

Library Service Quality and Student Satisfaction in an Islamic University Library: A Moderated Regression Analysis of Visit Frequency

¹Ubaidillah Ahmad, Abu Yasid², Musyaffa Rafiqie³

^{1,2,3}Universitas Ibrahimy Situbondo

aubaidillah756@gmail.com, yazidabu@hotmail.com², fiq.dewi@gmail.com³

DOI: 10.30742/tb.v10i2.5511

Received: 20 May 2026

Revised: 20 May 2026

Accepted: 7 July 2026

ABSTRACT

Research Objective. Academic libraries serve as essential centers for information access and learning support in higher education institutions. However, the extent to which service quality and user behavioral patterns — particularly visit frequency — jointly influence student satisfaction remains underexplored, especially within Islamic university contexts. **Research Method.** This study examines the effect of library service quality, measured through three LibQUAL+ dimensions (Affect of Service, Information Control, and Library as Place), on student satisfaction. It investigates whether the frequency of library visits moderates this relationship. Employing a quantitative associative research design, data were collected from 100 undergraduate students of the Islamic Education Study Program at Ibrahimy University, Situbondo, Indonesia, selected through cluster sampling. A structured questionnaire based on a 5-point Likert scale was administered, comprising 22 items adapted from the LibQUAL+™ standard instrument and 8 indicators derived from Tjiptono (2019). **Analysis Data.** Data were analyzed using simple linear regression and Moderated Regression Analysis (MRA) with IBM SPSS Statistics 27. **Results.** The results confirm that library service quality has a positive and statistically significant effect on student satisfaction ($B = 0.349$; $t = 16.002$; $p < 0.001$). However, visit frequency does not significantly moderate this relationship ($\beta = 0.042$; $t = 1.434$; $p = 0.155$), suggesting that the quality of the service experience per visit is a stronger determinant than the frequency of physical attendance. The model explained 72.1% of the variance in student satisfaction (Adjusted $R^2 = 0.721$). **Conclusions.** These findings imply that library management should prioritize service quality enhancement over strategies aimed at increasing physical visit rates.

Keywords: *Service quality; LibQUAL+; student satisfaction; visit frequency; moderated regression analysis.*

A. INTRODUCTION

Academic libraries serve as essential centers for information access and learning support within higher education institutions. Libraries are no longer viewed solely as traditional repositories for books; instead, they have transformed into dynamic academic centers that actively enhance students' intellectual development, research engagement, and scholarly literacy. This transformation is mandated by Law Number 43 of 2007 concerning Libraries, which requires library

institutions to continuously improve user-oriented services in line with the growing demands of the academic community (Indonesia, 2017).

The functional relationship between libraries, as information service providers, and students, as primary users, is inherently interdependent. The quality of library services is a key determinant of user satisfaction, which, in the academic context, is essential for sustaining and improving the overall quality of higher education. Satisfaction is an emotional response — either pleasure or disappointment — that arises when users compare a service's perceived performance with their prior expectations (Kotler & Keller, 2021). However, in practice, achieving high levels of user satisfaction remains a persistent challenge. Field observations and preliminary assessments conducted at the central library of Ibrahimy University Situbondo — an institution affiliated with Pondok Pesantren Salafiyah Syafi'iyah Sukorejo (a traditional Islamic boarding school foundation in East Java, Indonesia) — revealed several recurring complaints from students, including limited physical access to collections, an inconsistent classification system, outdated book collections, and perceptions of inadequate staff responsiveness and competence. These conditions directly indicate a gap between expected and perceived service quality that warrants empirical investigation.

To comprehensively identify and evaluate this service quality gap, a standardized measurement instrument is required. The LibQUAL+ (Library Quality) model, developed by the Association of Research Libraries (Cook et al., 2001; Kyrillidou & Hipps, 2001) and adapted from the SERVQUAL concept originally proposed by Parasuraman et al. (1988), provides such an instrument. LibQUAL+ measures service quality through three primary dimensions: (1) *Affect of Service*, which captures librarians' interpersonal competence, including empathy, assurance, responsiveness, and reliability; (2) *Information Control*, which assesses the availability and accessibility of printed and electronic collections, catalog navigation, and technological support; and (3) *Library as Place*, which evaluates the adequacy of physical facilities, the availability of quiet study spaces, and the overall comfort of the library environment (E Fatmawati, 2014; Rahayuningsih, 2015). Previous studies have confirmed the validity and reliability of LibQUAL+ in measuring academic library service quality and its positive influence on user satisfaction across various institutional contexts (Amalia & Christiani, 2020; Kurniasih, 2018).

Beyond the direct influence of service quality, an important behavioral variable in the library user ecosystem is visit frequency — the intensity of students' physical interactions with library facilities within a given period. Theoretically, this variable is grounded in the Service Encounter Theory proposed by Bitner (1990), which posits that the cumulative quality of repeated service interactions shapes users' perceptions of overall satisfaction. Building on this, Oliver's (1980) Expectation-Confirmation Theory further suggests that satisfaction is a function of the degree to which perceived performance confirms or exceeds prior expectations across multiple encounters. Accordingly, a higher frequency of library visits is theoretically expected to provide students with more opportunities to directly experience and evaluate service quality, thereby potentially strengthening

the relationship between service quality and satisfaction. Based on this theoretical reasoning, this study positions visit frequency as a moderating variable (Z) within a Moderated Regression Analysis (MRA) framework.

Despite the growing body of research on library user satisfaction, a significant research gap remains. Prior studies have predominantly examined the direct linear relationship between service quality and satisfaction without incorporating behavioral interaction variables such as visit frequency (Amalia & Christiani, 2020; Kurniasih, 2018). Furthermore, most existing studies involve respondents from heterogeneous academic backgrounds and have not specifically addressed the distinctive context of Islamic boarding school-based higher education institutions, where library usage patterns may differ substantially from those in conventional universities. This study addresses these gaps by applying an integrated predictive model through MRA to empirically examine whether visit frequency moderates the effect of LibQUAL+ service quality on the satisfaction of Islamic Education Program students at Ibrahimi University — an institution rooted in the pesantren tradition of Pondok Pesantren Salafiyah Syafi'iyah Sukorejo. The findings are expected to contribute both theoretically to the library and information science literature and practically as an evidence-based evaluation framework for academic library management.

Based on the theoretical framework, the hypotheses proposed in this study are as follows:

- H1: LibQUAL+ library service quality has a positive and significant effect on the satisfaction of students in the Islamic Education Program at Ibrahimi University.
- H2: Library visit frequency moderates (strengthens) the effect of LibQUAL+ library service quality on the satisfaction of students in the Islamic Education Program at Ibrahimi University.

B. METHODS

1. Research Design

This study employed a quantitative approach, using a causal-associative research design, to investigate relationships among variables through statistical hypothesis testing. This design was selected because the study aims to examine both the direct effect of an independent variable on a dependent variable and the moderating role of a third variable within a single integrated model.

2. Population and Sample

The research population comprised all active undergraduate students of the Islamic Education Study Program within the Faculty of Tarbiyah at Ibrahimi University, Situbondo, totaling 347 registered students across all semesters. A probability sampling technique using cluster sampling was employed, targeting fourth-semester students as the primary cluster because this cohort was most actively engaged with library services during the data collection period and had utilized the library consistently across at least two full academic semesters. Based

on the sampling formula proposed by Slovin (with a margin of error of 10%), the minimum required sample size was calculated as follows:

$$n = N / (1 + N \cdot e^2) = 347 / (1 + 347 \times 0.01) = 347 / 4.47 \approx 78$$

To enhance the representativeness and statistical power of the model—particularly given the use of Moderated Regression Analysis with three predictors—the sample was increased to **100 respondents**, consistent with the recommendation by Hair et al. (2010) that a minimum of 10 observations per predictor variable is required for stable regression estimates. All 100 fourth-semester students who actively used central library services and facilities were included in the final sample.

Research Instrument and Data Collection

Primary data were collected through the distribution of structured, closed-ended questionnaires using a five-point Likert scale (5 = Strongly Agree to 1 = Strongly Disagree). The research instrument comprised three components: (1) 22 core items adapted from the official LibQUAL+™ standard instrument to measure the Library Service Quality variable (X); (2) 8 indicators adapted from Tjiptono (2019) to measure the Student Satisfaction variable (Y); and (3) a single ordinal item to measure Library Visit Frequency (Z), in which respondents reported their average number of physical visits to the library per week.

Operational Definition of Variable

The three variables in this study are operationally defined as follows. First, Library Service Quality (X) is defined as students' overall perception of the gap between the minimum acceptable level and the desired level of library service performance, measured across three LibQUAL+ dimensions: *Affect of Service* (librarians' empathy, responsiveness, assurance, and reliability), *Information Control* (availability and accessibility of collections and information technology), and *Library as Place* (adequacy of physical facilities and study environment). This variable was measured using 22 Likert-scale items, yielding a continuous interval score. Second, Student Satisfaction (Y) is defined as students' affective psychological response toward their cumulative experience of library services, operationalized through five indicators: overall satisfaction, conformity of service performance with expectations, confirmation of initial expectations, intention to revisit, and willingness to recommend library services to peers. This variable was measured using 8 Likert-scale items, yielding a continuous interval score. Third, Library Visit Frequency (Z) is defined as the self-reported average number of times a student physically visits the central library per week, classified into three ordinal categories: 1 = "1–2 times per week" (rare), 2 = "3–4 times per week" (frequent), and 3 = "more than 4 times per week" (very frequent).

Data Analysis

Data analysis was conducted using IBM SPSS Statistics 27. The analytical procedure consisted of three stages. First, instrument validity and reliability were

assessed using Pearson product-moment correlation coefficients and Cronbach's Alpha, respectively. Second, classical assumption tests were performed, including the Kolmogorov-Smirnov normality test, the Glejser heteroscedasticity test, and the Variance Inflation Factor (VIF) multicollinearity test. Third, hypothesis testing was carried out using simple linear regression (to test H1) and Moderated Regression Analysis (MRA) (to test H2).

The MRA model applied in this study is formulated as follows:

$$Y = a + \beta_1 X + \beta_2 Z + \beta_3 (XZ) + e$$

Where Y = Student Satisfaction, X = Library Service Quality (LibQUAL+™), Z = Library Visit Frequency (moderator), XZ = interaction term between mean-centered service quality and mean-centered visit frequency, a = constant, β_1 , β_2 , β_3 = regression coefficients, and e = residual error. Prior to constructing the interaction term, both the independent variable (X) and the moderating variable (Z) were mean-centered to reduce potential multicollinearity. It is acknowledged that visit frequency (Z) was measured at the ordinal level, whereas MRA ideally assumes interval or ratio-level measurement for moderating variables. This constitutes a methodological limitation of the present study; however, mean-centering and the ordinal-to-continuous treatment of the variable were applied as a practical approximation, consistent with approaches adopted in comparable studies in library science (Amalia & Christiani, 2020). Future studies are encouraged to operationalize visit frequency using interval-level measurement (e.g., actual recorded visit counts) to strengthen the precision of the moderation model.

C. RESULT AND DISCUSSION

1. Instrument Testing and Classical Assumption Tests

The instrument validity test conducted on 100 respondents indicated that all items measuring the Library Service Quality variable (X1–X22) and Student Satisfaction variable (Y1–Y8) obtained Pearson correlation coefficients ranging from 0.588 to 0.846, substantially exceeding the minimum r-table value of 0.196 at the 5% significance level. Therefore, all questionnaire items were declared valid. The reliability test using Cronbach's alpha yielded values of 0.945 for Library Service Quality and 0.912 for Student Satisfaction, both considerably higher than the standard threshold of 0.60, thereby categorizing the instruments as highly reliable (Ghozali, 2018).

The classical assumption tests confirmed that the research data fulfilled all required statistical assumptions. The Kolmogorov-Smirnov normality test produced an Asymp. Sig. (2-tailed) value of 0.162 (> 0.05), indicating normally distributed residuals. The Glejser heteroscedasticity test yielded a p-value of 0.627 (> 0.05), indicating the absence of heteroscedasticity. The multicollinearity test yielded Tolerance values exceeding 0.10 (0.995, 0.998, 0.993) and VIF values well below 10.00 (1.005, 1.002, 1.007), confirming that no problematic multicollinearity existed among the predictors (Ghozali, 2018).

2. Descriptive Analysis of Library Service Quality and Student Satisfaction

Prior to hypothesis testing, a descriptive categorization of the mean scores for Library Service Quality (X) and Student Satisfaction (Y) was conducted to provide a baseline understanding of respondents' perceptions. Using a five-interval categorization based on the Likert scale range (1–5), the criteria were established as follows :

Table 1. Categorization Criteria for Mean Scores

Mean Score Interval	Category
1.00 – 1.80	Very Poor
1.81 – 2.60	Poor
2.61 – 3.40	Moderate
3.41 – 4.20	Good
4.21 – 5.00	Very Good

Based on this categorization, the mean score for Library Service Quality (X) was 3.74, placing it in the Good category. The mean score for Student Satisfaction (Y) was 4.06, also falling within the Good category, with respondents demonstrating particularly strong willingness to recommend library services to peers — reflecting a high level of positive word-of-mouth intention consistent with Tjiptono's (2019) satisfaction indicators. These descriptive findings provide an empirical foundation for the inferential analyses presented in the subsequent sections.

3. Simple Linear Regression Analysis

A simple linear regression analysis was conducted to test the first hypothesis (H1). The regression equation obtained was:

$$Y=0.960+0.349X$$

The partial significance test (t-test) yielded a t-value of 16.002 and a p-value of less than 0.001, substantially below the alpha threshold of 0.05. Accordingly, H0 was rejected, and H1 was empirically accepted, confirming that LibQUAL+-based library service quality exerts a positive and highly significant effect on student satisfaction.

This finding is theoretically consistent with Kotler and Keller's (2021) customer satisfaction framework, which posits that satisfaction emerges when perceived service performance meets or exceeds prior user expectations. The positive regression coefficient ($B = 0.349$) indicates that every one-unit improvement in perceived service quality corresponds to a 0.349-unit increase in student satisfaction, underscoring the practical sensitivity of satisfaction to incremental service improvements. This result is further reinforced by the LibQUAL+ model's theoretical premise that the three service dimensions—Affect of Service, Information Control, and Library as Place—collectively constitute the

primary experiential pillars through which users cognitively and emotionally evaluate library performance.

Empirically, this finding is consistent with a broad body of library science literature. Amalia and Christiani (2020) reported a significant positive relationship between LibQUAL+ service quality and user satisfaction at an Indonesian academic library, with Affect of Service emerging as the most influential dimension. Similarly, Kurniasih (2018) demonstrated that improvements in service quality at an Islamic university library were directly associated with higher student satisfaction scores. At the national level, Mahira and Priyanto (2022) similarly confirmed that library service quality significantly influenced user satisfaction at Islamic higher education institutions in Indonesia, with the Affect of Service emerging as the most dominant predictor. This finding further corroborates the present study's results within the Indonesian pesantren-based academic library context. At the international level, Hossain and Islam (2012) found similar results in their study of academic libraries in Bangladesh, in which all three LibQUAL+ dimensions significantly predicted user satisfaction. Adeniran (2011) further confirmed this relationship in the context of Nigerian university libraries, reinforcing the cross-cultural applicability of the LibQUAL+ framework in measuring academic library service quality and its impact on user satisfaction.

4. Moderated Regression Analysis (MRA)

To test the second hypothesis (H2) regarding the moderating role of visit frequency (Z), Moderated Regression Analysis (MRA) was conducted. The descriptive profile of respondents' visit frequency revealed a strong dominance of the rare category (1–2 visits per week) at 59%, followed by the frequent category (3–4 visits per week) at 21%, and the very frequent category (more than 4 visits per week) at 20%. The statistical output is summarized in Tables 2 and 3.

Table 2. Coefficient of Determination (Model Summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.854	0.729	0.721	3.456

Predictors: (Constant), XZ_C, Visit_Frequency_C, Service_Quality_C

Table 3. Partial Significance Test of the Moderation Model (Coefficients)

Variable	B	Std. Error	t	Sig.	Interpretation
(Constant)	28.536	0.346	82.553	< 0.001	Significant
Centered Service Quality (X_C)	0.352	0.022	16.082	< 0.001	Significant Effect
Centered Visit Frequency (Z_C)	-0.143	0.433	-0.330	0.742	No Significant Effect
Interaction Variable (XZ_C)	0.042	0.029	1.434	0.155	Does Not Moderate

Dependent Variable: Student Satisfaction

The MRA equation is formulated as follows:

$$Y=28.536+0.352X-0.143Z+0.042XZ$$

The interaction regression coefficient ($XZ_C = 0.042$; $t = 1.434$; $p = 0.155$) was not statistically significant at the 0.05 alpha level, leading to the rejection of H2. These results indicate that visit frequency does not function as a moderating variable — the intensity of students' physical library visits neither strengthens nor weakens the effect of service quality on satisfaction. Nevertheless, the overall model demonstrated strong explanatory power, with an Adjusted R^2 of 0.721, indicating that 72.1% of the variance in student satisfaction was explained by the combined predictors, and the simultaneous F-test confirmed model fit ($F = 86.265$; $p < 0.001$).

5. Discussion: Why Visit Frequency Does Not Moderate the Service Quality–Satisfaction Relationship

The rejection of H2 constitutes the most theoretically significant finding of this study and warrants substantive discussion beyond a purely statistical interpretation. Several theoretical and contextual explanations are offered to account for this result.

Second, Bitner's (1990) Service Encounter Theory posits that each discrete service interaction—regardless of how frequently it occurs—functions as an independent "moment of truth" in which the user evaluates the service provider's performance. In a library context, this implies that a student who visits rarely but consistently experiences high-quality service will develop satisfaction levels comparable to a frequent visitor who receives the same quality of service. The present findings empirically support this theoretical position: the non-significant interaction term (XZ) indicates that the service quality–satisfaction slope does not differ meaningfully across visit frequency categories.

Second, Bitner's (1990) Service Encounter Theory posits that each discrete service interaction—regardless of how frequently it occurs—functions as an independent "moment of truth" in which the user evaluates the service provider's performance. In a library context, this implies that a student who visits rarely but consistently experiences high-quality service will develop satisfaction levels comparable to a frequent visitor who receives the same quality of service. The present findings empirically support this theoretical position: the non-significant interaction term (XZ) indicates that the service quality–satisfaction slope does not differ meaningfully across visit frequency categories.

Third, the technological and sociological conditions of the current digital era provide a strong contextual explanation. Davis's (1989) Technology Acceptance Model (TAM) suggests that users' adoption of digital information systems is driven by perceived usefulness and perceived ease of use, thereby reducing dependence on physical service encounters. Contemporary students at Ibrahimy University—operating within a pesantren-based higher education

environment that increasingly integrates digital academic tools—tend to access library resources remotely through digital cataloging systems, electronic journal repositories, and online library portals. Physical visits are consequently more transactional and goal-oriented, occurring primarily for specific services such as library clearance validation, Turnitin plagiarism checking, or classical Islamic reference consultation. In this context, the quality of interaction experienced during these focused visits becomes far more decisive in shaping satisfaction than the overall frequency of physical attendance.

Fourth, the strong skew in the visit frequency distribution—with 59% of respondents classified as rare visitors (1–2 times per week)—may have limited the statistical power of the moderation test. This distributional imbalance reduces the variance of the moderating variable, which in turn constrains MRA's ability to detect a significant interaction effect, even if one exists in the population. This finding is consistent with Aguinis et al. (2005), who demonstrated that low variance in moderating variables is a primary methodological reason for non-significant moderation results in organizational and social science research. Future studies should consider sampling strategies that ensure a more balanced representation across visit-frequency categories to address this limitation.

Taken together, these theoretical and empirical considerations suggest that the quality of the service experience—not the frequency of exposure—is the primary driver of student satisfaction with academic library services. This finding aligns with the conclusions of Hossain and Islam (2012), who similarly found that behavioral variables related to usage intensity did not significantly alter the relationship between service quality and satisfaction in an academic library setting, and with Ali and Warraich (2021), who reported that service quality dimensions remained the dominant predictors of satisfaction regardless of library usage patterns among university students in Pakistan.

E. CONCLUSION

This study examined the effect of library service quality, measured through the LibQUAL+ framework, on student satisfaction, and investigated the moderating role of library visit frequency in this relationship. Based on the results of quantitative data analysis using simple linear regression and Moderated Regression Analysis (MRA), two principal conclusions are drawn.

First, library service quality has a positive and statistically significant effect on student satisfaction among students in the Islamic Education Program at Ibrahimi University, Situbondo. The descriptive analysis further indicated that the overall quality of library services was perceived as good by respondents, and student satisfaction was similarly rated as good, with a particularly strong intention to recommend library services to peers. These findings confirm the theoretical validity of the LibQUAL+ model as a reliable instrument for evaluating academic library service quality and its influence on user satisfaction.

Second, library visit frequency does not significantly moderate the relationship between service quality and student satisfaction. This finding suggests that satisfaction is determined primarily by the quality of the service experience during

library interactions—regardless of how frequently students visit—rather than by the cumulative number of physical visits. The non-significant moderating effect is theoretically consistent with Oliver's (1980) Expectation-Confirmation Theory and Bitner's (1990) Service Encounter Theory, both of which emphasize the primacy of service quality per encounter over the frequency of encounters in shaping user satisfaction.

Practical Recommendation

Based on these conclusions, two strategic recommendations are offered for library management at Ibrahimy University. First, institutional resources and staff development efforts should be prioritized to enhance the three LibQUAL+ service dimensions—particularly Affect of Service, given its direct impact on users' emotional satisfaction responses—through competency-based librarian training, responsive complaint-handling systems, and continuous service quality monitoring. Second, rather than allocating resources primarily toward programs designed to increase the frequency of physical library visits, management should focus on improving the quality of each service encounter, including the optimization of digital library services, electronic collection accessibility, and integrated information literacy support systems.

Recommendations for Future Research

Future studies are encouraged to broaden the research scope in several directions. First, the sample should be expanded to include students from multiple study programs and academic levels to enhance the representativeness and generalizability of findings. Second, visit frequency should be operationalized using interval-level measures—such as actual visit logs recorded by library attendance systems—rather than self-reported ordinal categories, to improve the precision of the moderation analysis. Third, additional variables that may influence student satisfaction should be explored, including digital library service quality, information literacy competence, user loyalty, and the effectiveness of library instruction programs. Fourth, comparative studies across multiple academic libraries—particularly within Islamic boarding school-based higher education institutions—would contribute valuable contextual insights to the library and information science literature.

Research Limitations

This study acknowledges several limitations that should be considered when interpreting the findings. The sample was drawn exclusively from fourth-semester students in a single study program at a single institution, which limits the generalizability of the results to broader student populations. Additionally, measuring library visit frequency at the ordinal level—rather than the interval or ratio level ideally required for MRA—constitutes a methodological constraint that may have affected the precision of the moderation analysis. The cross-sectional nature of the data collection also limits the ability to draw causal inferences about long-term changes in satisfaction.

REFERENCE

- Adeniran, P. (2011). User satisfaction with academic libraries services: Academic staff and students perspectives. *International Journal of Library and Information Science*, 3(10), 209–216. <https://doi.org/10.5897/IJLIS.9000024>
- Aguinis, H., Beaty, J. C., Boik, R. J., & Pierce, C. A. (2005). Effect size and power in assessing moderating effects of categorical variables using multiple regression: A 30-year review. *Journal of Applied Psychology*, 90(1), 94–107. <https://doi.org/10.1037/0021-9010.90.1.94>
- Ali, R., & Warraich, N. F. (2021). Library service quality and user satisfaction: A study of university libraries in Pakistan. *Library Philosophy and Practice (e-Journal)*, 2021, 1–18. Retrieved from <https://digitalcommons.unl.edu/libphilprac/5344>
- Amalia, O. N., & Christiani, L. (2020). Analisis tingkat kepuasan pemustaka terhadap kualitas pelayanan perpustakaan dengan metode LibQUAL+TM. *Jurnal Ilmu Perpustakaan*, 9(2), 1–10. <https://doi.org/10.14710/jip.9.2.1-10>
- Arief, M. (2007). "Pemasaran jasa dan kualitas pelayanan: Bagaimana mengelola kualitas pelayanan agar memuaskan pelanggan". Bayumedia Publishing.
- Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *Journal of Marketing*, 54(2), 69–82. <https://doi.org/10.1177/002224299005400206>
- Cook, C., Heath, F., & Thompson, B. (2001). LibQUAL+™: One instrument in the new measures toolbox. *Journal of Library Administration*, 35(4), 41–54. https://doi.org/10.1300/J111v35n04_04
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Fatmawati, E. (2014). Matabaru Penelitian Perpustakaan Dari SERVQUAL ke LibQUAL+™. *Jurnal Pustakawan Indonesia*. Retrieved from <https://journal.ipb.ac.id/index.php/jpi/article/view/9511>
- Fatmawati, Endang. (2013). Mata baru penelitian perpustakaan dari ServQUAL ke LibQUAL+TM. Sagung Seto.
- Ghozali, I. (2018). Aplikasi analisis multivariate dengan program IBM SPSS. Badan Penerbit Universitas Diponegoro.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson Prentice Hall.
- Hossain, M. J., & Islam, M. A. (2012). Understanding perceived service quality and satisfaction: A study of Dhaka University Library, Bangladesh. *Performance Measurement and Metrics*, 13(3), 169–182.

<https://doi.org/10.1108/14678041211284694>

- Indonesia, K. P. A. N. dan R. B. R. (2017). *Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia Nomor 14 Tahun 2017 Tentang Pedoman Penyusunan Survei Kepuasan Masyarakat Unit Penyelenggara Pelayanan Publik*.
- Kotler, P., & Keller, K. L. (2021). *Marketing management* (16th ed.). Pearson Education.
- Kurniasih, N. (2018). Analisis pengaruh pelayanan perpustakaan terhadap kepuasan pengguna perpustakaan di Institut Agama Islam Imam Ghazali. *Tawadhu*, 2(1), 441–458. <https://doi.org/10.32653/tawadhu.v2i1.23>.
- Kyrillidou, M., & Hipps, K. (2001). Symposium on measuring library service quality. *ARL: A Bimonthly Report on Research Library Issues and Actions*, 215, 3–5. <https://doi.org/10.29242/report.215.2>
- Mahira, A., & Priyanto, I. F. (2022). Pengaruh kualitas layanan perpustakaan terhadap kepuasan pemustaka di perpustakaan perguruan tinggi Islam. *Khazanah Al-Hikmah: Jurnal Ilmu Perpustakaan, Informasi, Dan Kearsipan*, 10(1), 1–12. <https://doi.org/10.24252/kah.v10i1a1>
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460–469. <https://doi.org/10.1177/002224378001700405>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40
- Rahayuningsih, F. (2015). Mengukur kepuasan pemustaka: Menggunakan metode LibQUAL+TM (Cetakan I). Graha Ilmu.
- Sukaesih, & Winoto, Y. (2019). *Dasar-dasar pelayanan perpustakaan*. CV. Intishar Publishing.
- Tjiptono, F. (2019). *Kepuasan pelanggan: Konsep, pengukuran, dan strategi*. Andi Offset.