banking, internet banking, or another Bank Muamalat digital service for at least six months; (3) be at least 17 years old and hold valid identification; and (4) voluntarily complete the questionnaire. The six-month criterion was used to ensure sufficient service experience for evaluation.

Sample adequacy was justified using statistical power for multiple regression with three predictors. With a 5% significance level, 80% power, and a medium effect-size assumption, the stated minimum was 77 respondents. The final sample comprised 96 respondents. Because participants were purposively selected from a single branch, the findings are not statistically generalized to the full population of Bank Muamalat customers.

3.2. Data Collection

Primary data were collected through a structured self-administered questionnaire. Before responding, prospective participants received information about the study purpose, voluntary participation, response confidentiality, and academic use of the data, and consent was obtained before questionnaire completion. Screening questions were used to verify eligibility. The questionnaire did not request personally identifying information. Only complete responses meeting the stated criteria were included, resulting in an analytical dataset with no reported missing values.

3.3. Measures and Analytical Procedure

The instrument was adapted from prior studies and contextualized for PT Bank Muamalat Indonesia, Makassar Branch. Items were rated on a five-point Likert scale from

1 = strongly disagree to 5 = strongly agree, and construct scores were derived from the items representing each construct. Consistent with the reported measurement dimensions, X1 is labeled banking service quality because tangibles, reliability, responsiveness, assurance, and empathy represent general service experience; X2 is labeled financial literacy because the dimensions reflect knowledge and capability rather than exposure to an educational intervention; and the dependent variable is labeled financial service utilization because all respondents were already active customers and digital-service users.

Table 1. Variables and Measurement

Variable	Reported measurement dimensions	Primary reference
Banking Service Quality (X1)	Tangibles; reliability; responsiveness; assurance; empathy	Kotler <i>et al.</i> , (2018); Khan <i>et al.</i> , (2023)
Financial Literacy (X2)	Financial knowledge; understanding of financial products; financial management capability; financial decision-making capability	Kaiser <i>et al.</i> , (2022)
Trust (X3)	Bank integrity; bank competence; transaction security; data confidentiality; service reliability	Yati <i>et al.</i> , (2024); Nguyen <i>et al.</i> , (2022)
Financial Service Utilization (Y)	Accessibility of financial services; use of financial products; ease of obtaining services; fit of products with customer needs; continuity of service use	Zai <i>et al.</i> , (2024); Sharma & Changkakati (2022)

Source(s): Adapted from several previous studies.

Measurement quality was evaluated before hypothesis testing. Item validity was assessed using corrected item-total correlations, and internal consistency was evaluated using Cronbach’s alpha. Values around 0.60 were interpreted cautiously as marginal rather than automatically satisfactory. Because the source tables contain inconsistent item codes for one financial-literacy indicator, the final manuscript reports measurement dimensions and construct-level quality statistics without asserting an unverified item code.

Data analysis proceeded through descriptive statistics, measurement-quality assessment, residual-normality inspection, multicollinearity assessment, and multiple linear regression. Residual normality was evaluated using the standardized residual Normal P-P Plot, while multicollinearity was assessed using tolerance and variance inflation factor (VIF). The available manuscript does not report numerical or graphical evidence for the other regression diagnostics mentioned in its earlier methodological wording; therefore, no claim is made here that all classical assumptions were verified. Multiple regression was used to estimate the adjusted relationships of banking service quality, financial literacy, and trust with financial service utilization. Partial t tests evaluated each regression coefficient, the F test evaluated the model jointly, and R² and adjusted R² were interpreted as explained variance rather than causal effect. Statistical significance was assessed at the 5% level. The reported tables identify the analysis output as SPSS, but no software version is stated.

The regression specification can be expressed as

$$\text{Financial Service Utilization} = \beta_0 + \beta_1(\text{Banking Service Quality}) + \beta_2(\text{Financial Literacy}) + \beta_3(\text{Trust}) + \varepsilon.$$

4. Results and Discussion

4.1 Research Result

4.1.1 Descriptive Statistics

Table 2 summarizes the score distributions for the 96 complete observations. The descriptive statistics are reported as observed construct scores and are not interpreted as evidence of relationships among the variables.

State all relevant findings including those that contradict the hypothesis you proposed. Present your findings briefly but each provides sufficient detail to justify the tone

conclusions. This allows the reader to understand precisely what you are doing in analyzing the data and why.

Table 2. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Dev.
Banking Service Quality	96	18.00	25.00	21.0208	1.38396
Financial Literacy	96	18.00	24.00	21.1354	1.33472
Trust	96	12.00	20.00	16.7292	1.67633
Financial Service Utilization	96	20.00	25.00	22.1771	1.32978
Valid N (listwise)	96				

Source: Primary data processed by the authors, 2026.

4.1.2. Item Validity and Construct Reliability

Table 3. Measurement Quality Summary

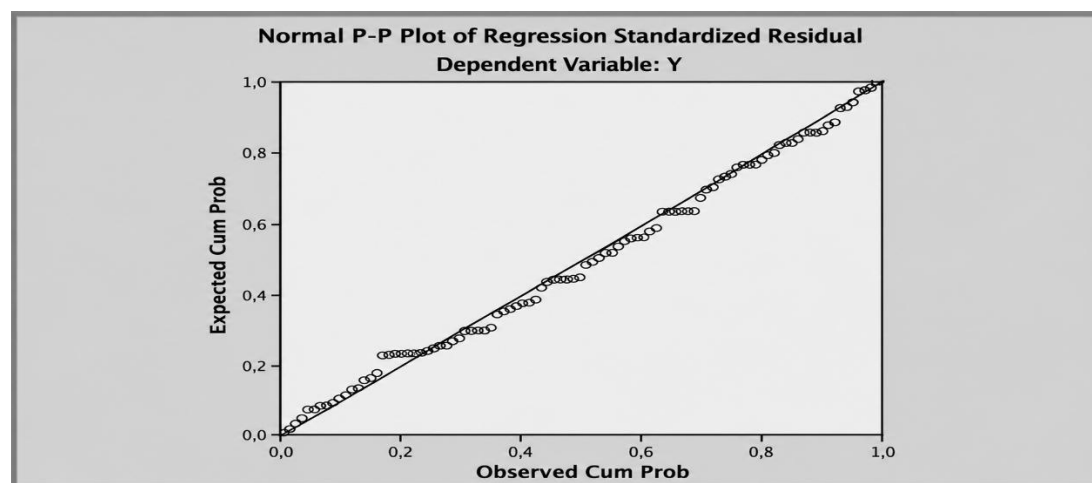
Construct	Corrected item-total correlation range	Cronbach's alpha	Interpretation
Banking Service Quality (X1)	0.608–0.724	0.612	Marginal
Financial Literacy (X2)	0.701–0.781	0.699	Approximately acceptable
Trust (X3)	0.615–0.724	0.701	Acceptable
Financial Service Utilization (Y)	0.615–0.714	0.723	Acceptable

Source: SPSS output reported, 2026.

Across the source output, corrected item-total correlations ranged from 0.608 to 0.781 and exceeded the 0.30 criterion used in the manuscript. This evidence supports retention of the displayed items at the item level but does not by itself establish convergent or discriminant validity between constructs. Banking service quality showed marginal internal consistency (Cronbach's alpha = 0.612); financial literacy (0.699), trust (0.701), and financial service utilization (0.723) were approximately acceptable. Because the source tables use inconsistent codes for one financial-literacy indicator, the final manuscript reports construct-level ranges rather than asserting an unverified item code. Interpretation of the banking-service-quality coefficient should consequently remain cautious.

4.1.3. Residual Normality

Figure 1. Normal P-P Plot of Standardized Regression Residuals



Source: SPSS output reported, 2026.

Normality was evaluated for the standardized regression residuals rather than for each study variable. In Figure 1, the residual points lie generally close to the diagonal line,

providing visual support for approximate residual normality. This diagnostic alone does not demonstrate that all regression assumptions were satisfied.

4.1.4. Multicollinearity

Table 4. Multicollinearity Diagnostics

Independent variable	Tolerance	VIF	Conclusion
Banking Service Quality	0.913	1.095	No problematic indication
Financial Literacy	0.976	1.024	No problematic indication
Trust	0.894	1.118	No problematic indication

Source: SPSS output reported, 2026.

Tolerance values ranged from 0.894 to 0.976 and VIF values ranged from 1.024 to 1.118. On the criteria used in the manuscript, these values do not indicate problematic multicollinearity among banking service quality, financial literacy, and trust. This conclusion is limited to collinearity among predictors and should not be interpreted as evidence that every regression assumption was verified.

4.1.5. Multiple Regression and Hypothesis Tests

Table 5. Multiple Linear Regression Results

Model term	B	Std. Error	Beta	t	p
Constant	4.446	2.549	–	1.744	0.084
Banking Service Quality	0.437	0.093	0.421	4.704	<0.001
Financial Literacy	0.146	0.071	0.176	2.036	0.045
Trust	0.221	0.094	0.213	2.352	0.021

Source: SPSS output reported, 2026.

The estimated regression equation was: Financial Service Utilization = 4.446 + 0.437(Banking Service Quality) + 0.146(Financial Literacy) + 0.221(Trust). Because a value of zero falls outside the observed ranges of the predictors, the intercept has limited substantive interpretation. The unstandardized coefficients represent score-unit changes and are not percentages.

All three predictors had positive regression coefficients and were statistically significant at the 5% level. The standardized associations were strongest for banking service quality ($\beta = 0.421$), followed by trust ($\beta = 0.213$) and financial literacy ($\beta = 0.176$). The financial-literacy result was closest to the 0.05 significance threshold ($p = 0.045$).

Table 6. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.572	0.327	0.305	1.15387

Source: SPSS output reported, 2026.

The model explained 32.7% of the variance in financial service utilization ($R^2 = 0.327$), with adjusted $R^2 = 0.305$. On the unadjusted R^2 scale, 67.3% of the observed variance was not accounted for by the three-predictor model. Potentially relevant omitted factors include age, education, income, occupation, digital experience, network quality, transaction costs, product needs, and other customer characteristics. The explained variance should not be interpreted as evidence of causal strength.

Table 7. Overall F Test

Source	Sum of Squares	df	Mean Square	F	p
Regression	59.467	3	19.822	14.888	<0.001
Residual	122.491	92	1.331		
Total	181.958	95			

Source: SPSS output reported, 2026.

The overall regression model was statistically significant, $F(3, 92) = 14.888$, $p < 0.001$. This result indicates that the model containing the three predictors explained more variation in financial service utilization than an intercept-only model. It does not imply that all predictors must be significant individually; individual contributions are evaluated from the regression coefficients in Table 5.

Table 8. Summary of Hypothesis Tests

Hypothesis	Relationship tested	Statistic	p	Decision
H1	Banking Service Quality → Financial Service Utilization	$\beta = 0.421$	<0.001	Supported
H2	Financial Literacy → Financial Service Utilization	$\beta = 0.176$	0.045	Supported
H3	Trust → Financial Service Utilization	$\beta = 0.213$	0.021	Supported
H4	KLP, LK, and KP jointly → Financial Service Utilization	$F = 14.888$	<0.001	Supported

Source: SPSS output reported, 2026.

All four hypotheses were supported by the reported statistical tests. These results describe associations among existing customers who already had formal access to banking services. They do not demonstrate that the predictors caused greater financial inclusion, nor do they confirm the Theory of Planned Behavior because its core constructs were not measured in the model.

4.2 Discussion

4.2.1. Banking Service Quality and Financial Service Utilization

Banking service quality showed the strongest positive standardized association with financial service utilization. Reliability, responsiveness, assurance, empathy, and tangible aspects of service can shape the effort required to complete transactions and the overall convenience of using banking products. The result is consistent with Astohar *et al.*, (2022) and Zai *et al.*, (2024), which link technology-enabled financial services with financial inclusion or access, and it aligns with Hijazi (2022), who emphasizes convenience, security, reliability, and value in mobile-banking evaluations. Alvira *et al.*, (2025), however, reported a nonsignificant relationship between service quality and financial inclusion in a QRIS context, showing that the strength of the association can vary across settings and measures.

The present finding should be interpreted specifically as a relationship with utilization among customers who already have formal access. It does not demonstrate extension of access to previously unserved groups. The measured construct is also broader than digital service quality because the indicators include branch-related service dimensions. In addition, the marginal reliability of the banking-service-quality scale ($\alpha = 0.612$) limits precision and requires caution when interpreting the comparatively large coefficient. Reverse direction is also plausible: customers who use services more frequently may have more opportunities to form favorable service evaluations.

4.2.2. Financial Literacy and Financial Service Utilization

Financial literacy was positively associated with financial service utilization, but its standardized relationship was the weakest of the three predictors. The label financial literacy is appropriate because the instrument measures knowledge, product understanding, financial management, and decision capability rather than participation in a specific education program. Such capabilities can help customers evaluate benefits, costs, risks, rights, and obligations, but knowledge may not translate directly into service use when product need, income, access conditions, transaction costs, and digital experience differ across customers.

This result is consistent with Fanta and Mutsonziwa (2021) and Salsabila and Amri (2025), who link financial literacy with financial inclusion. Kaiser *et al.*, (2022) show that

financial education can improve knowledge and downstream behavior, while Jonker and Kosse (2022) stress the importance of financial capability for benefiting from digital services without neglecting risk. Because the design is cross-sectional, reverse causality remains possible: more intensive service use may itself increase customers' product knowledge and financial experience.

4.2.3. Trust and Financial Service Utilization

Trust was positively associated with financial service utilization. Banking transactions require customers to place funds and personal information under institutional control, making perceived integrity, competence, transaction security, data confidentiality, and service reliability relevant to continued use. In digital settings, where direct human interaction is reduced, institutional reputation, system stability, transparency, and the capacity to resolve failed transactions become especially important mechanisms for reducing perceived uncertainty.

The finding is consistent with Siregar *et al.*, (2025), who identify trust as important in formal and digital financial-service participation. Nguyen *et al.*, (2022) similarly link reputation and lower perceived risk with mobile-banking trust, and Jafri *et al.*, (2024) emphasize security in fintech adoption. Melnyk (2023) describes the shift in trust formation from face-to-face relationships toward technology performance, institutional reputation, user experience, and communication transparency. In the Bank Muamalat setting, perceived Sharia compliance could also be relevant if it were explicitly measured, but the present instrument does not provide evidence to treat it as an empirical component of trust. Reverse direction again remains plausible because repeated problem-free use may strengthen trust.

4.2.4. Overall Model and Contribution

Taken together, banking service quality, financial literacy, and trust formed a statistically significant model of financial service utilization. The three constructs capture different parts of the customer experience: service quality reflects interaction with the bank, financial literacy reflects the capability to understand and choose products, and trust reflects confidence in relying on the institution. Their joint significance therefore supports a multidimensional view of post-access utilization rather than a single-factor explanation. The model nevertheless explained only 32.7% of the observed variance. A substantial proportion of utilization is therefore associated with factors not included in the model, potentially including demographics, digital experience, network quality, transaction costs, product needs, and relationships with other banks. Because all constructs were measured by self-report from the same respondents at the same time, common-method bias is also possible, and the absence of demographic controls raises the possibility of omitted-variable bias. The study's contribution is thus primarily conceptual and contextual: it distinguishes access from utilization and shows how service quality, financial literacy, and trust are associated with utilization within a single Islamic-bank branch without overstating causal inference.

5. Conclusion

This study examined variation in financial service utilization among active customers of PT Bank Muamalat Indonesia, Makassar Branch, who already used digital banking services. Using a cross-sectional survey of 96 purposively selected customers and multiple linear regression, the study found positive associations of banking service quality, financial literacy, and trust with financial service utilization, both individually and jointly. Banking service quality had the strongest standardized association, followed by trust and financial literacy. The results concern variation in use among formally included customers rather than expansion of access to previously unserved populations.

The theoretical contribution lies in distinguishing initial access to formal finance from post-access utilization and in treating service experience, financial capability, and institutional trust as conceptually distinct correlates of utilization. The findings do not

confirm the Theory of Planned Behavior because attitude, subjective norm, perceived behavioral control, and behavioral intention were not measured or modeled. For Bank Muamalat, the results support managerial attention to reliable and responsive service delivery, clear product information, transaction security, data protection, transparency, and effective complaint resolution. Financial learning initiatives should be practical and linked directly to product features, transaction procedures, and digital risks. These recommendations are framed as evidence-informed managerial priorities rather than causal claims that any single intervention will necessarily increase utilization.

The study is limited by its cross-sectional design, purposive sampling within a single branch, reliance on self-reported perceptions collected from the same source and time, and the marginal internal consistency of the banking-service-quality measure. These conditions limit generalizability, prevent causal ordering, and leave room for reverse causality, common-method bias, and omitted-variable bias. Future research should use longitudinal designs, probability-based or multi-branch samples, objective transaction-use indicators, and demographic controls including age, education, income, occupation, digital experience, and network quality. Future studies focusing specifically on digital service quality should use indicators designed for digital channels, while tests of the Theory of Planned Behavior should directly measure its original constructs and the mediating role of behavioral intention

REFERENCES

- Adiningtyas, H., & Auliani, A. S. (2024). Sentiment analysis for mobile banking service quality measurement. *Procedia Computer Science*, 234, 40–50. <https://doi.org/10.1016/j.procs.2024.02.150>
- Ahmed, S., Ahmed, R., Ashrafi, D. M., Ahmed, E., & Annamalah, S. (2024). Building trust in cybernetic payment network: Insights from an emerging economy. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), 100331. <https://doi.org/10.1016/j.joitm.2024.100331>
- Alqam, M. A., & Hamshari, Y. M. (2024). The impact of financial literacy on financial inclusion for financial well-being of youth: Evidence from Jordan. *Discover Sustainability*, 5(1), 528. <https://doi.org/10.1007/s43621-024-00704-6>
- Alvira, R., Iqbal, M., & Satriawan, D. (2025). Analisis pengaruh persepsi kemudahan, keamanan, dan kualitas pelayanan penggunaan QRIS terhadap inklusi keuangan generasi Z di coffee shop Bandar Lampung dalam perspektif ekonomi Islam. *AL-Muqayyad*, 8(1), 93–108. <https://doi.org/10.46963/jam.v8i1.2751>
- Astohar, A., Praptitorini, M. D., & Shobandiyah, S. (2022). Pengaruh literasi keuangan dan layanan keuangan berbasis teknologi terhadap inklusi keuangan (Studi kasus pada UMKM di Kabupaten Demak). *The Academy of Management and Business*, 1(2), 69–79. <https://doi.org/10.55824/tamb.v1i2.147>
- PT Bank Muamalat Indonesia Tbk. (2025). 2024 annual report. https://www.bankmuamalat.co.id/uploads/hubungan_investor/1_laporan-tahunan-2024.pdf
- Fanta, A., & Mutsonziwa, K. (2021). Financial literacy as a driver of financial inclusion in Kenya and Tanzania. *Journal of Risk and Financial Management*, 14(11), 561. <https://doi.org/10.3390/jrfm14110561>
- Harsanto, M. F., & Susanti, I. (2025). Transformasi perbankan digital di Indonesia dalam meningkatkan akses keuangan. *Persya: Jurnal Perbankan Syariah*, 3(1), 22–26. <https://doi.org/10.62070/persya.v3i1.319>
- Hijazi, R. (2022). Mobile banking service quality and customer value co-creation intention: A moderated mediated model. *International Journal of Bank Marketing*, 40(7), 1501–1525. <https://doi.org/10.1108/IJBM-01-2022-0004>

- Jafri, J. A., Amin, S. I. M., Rahman, A. A., & Nor, S. M. (2024). A systematic literature review of the role of trust and security on Fintech adoption in banking. *Heliyon*, 10(1), e22980. <https://doi.org/10.1016/j.heliyon.2023.e22980>
- Jonker, N., & Kosse, A. (2022). The interplay of financial education, financial inclusion and financial stability and the role of Big Tech. *Contemporary Economic Policy*, 40(4), 612–635. <https://doi.org/10.1111/coep.12578>
- Kaiser, T., & Menkhoff, L. (2022). Active learning improves financial education: Experimental evidence from Uganda. *Journal of Development Economics*, 157, 102870. <https://doi.org/10.1016/j.jdevco.2022.102870>
- Kaiser, T., Lusardi, A., Menkhoff, L., & Urban, C. (2022). Financial education affects financial knowledge and downstream behaviors. *Journal of Financial Economics*, 145(2), 255–272. <https://doi.org/10.1016/j.jfineco.2021.09.022>
- Khan, F. N., Arshad, M. U., & Munir, M. (2023). Impact of e-service quality on e-loyalty of online banking customers in Pakistan during the Covid-19 pandemic: Mediating role of e-satisfaction. *Future Business Journal*, 9(1), 23. <https://doi.org/10.1186/s43093-023-00201-8>
- Khera, P., Ng, S., Ogawa, S., & Sahay, R. (2022). Measuring digital financial inclusion in emerging market and developing economies: A new index. *Asian Economic Policy Review*, 17(2), 213–230. <https://doi.org/10.1111/aepr.12377>
- Kotler, P., Keller, K. L., Ang, S. H., Tan, C. T., & Leong, S. M. (2018). *Marketing management: An Asian perspective* (7th ed.). Pearson.
- Kumar, P., Chauhan, S., Gupta, P., & Jaiswal, M. P. (2023). A meta-analysis of trust in mobile banking: The moderating role of cultural dimensions. *International Journal of Bank Marketing*, 41(6), 1207–1238. <https://doi.org/10.1108/IJBM-02-2022-0075>
- Latief, F., Suriyanti, S., Amin, A., Mahmud, A., Firman, A., & Dirwan, D. (2024). Ease and risk perception: Interest in using Sharia digital payments, and the users' attitude consequences. *Jurnal Minds: Manajemen Ide dan Inspirasi*, 11(2), 341–356. <https://doi.org/10.24252/minds.v11i2.50219>
- Martínez-Navalón, J.-G., Fernández-Fernández, M., & Alberto, F. P. (2023). Does privacy and ease of use influence user trust in digital banking applications in Spain and Portugal? *International Entrepreneurship and Management Journal*, 19(2), 781–803. <https://doi.org/10.1007/s11365-023-00839-4>
- Maryam, S. Z., Ahmad, A., Aslam, N., & Farooq, S. (2022). Reputation and cost benefits for attitude and adoption intention among potential customers using theory of planned behavior: An empirical evidence from Pakistan. *Journal of Islamic Marketing*, 13(10), 2090–2107. <https://doi.org/10.1108/JIMA-03-2021-0059>
- Melnyk, V. (2023). Transforming the nature of trust between banks and young clients: From traditional to digital banking. *Qualitative Research in Financial Markets*, 16(4), 618–635. <https://doi.org/10.1108/QRFM-08-2022-0129>
- Morgan, P. J. (2022). Fintech and financial inclusion in Southeast Asia and India. *Asian Economic Policy Review*, 17(2), 183–208. <https://doi.org/10.1111/aepr.12379>
- Nguyen, Y. T. H., Tapanainen, T., & Nguyen, H. T. T. (2022). Reputation and its consequences in Fintech services: The case of mobile banking. *International Journal of Bank Marketing*, 40(7), 1364–1397. <https://doi.org/10.1108/IJBM-08-2021-0371>
- Nurrohman, R. F., & Purbayati, R. (2020). Pengaruh tingkat literasi keuangan syariah dan kepercayaan masyarakat terhadap minat menabung di bank syariah. *Jurnal Maps (Manajemen Perbankan Syariah)*, 3(2), 140–153. <https://doi.org/10.32627/maps.v3i2.135>
- Oberaucha, L., & Kaiser, T. (2024). Financial education or incentivizing learning-by-doing? Evidence from an RCT with undergraduate students. *Journal of Behavioral and Experimental Finance*, 43, 100954. <https://doi.org/10.1016/j.jbef.2024.100954>

- Ozili, P. K., Ademiju, A., & Rachid, S. (2022). Impact of financial inclusion on economic growth: Review of existing literature and directions for future research. *International Journal of Social Economics*, 50(8), 1105–1122. <https://doi.org/10.1108/IJSE-05-2022-0339>
- Rizieq, M., & Suwarsit, S. (2024). Transformasi layanan perbankan dari antrian panjang menuju banking in your pocket. *Jurnal Multidisiplin Ilmu Akademik*, 1(6), 291–299. <https://doi.org/10.61722/jmia.v1i6.2972>
- Salsabila, T. S., & Amri, A. (2025). Peran literasi keuangan dan literasi keuangan digital terhadap inklusi keuangan: Studi pada nasabah bank syariah di Kota Tangerang dengan media sosial sebagai moderator. *Jesya (Jurnal Ekonomi dan Ekonomi Syariah)*, 8(1), 526–543. <https://doi.org/10.36778/jesya.v8i1.1940>
- Sconti, A., Caserta, M., & Ferrante, L. (2024). Gen Z and financial education: Evidence from a randomized control trial in the South of Italy. *Journal of Behavioral and Experimental Economics*, 112, 102256. <https://doi.org/10.1016/j.socec.2024.102256>
- Sharma, U., & Changkakati, B. (2022). Dimensions of global financial inclusion and their impact on the achievement of the United Nations Development Goals. *Borsa Istanbul Review*, 22(6), 1238–1250. <https://doi.org/10.1016/j.bir.2022.08.010>
- Siregar, T. H., Dewi, N. A., Muda, I., Soemitra, A., & Yusrizal. (2025). Pengaruh pemahaman dan tingkat kepercayaan masyarakat terhadap rendahnya inklusi keuangan berbasis fintech di Kabupaten Asahan. *JSE: Jurnal Sharia Economica*, 4(2), 160–171. <https://doi.org/10.46773/jse.v4i2.2128>
- Tronnier, F., Harborth, D., & Hamm, P. (2022). Investigating privacy concerns and trust in the digital Euro in Germany. *Electronic Commerce Research and Applications*, 53, 101158. <https://doi.org/10.1016/j.elerap.2022.101158>
- Yati, N., Gani, I., & Hamid, S. (2024). Analisis penerapan strategi e-service quality dalam upaya mempertahankan kepercayaan nasabah Bank Syariah Indonesia KCP Makassar Veteran. *Journal of Institution and Sharia Finance*, 7(2), 1–13. <https://doi.org/10.24256/joins.v7i2.5370>
- Zai, V. A. L., Harefa, I., Bu'ulolo, N. A., & Telaumbanua, A. (2024). Analisis peran teknologi finansial dan literasi keuangan dalam meningkatkan akses inklusi keuangan pada UKM di Kota Gunungsitoli. *Innovative: Journal of Social Science Research*, 4(2), 1511–1527. <https://doi.org/10.31004/innovative.v4i2.9598>
- Zeqiraj, V., Sohag, K., & Hammoudeh, S. (2022). Financial inclusion in developing countries: Do quality institutions matter? *Journal of International Financial Markets, Institutions and Money*, 81, 101677. <https://doi.org/10.1016/j.intfin.2022.101677>

CONFLICTS OF INTEREST

The author declares no conflict of interest.

CONFLICTS OF INTEREST

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

DECLARATION OF GENERATIVE AI STATEMENT

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

AUTHOR'S CONTRIBUTION

AA: corresponding author, conceptualization, methodology, validation, formal analysis, investigation, data curation, visualization, manuscript writing and revision. **AF & FL:** conceptualization, methodology, validation, review, editing, and guidance.