



VALUE-BASED DIGITAL TRANSFORMATION: THE STRATEGIC ROLE OF ISLAMIC EDUCATION LEADERS IN ACCELERATING THE MADRASAH DIGITAL ECOSYSTEM

M Shoffa Saifillah Al Faruq^{1(✉)}, Laela Rahmawati², Iwan Aprianto³, Nur Hasanah⁴

^{1,2,4}Universitas Islam Mamba'ul Ulum Jambi, Jambi, Indonesia

³Universitas Islam Batang Hari, Jambi, Indonesia

Article History:

Received: September 2025

Accepted: March 2026

Published: April 2026

Keywords:

Value-Based Digitalization, The Strategic Role of Islamic Education Leaders, The Madrasah Digital Ecosystem.

(✉)Correspondence to:

ahmadmuhammad593@gmail.com

Abstract: This study aimed to examine the direct effects of Islamic Educational Leadership and Staff Digital Literacy on Educational Administrative Service Quality, as well as to test the mediating role of Staff Digital Literacy in accelerating the digital ecosystem. Utilizing a quantitative cross-sectional design, this study involved the population comprised 152 educational administrative staff from 22 Madrasah Aliyah in Jambi City, Indonesia. Data were analyzed using Structural Equation Modeling (SEM). The results indicated that Islamic Educational Leadership had a positive and significant effect on Staff Digital Literacy ($\beta = 0.603$, $p < .001$), and Staff Digital Literacy significantly improved Educational Administrative Service Quality ($\beta = 0.644$, $p < .001$). Conversely, the direct effect of leadership on service quality was not significant ($\beta = 0.095$, $p = .245$), whereas the indirect effect through staff digital literacy proved to be significant ($\beta = 0.388$, $p < .001$). These findings highlight that Staff Digital Literacy serves as a key mechanism and strategic instrument for value-based leadership in driving digital transformation and enhancing service quality within the madrasah environment. The implications of this research underscore that digital transformation strategies in madrasahs cannot focus solely on the provision of technology; instead, they must integrate the strengthening of value-based leadership with the continuous capacity building of educational personnel in the digital realm.

Please cite this article in APA style as:

Faruq, M. S. S. A., Rahmawati, L., Aprianto, I., & Hasanah, N. (2026). Value-Based Digital Transformation: The Strategic Role of Islamic Education Leaders in Accelerating The Madrasah Digital Ecosystem. *Edureligia: Jurnal Pendidikan Agama Islam*, 10(1), 292-309.

INTRODUCTION

Educational Administrative Service Quality constitutes a critical dependent variable and fundamental cornerstone of institutional effectiveness within contemporary educational management. In modern schooling environments, high-quality administrative services extend far beyond simple record-keeping; encompass reliability, administrative accuracy, procedural responsiveness, transparency, and timely information management designed to facilitate daily academic operations and meet the evolving expectations of internal and external stakeholders (Antonopoulou et al., 2025; Awodiji & Katjiteo, 2024). As educational institutions undergo structural modernizations, the administrative system serves as the primary operational engine that coordinates institutional communication, manages digital student records, supports faculty workflow, and maintains overall service satisfaction (Gyamerah et al., 2025; Hartati et al., 2026). High-quality service delivery requires administrative personnel to exhibit high operational efficiency and user-oriented capabilities, ensuring that institutional governance operates smoothly and transparently. Therefore, understanding the multidimensional nature of administrative service quality has become an essential research agenda, particularly as schools navigate the complex demands of modern service standards alongside institutional digitalization. Establishing superior service quality allows educational organizations to enhance their public credibility, optimize resource allocation, and foster continuous organizational improvement across all operational administrative units (Haryaka et al., 2026; Indarti et al., 2025).

Despite the theoretical importance of achieving superior service quality, empirical observations within the specific locus of Madrasah Aliyah in Jambi City, Indonesia, reveal notable operational gaps in service delivery during institutional digital transformation efforts. While these Islamic secondary schools have progressively adopted modern administrative applications and online reporting infrastructures to align with national education mandates, the actual quality of administrative services remains inconsistent. Educational administrative staff frequently encounter challenges in maintaining service timeliness, data accuracy, and procedural responsiveness when transitioning from traditional manual methods to integrated digital platforms. In practice, technological adoption alone has not automatically translated into optimized administrative service outcomes, exposing a visible discrepancy between institutional digital initiatives and day-to-day administrative performance. Field conditions indicate that administrative personnel often lack the standardized operational capacity required to handle electronic correspondence, manage online academic data systems, and resolve technology-mediated service bottlenecks efficiently. This empirical gap highlights an urgent need to examine the underlying human and organizational mechanisms within Islamic secondary schools that can effectively translate digital infrastructure into tangible, high-quality administrative service performance.

To address these empirical service quality gaps, educational institutions must implement integrated solutions that combine strategic leadership frameworks with targeted human resource capacity building. Within Islamic educational institutions, Islamic Educational Leadership offers a vital organizational foundation by embedding moral, spiritual, and ethical principles such as *amanah* (trustworthiness), *adl* (justice), *shura* (consultation), and *ihsan* (excellence) into governance and administrative supervision (Ingsih et al., 2024; Kohli et al., 2025). However, leadership practices alone are insufficient to guarantee service quality unless administrative personnel possess robust digital capabilities. Therefore, developing Staff Digital Literacy serves as the necessary operational solution, equipping administrative personnel with essential cognitive, technical, and collaborative skills to search, manage, evaluate, and process digital information securely and efficiently. By aligning value-based leadership principles with systematic digital literacy enhancements, madrasahs can build a resilient digital ecosystem where ethical administrative governance directly guides staff technical execution (Marchelia et al., 2026; Okunlola & Naicker, 2025). This dual solution ensures that technological infrastructure is paired with competent, value-driven human resources, thereby directly addressing service bottlenecks and elevating overall administrative service performance across Islamic educational institutions.

Previous literature has extensively explored the individual domains of educational leadership, digital competence, and organizational performance across various educational settings. First, earlier studies (Ramberg & Hemmingsson, 2026; Reis-Andersson, 2024) predominantly focused on educational leadership in relation to teacher performance, instructional effectiveness, and general school governance, leaving administrative service quality relatively underexplored as a distinct construct. Second, research on digital literacy (Rohani et al., 2026; Shittu et al., 2026) has heavily concentrated on teachers and students, largely overlooking educational administrative staff despite their pivotal role in executing day-to-day institutional operations. Third, existing investigations into Islamic educational leadership (Victorizal et al., 2026; Wariunsora et al., 2026) have emphasized ethical conduct and instructional management without empirically testing its direct link to administrative service outcomes. Fourth, empirical inquiries (Antonopoulou et al., 2025; Awodiji & Katjiteo, 2024) examining technological adoption in education often analyze leadership and digital skills in isolation rather than within unified structural framework. Consequently, a significant literature gap remains, as few studies have simultaneously examined Islamic Educational Leadership, Staff Digital Literacy, and Educational Administrative Service Quality within a single structural model, particularly within the context of Islamic secondary education like Madrasah Aliyah.

The urgency of this research lies in its potential to bridge critical theoretical and practical gaps during a period of rapid digital transformation within Islamic educational management. Theoretically, this study introduces an innovative conceptual framework by positioning Staff Digital Literacy as an

essential mediating mechanism that translates distal, value-based leadership practices into concrete, proximal administrative service outcomes. Extending leadership literature beyond traditional instructional boundaries, the study illuminates how Islamic values (*amanah*, *qudwah*, *musyawarah*, *ihsan*) actively shape staff technical readiness and digital capability within administrative units. Methodologically, the novelty of this research is further highlighted by its application of Covariance-Based Structural Equation Modeling (CB-SEM) using Jamovi and the SEMLj module to empirically test these direct and indirect structural relationships. By providing empirical validation of an integrated structural model within Madrasah Aliyah, this study offers pioneering insights into how value-based leadership fuels sustainable digital transformation and administrative excellence in Islamic schooling systems.

Based on these identified gaps and research imperatives, the primary objective of this study is to analyze the structural relationships among Islamic Educational Leadership, Staff Digital Literacy, and Educational Administrative Service Quality within the specific locus of Madrasah Aliyah in Jambi City, Indonesia. Specifically, this research focuses on evaluating the direct structural influences of Islamic Educational Leadership and Staff Digital Literacy on Educational Administrative Service Quality, while rigorously testing the mediating role of Staff Digital Literacy in facilitating value-based digital transformation across madrasah administrative systems. Rather than evaluating post-implementation institutional outcomes, this inquiry focuses strictly on unraveling the internal structural dynamics and operational mechanisms through which value-based leadership strategies cultivate staff digital capacities to drive administrative service quality within Islamic secondary education institutions.

RESEARCH METHOD

This study employed a quantitative cross-sectional explanatory survey design to examine the structural relationships (Creswell, 2023; Libarkin & Kurdziel, 2023; Pilcher & Cortazzi, 2024; Ragin, 2024) among Leadership was specified as the exogenous construct, Staff Digital Literacy as the mediator, and Educational Administrative Service Quality as the endogenous construct. This design is appropriate for testing theoretically derived relationships among latent constructs using data collected from a target population at a single point in time without manipulating the research setting. Islamic Educational. The population comprised 152 educational administrative staff from 22 Madrasah Aliyah in Jambi City, Indonesia, responsible for academic administration, student affairs, personnel administration, finance, correspondence, records management, and educational information systems. Population data were obtained from the Indonesian Ministry of Primary and Secondary Education's Education Data and Statistics Reference System (Jambi, 2025). Given the relatively small and accessible population, total sampling (census) was employed, with all population members included as target respondents. Figure 1 Illustrates the Conceptual Framework of the Study.

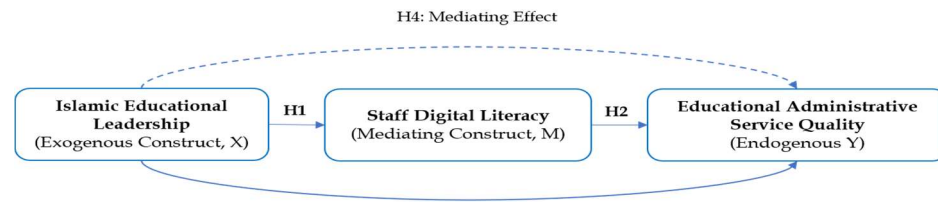


Figure 1. Conceptual Research Model

The development process comprised literature review; preparation of a Reference Master, Instrument Traceability Matrix, Master Instrument Blueprint, and Codebook; expert judgment; content validation using the Content Validity Index (CVI); pilot testing; and empirical validation. These stages established traceability among theoretical concepts, operational definitions, dimensions, indicators, and questionnaire items before full data collection.

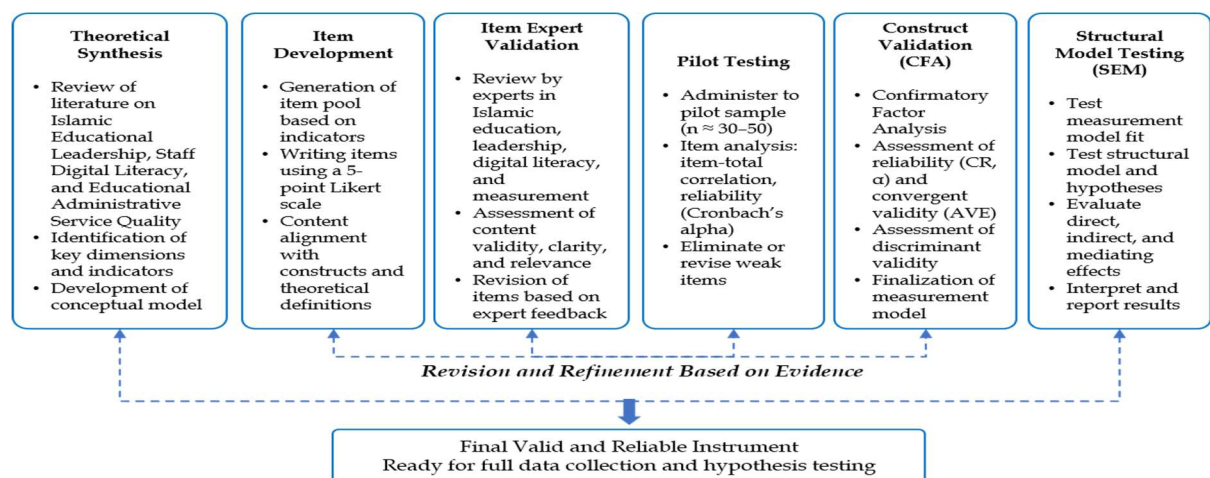


Figure 2. Instrument Development Framework

The final instrument contained 48 items: 18 items across six dimensions for Islamic Educational Leadership, 15 items across five dimensions for Staff Digital Literacy, and 15 items across five dimensions for Educational Administrative Service Quality. Responses were measured on a five-point Likert scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), providing sufficient response variability while maintaining measurement simplicity and reliability.

RESULT AND DISCUSSION

Result

The results are presented sequentially through the assessment of the measurement model, discriminant validity, structural model fit, structural relationships, and mediation effect. This sequence provides an empirical basis for evaluating the proposed relationships among Islamic Educational Leadership, Staff Digital Literacy, and Educational Administrative Service Quality.

Measurement Model

The measurement model was evaluated by examining standardized factor loadings, internal consistency reliability, and convergent validity. The

standardized factor loadings of the observed indicators were generally satisfactory, indicating that the indicators adequately represented their respective latent constructs. Internal consistency was further assessed using reliability coefficients, while convergent validity was evaluated through the Average Variance Extracted (AVE). The results showed satisfactory construct reliability and AVE values above the recommended threshold of 0.50, supporting the convergent validity of the measurement model.

Table 2. Measurement Model Reliability and Convergent Validity

Construct	No. of items	Standardized loading range	Cronbach's α	Composite reliability (ω)	AVE
Islamic Educational Leadership	18	0.668–0.801	0.951	0.951	0.521
Staff Digital Literacy	15	0.733–0.837	0.954	0.954	0.583
Educational Administrative Service Quality	15	0.658–0.817	0.947	0.947*	0.544

The results presented in Table 2 demonstrate that the three constructs achieved satisfactory internal consistency and convergent validity. These findings provide sufficient empirical support for proceeding to the assessment of discriminant validity. The analysis results indicate that the standardized factor loading ranges for the three variables fall within a satisfactory category (0.668–0.801 for Leadership; 0.733–0.837 for Digital Literacy; and 0.658–0.817 for Service Quality). Internal consistency reliability proved to be very high, as evidenced by Cronbach's alpha and Composite Reliability (ω) values that all exceeded 0.94 (well above the 0.70 threshold). Furthermore, convergent validity was established, as the Average Variance Extracted (AVE) values for all variables surpassed the 0.50 threshold (0.521, 0.583, and 0.544).

Discriminant Validity

Discriminant validity was assessed using the heterotrait–monotrait ratio of correlations (HTMT). The HTMT values ranged from 0.454 to 0.694. Specifically, the HTMT value between Islamic Educational Leadership and Staff Digital Literacy was 0.588, between Islamic Educational Leadership and Educational Administrative Service Quality was 0.454, and between Staff Digital Literacy and Educational Administrative Service Quality was 0.694. All values were below the conservative threshold of 0.85, indicating adequate discriminant validity among the three latent constructs.

Table 3. Discriminant Validity Based on HTMT

Construct	1	2	3
1. Islamic Educational Leadership	—		
2. Staff Digital Literacy	0.588	—	
3. Educational Administrative Service Quality	0.454	0.694	—

Note. All HTMT values were below 0.85, supporting discriminant validity.

This paragraph discusses the assessment of discriminant validity, the results of which are summarized in Table 3 (Discriminant Validity Based on HTMT). Discriminant validity was evaluated using the Heterotrait-Monotrait

(HTMT) ratio criterion, a method known for its rigor in ensuring that each latent variable is empirically distinct from the other latent variables in the model. Based on the data in Table 3, the HTMT values were 0.588 between Islamic Educational Leadership and Staff Digital Literacy; 0.454 between Islamic Educational Leadership and Educational Administrative Service Quality; and 0.694 between Staff Digital Literacy and Educational Administrative Service Quality. All these HTMT values fall well below the conservative threshold of 0.85. These figures confirm the absence of multicollinearity issues or conceptual overlap among the latent variables. Consequently, the research model is empirically demonstrated to satisfy robust discriminant validity requirements, allowing it to proceed to the structural model evaluation stage.

Structural Model Fit

Following the satisfactory assessment of the measurement model, the overall structural model fit was evaluated. The model yielded $\chi^2 = 1467$ with 1077 degrees of freedom ($p < .001$). The ratio of χ^2 to degrees of freedom was 1.362. More importantly, the approximate fit indices showed SRMR = 0.052 and RMSEA = 0.049, with a 95% confidence interval of 0.042–0.055. The incremental fit indices were CFI = 0.921 and TLI = 0.917. Taken together, these indices indicate that the proposed structural model demonstrated an acceptable fit to the empirical data.

Table 4. Structural Equation Model Fit

Fit Index	Obtained Value	Interpretation
χ^2	1467	—
Df	1077	—
χ^2/df	1.362	Acceptable
SRMR	0.052	Acceptable
RMSEA	0.049	Good
RMSEA 95% CI	0.042–0.055	Good
CFI	0.921	Acceptable
TLI	0.917	Acceptable

\This paragraph details the structural model fit assessment presented in Table 4. Statistical evaluation yielded a Chi-Square (χ^2) value of 1467 with 1077 degrees of freedom (df), producing a χ^2/df ratio of 1.362, which indicates acceptable fit below the 2.0 benchmark. Absolute fit indices showed favorable metrics, with an SRMR of 0.052 and an RMSEA of 0.049 (95% CI [0.042, 0.055]), where RMSEA values below 0.05 reflect good fit. Incremental fit indices demonstrated a CFI of 0.921 and a TLI of 0.917, both surpassing the standard ≥ 0.90 threshold. Collectively, the fit parameters in Table 4 confirm that the structural model demonstrates acceptable fit to the empirical dataset.

Structural Relationships and Hypothesis Testing

The structural model revealed that Islamic Educational Leadership had a positive and statistically significant effect on Staff Digital Literacy ($\beta = 0.603$, $z = 6.62$, $p < .001$), supporting H1. Staff Digital Literacy also had a positive and

statistically significant effect on Educational Administrative Service Quality ($\beta = 0.644$, $z = 5.96$, $p < .001$), supporting H2. In contrast, the direct effect of Islamic Educational Leadership on Educational Administrative Service Quality was positive but not statistically significant ($\beta = 0.095$, $z = 1.16$, $p = .245$); therefore, H3 was not supported. The estimated structural model and standardized path coefficients are presented in Figure 3.

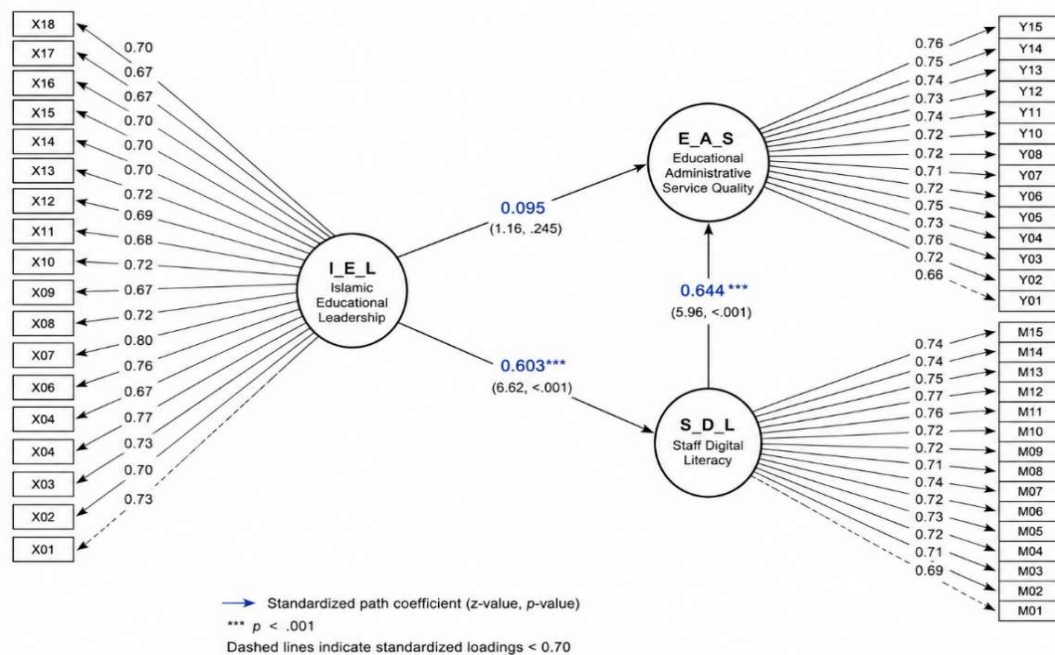


Figure 3. Structural Equation Model with Standardized Factor Loadings and Path Coefficients

Note. The figure was redrawn from the original SEM output for publication clarity. All model specifications, standardized factor loadings, path coefficients, and statistical results were retained without modification.

Table 5. Structural Relationships and Hypothesis Testing

Hypothesis	Structural Relationship	β	z	p	Decision
H1	Islamic Educational Leadership → Staff Digital Literacy	0.603	6.62	< .001	Supported
H2	Islamic Educational Leadership → Educational Administrative Service Quality	0.644	5.96	< .001	Supported
H3	Staff Digital Literacy → Educational Administrative Service Quality	0.095	1.16	.245	Not supported

Note. β represents the standardized path coefficient.

This paragraph interprets the direct hypothesis testing results illustrated in Figure 3 and Table 5. SEM analysis revealed that Islamic Educational Leadership exerts a positive, statistically significant effect on Staff Digital Literacy ($\beta = 0.603$, $z = 6.62$, $p < .001$), supporting H1. Staff Digital Literacy also demonstrates a positive, statistically significant effect on Educational Administrative Service Quality ($\beta = 0.644$, $z = 5.96$, $p < .001$), supporting H2 as the strongest direct path in the model. Conversely, the direct effect of Islamic Educational Leadership on Educational Administrative Service Quality was

positive but not statistically significant ($\beta = 0.095$, $z = 1.16$, $p = .245$); thus, H3 was not supported. These structural estimates indicate that value-based leadership does not directly improve service quality without enhanced operational digital capacity among staff.

Mediation Effect of Staff Digital Literacy

The mediating role of Staff Digital Literacy in the relationship between Islamic Educational Leadership and Educational Administrative Service Quality was subsequently examined using bootstrap estimates. The indirect effect of Islamic Educational Leadership on Educational Administrative Service Quality through Staff Digital Literacy was positive and statistically significant ($\beta = 0.388$, $z = 4.531$, $p < .001$). The unstandardized indirect effect was 0.352 ($SE = 0.078$), with a 95% bootstrap confidence interval of [0.218, 0.522]. Because the confidence interval did not include zero, the indirect effect was statistically significant. Importantly, while the indirect effect through Staff Digital Literacy was significant, the direct effect of Islamic Educational Leadership on Educational Administrative Service Quality was not significant ($\beta = 0.095$, $p = .245$). This pattern indicates that the relationship between Islamic Educational Leadership and Educational Administrative Service Quality operates primarily through Staff Digital Literacy. Thus, H4 was supported.

Table 6. Indirect Effect of Islamic Educational Leadership on Educational Administrative Service Quality

Hypothesis	Indirect Relationship	Estimate	SE	95% CI	β	z	p	Decision
H4	Islamic Educational Leadership → Staff Digital Literacy → Educational Administrative Service Quality	0.352	0.078	[0.218, 0.522]	0.388	4.531	< .001	Supported

Note. Estimate represents the unstandardized indirect effect; β represents the standardized indirect effect. The indirect effect was statistically significant because the 95% bootstrap confidence interval did not include zero.

This paragraph reviews the mediating role of Staff Digital Literacy presented in Table 6. Indirect relationship testing was executed using a 5,000-bootstrap resampling procedure to evaluate H4. Statistical results indicate that Islamic Educational Leadership has a positive, statistically significant indirect effect on Educational Administrative Service Quality through Staff Digital Literacy ($\beta = 0.388$, $z = 4.531$, $p < .001$). The unstandardized indirect effect was 0.352 ($SE = 0.078$) with a 95% bootstrap confidence interval of [0.218, 0.522]. Because the confidence interval excludes zero, the indirect effect is statistically significant. Given that the direct effect was non-significant (H3 unsupported), this pattern demonstrates full mediation. This confirms that staff digital literacy serves as an essential operational mechanism translating leadership principles into service outcomes.

Explanatory Power of the Structural Model

The explanatory power of the structural model was assessed using the coefficient of determination (R^2). The model explained 36.3% of the variance in Staff Digital Literacy ($R^2 = 0.363$), indicating that Islamic Educational Leadership accounted for a meaningful proportion of variation in staff digital literacy. Furthermore, Islamic Educational Leadership and Staff Digital Literacy jointly explained 49.8% of the variance in Educational Administrative Service Quality ($R^2 = 0.498$). Thus, nearly half of the variance in administrative service quality was accounted for by the predictors included in the structural model.

Table 7. Explained Variance of Endogenous Constructs

Endogenous Construct	R^2	Explained Variance
Staff Digital Literacy	0.363	36.3%
Educational Administrative Service Quality	0.498	49.8%

This paragraph analyzes the structural model's explanatory power (R^2) reported in Table 7. The structural model accounts for 36.3% of the variance in Staff Digital Literacy ($R^2 = 0.363$), indicating that Islamic Educational Leadership explains a meaningful portion of variation in staff digital competencies. Furthermore, Islamic Educational Leadership and Staff Digital Literacy jointly explain 49.8% of the variance in Educational Administrative Service Quality ($R^2 = 0.498$). This indicates that nearly half of the variance in administrative service quality across Madrasah Aliyah in Jambi City is accounted for by the model's predictors. These findings validate the theoretical model and underscore the importance of aligning value-based leadership with staff digital capacities.

Taken together, the structural model results indicate that (1) Islamic Educational Leadership significantly predicted Staff Digital Literacy, while Staff Digital Literacy significantly predicted Educational Administrative Service Quality. (2) However, Islamic Educational Leadership did not demonstrate a statistically significant direct effect on Educational Administrative Service Quality. (3) The significant indirect effect therefore highlights Staff Digital Literacy as an important mechanism linking Islamic Educational Leadership with the quality of educational administrative services. Overall, the empirical findings of this study confirm the critical importance of integrating value-based leadership with the strengthening of technical operational capabilities. Islamic Educational Leadership is proven to play a strategic role in establishing an ethical foundation and fostering a workplace environment that encourages administrative staff to continuously improve their digital competencies. Values such as responsibility, exemplary conduct, and an orientation toward the public good serve as primary drivers in building an adaptive mindset toward technology within madrasah environments. Subsequently, it is the staff's level of digital literacy that directly determines how effective, transparent, and responsive the administrative services provided to stakeholders will be.

The fundamental insight revealed in this study is that value-based leadership cannot independently enhance the quality of public services. The vision and directives of a leader require an operational bridge to be translated

into tangible performance. In this context, staff digital literacy functions as the primary explanatory mechanism that transforms leadership commitment into efficient administrative actions. Therefore, digital transformation strategies in madrasahs should not focus solely on physical infrastructure or the cultivation of leadership values, but must be seamlessly integrated with structured and continuous staff digital capacity-building programs.

Discussion

The leadership in Islamic educational institutions contributes not only to normative and organizational direction but also to the development of administrative staff's digital capabilities. In Madrasah Aliyah, stronger Islamic Educational Leadership is therefore associated with greater staff capacity to engage effectively with digital information, technologies, and administrative processes. This finding is consistent with previous evidence (Alvesson & Sveningsson, 2024; Henrique et al., 2023; Kuniawan et al., 2025; Suprapti & Rizal, 2023) identifying school leadership as an important organizational antecedent of digital competence, technology integration, and organizational digitalization. Digital leadership can facilitate technology integration through institutional direction and support, while school leaders play a central role in creating the conditions required for digital transformation and competence development. Similar evidence (Diana et al., 2024; K. & K., 2024; Nurlela et al., 2025; Suprihatiningrum & Syaripudin, 2025) demonstrated associations between leadership competencies and teachers' digital competence and literacy across educational settings. Evidence from Islamic educational settings likewise indicates that innovative school leadership is associated with teachers' digital literacy. Collectively, these studies reinforce the present finding that digital capability is not solely an individual attribute but is also shaped by the organizational environment created by leadership.

The present study extends this argument by situating the leadership-digital literacy relationship within Islamic Educational Leadership. Leadership in Muslim educational contexts is embedded in Islamic values, beliefs, spirituality, and contextually situated organizational practices. Accordingly, values such as *amanah* (trustworthiness), *qudwah* (exemplary conduct), *musyawarah* (consultation), justice, empowerment, and *maslahah* (collective benefit) can complement organizational direction by encouraging responsibility in information management, modelling adaptive practices, supporting professional development, and facilitating collaborative learning when staff encounter technological challenges.

The digital literacy constitutes an important organizational capacity for improving administrative services in Madrasah Aliyah. The result aligns with evidence linking digital competence and literacy with educational service effectiveness. Digital competence has been positioned as an important component of administrative service quality alongside organizational capability, cross-unit collaboration, and process effectiveness, while digital literacy has also been identified as a determinant of digital service quality in schools. Related

evidence (Abubakari & Kalinaki, 2024; Mukul & Büyüközkan, 2023; Ukhova & Gabelaia, 2025) associated digital readiness and competence with service-related outcomes and connects digital literacy and educational technology with school and educational service quality. These findings supported the proposition that the quality of digitally mediated educational services depends not only on technological availability but also on the capabilities of personnel responsible for operating and translating technology into administrative practices (Baerecke et al., 2024; Hyzen et al., 2026; Wu, 2024).

This relationship can be explained by the multidimensional nature of digital literacy, which encompasses information management, communication, content-related capabilities, safety, and problem solving rather than merely technical proficiency. Administrative staff must search and verify information, manage institutional data, operate administrative applications, communicate through digital platforms, protect sensitive information, and address routine technological problems. These capabilities directly support service accuracy, timeliness, responsiveness, accessibility, information security, communication, and accountability. The present finding also extends existing digital literacy research by demonstrating the organizational relevance of these competencies among educational administrative staff, a group that has received considerably less attention than teachers and students. Consequently, improvements in Educational Administrative Service Quality require more than the provision of technological infrastructure. Literacy constitutes an organizational resource that connects digital transformation with the actual quality of educational administrative services.

Islamic Educational Leadership alone was insufficient to explain administrative service quality when Staff Digital Literacy was simultaneously included in the structural model. This finding appears to differ from previous evidence associating leadership with administrative effectiveness, administrative services, staff performance, and competence. Leadership-related capabilities have been linked with sustainable administrative effectiveness and stronger administrative services, while professional development, communication, coordination, and workplace conditions have been associated with administrative staff performance and competence (Adhinugraha et al., 2024; Sailin et al., 2024). However, these outcomes are not fully equivalent to Educational Administrative Service Quality as conceptualized in the present study (Enggal et al., 2026; Habibi et al., 2025). This finding offers an important theoretical distinction. Islamic Educational Leadership may function as a distal organizational antecedent, whereas staff-level capabilities represent more proximal determinants of Educational Administrative Service Quality. Leadership establishes values, direction, support, and enabling conditions, while staff capabilities convert these organizational conditions into observable service practices. This interpretation is also compatible with scholarship emphasizing the value-based, contextual, and organizational character of leadership in Muslim educational institutions.

Educational Administrative Service Quality here emphasizes accuracy, timeliness, responsiveness, accessibility, procedural consistency, information security, and accountability. Leadership may strengthen values, coordination, supervision, motivation, professional conduct, and organizational direction, but these enabling conditions do not automatically ensure that staff can operate digital administrative systems, manage electronic information, protect institutional data, or resolve technology-related service problems. The nonsignificant direct effect therefore should not be interpreted as evidence that Islamic Educational Leadership is irrelevant to service quality. Rather, its influence appears to depend on the operational capabilities through which leadership direction is enacted. Thus, the absence of a significant direct effect provides a theoretical basis for examining the capability mechanism through which Islamic Educational Leadership may ultimately contribute to service quality.

This mediation mechanism constitutes the principal theoretical contribution of the study. Rather than treating digital literacy merely as an individual competence, the findings position Staff Digital Literacy as the mechanism through which value-based Islamic Educational Leadership is translated into Educational Administrative Service Quality. Theoretically and practically, the findings of this research make several significant contributions to the literature on digital transformation and governance in Islamic secondary education. Theoretically, this study advances the educational leadership literature by establishing that value-based leadership specifically *Islamic Educational Leadership* functions as a distal organizational antecedent rather than a direct driver of administrative outcomes. It unveils *Staff Digital Literacy* as the primary full-mediation mechanism and operational bridge that translates ethical and visionary leadership principles into tangible service quality. Practically, these findings provide actionable insights for madrasah administrators and educational policymakers, demonstrating that investments in leadership development or digital infrastructure alone are insufficient. To achieve a highly effective, transparent, and responsive administrative environment, institutions must implement integrated policies that pair value-based leadership directives with continuous, structured digital capacity-building programs for front-line operational staff.

CONCLUSION

This study demonstrates that strengthening the digital ecosystem of madrasahs and improving educational administrative service quality depend substantially on value-based Islamic leadership mediated by the digital capabilities of administrative staff. The most important finding is that Islamic Educational Leadership significantly enhances Staff Digital Literacy, which subsequently contributes to improved Educational Administrative Service Quality, while the direct effect of leadership on service quality is not significant. This finding highlights the importance of developing staff digital competencies as an operational mechanism through which value-based leadership can be

translated into effective administrative services, providing practical evidence that madrasah digital transformation should integrate Islamic leadership values with systematic and sustainable digital literacy development. Scientifically, the study contributes to the understanding of the relationship between Islamic educational leadership, staff digital literacy, and administrative service quality by demonstrating the mediating importance of digital capacity in the context of madrasah education. Practically, the findings provide implications for educational administrators and policymakers to prioritize structured and continuous digital training for administrative personnel alongside technological investment and leadership development. The study is strengthened by its empirical examination of these interconnected variables within the Madrasah Aliyah context; however, its limitations include the restriction of the sample to administrative staff in Madrasah Aliyah institutions within Jambi City and the reliance on self-reported survey data, which may limit generalizability and introduce response bias. Future research should therefore employ longitudinal or mixed-methods approaches across diverse geographic regions, educational levels, and institutional types, while incorporating objective measures of service quality and examining additional organizational factors, such as institutional digital climate, IT infrastructure availability, and administrative workload.

ACKNOWLEDGMENT

I would like to express my sincere gratitude to the Head of the Madrasah Aliyah in Jambi for their continuous support and encouragement throughout this research. I also extend my deepest appreciation to the fellow participants of the Focus Group Discussion (FGD); the insights and experiences they shared have significantly enriched this study.

REFERENCES

- Abubakari, M. S., & Kalinaki, K. (2024). Digital Competence in Islamic Education for Lifelong Learning: Preliminary Analysis Using Digcomp 2.1 Framework. *Embracing Technological Advancements for Lifelong Learning*, 2(1), 1–31. <https://doi.org/10.4018/979-8-3693-1410-4.ch001>
- Adhinugraha, R. B. A., Hardhienata, S., Sunaryo, W., & Zaini, A. W. (2024). Transformative Strategies to Enhance Teacher Innovativeness: Addressing Challenges Through Strengthening Organizational Culture, Transformational Leadership, Self-Efficacy, and Achievement Motivation. *Managere: Indonesian Journal of Educational Management*, 6(2), 219–232. <https://doi.org/10.52627/managere.v6i2.520>
- Alvesson, M., & Sveningsson, S. (2024). *Changing Organizational Culture*. Routledge.
- Antonopoulou, H., Matzavinou, P., Giannoukou, I., & Halkiopoulou, C. (2025). Teachers' Digital Leadership and Competencies in Primary Education: A Cross-Sectional Behavioral Study. *Education Sciences*, 15(2), 1–20. <https://doi.org/10.3390/educsci15020215>
- Awodiji, O. A., & Katjiteo, A. (2024). Modelling School Principals' Soft Skills

- with Sustainable Administrative Effectiveness. *International Journal of Evaluation and Research in Education*, 13(6), 4153–4169. <https://doi.org/10.11591/ijere.v13i6.29321>
- Baerecke, L., Ornellas, A., Wamoyi, J., Wambura, M., Klapwijk, J., Chetty, A. N., Simpson, A., Janowski, R., Graaf, K. De, Stern, D., Clements, L., Winkel, E., Christine, L., Mbosoli, G., Nyalali, K., Onduru, O. G., Booij, A., Mjwara, S. N., Tsoanyane, S., Cluver, L. D. (2024). A Hybrid Digital Parenting Programme to Prevent Abuse of Adolescents in Tanzania : Study Protocol for a Pragmatic Cluster - Randomised Controlled Trial. *Trials*, 25(119), 1–19. <https://doi.org/10.1186/s13063-023-07893-x>
- Creswell, J. D. (2023). *Reserach Design Qualitative, Quantitative, and Mixed Methods Approaches* (Sixth Edit). Sage Publications, Inc.
- Diana, A., Azani, M. Z., & Mahmudulhassan, M. (2024). The Concept and Context of Islamic Education Learning in the Digital Era: Relevance and Integrative Studies. *Profetika: Jurnal Studi Islam*, 25(01), 33–44. <https://doi.org/10.23917/profetika.v25i01.4239>
- Enggal, D., Haris, A., & Shonhadji. (2026). Determinants of Graduates' Competitiveness: Religious Character, Dual Education, and ICT Competence. *Edureligia: Jurnal Pendidikan Agama Islam*, 10(01), 15–35. <https://doi.org/http://dx.doi.org/10.33650/edureligia.v10i1.13209>
- Gyamerah, S., Afshari, L., & Asante, D. (2025). Digital transformation in the SME Context: The Nexus Between Leadership, Digital Capabilities and Digital Strategy. *International Small Business Journal: Researching Entrepreneurship*, 43(3), 303–328. <https://doi.org/10.1177/02662426251314108>
- Habibi, H., Nadry, Z., Popal, Z., & Ahmadi, H. (2025). Transforming Islamic Education Through E-Learning and Digital Platforms: Improving Teaching, Learning, and Student Engagement. *Edureligia: Jurnal Pendidikan Agama Islam*, 09(01), 94–108. <http://dx.doi.org/10.33650/edureligia.v9i1.12636>
- Hartati, S., Arafah, Y., & Fitriani, Y. (2026). Principal Leadership in Strengthening Administrative Services for Dapodik Reporting: A Qualitative Study at Sdn 24 Talang Kelapa. *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, 11(1), 244–252. <https://doi.org/10.31851/jmksp.v11i1.21715>
- Haryaka, U., Dwiyono, Y., Rachmawaty, N., Liana, H., & Sjamsir, H. (2026). Analyzing the Impact of Principals' Leadership Style, Professional Development, and Working Environment on Administrative Staffs' Performance in Vocational Schools. *Social Sciences and Humanities Open*, 13(1), 1–14. <https://doi.org/10.1016/j.ssaho.2026.103087>
- Henrique, B., Marcelo, L., Cortimiglia, N., & Ghezzi, A. (2023). The Contribution of Organizational Culture, Structure, and Leadership Factors in the Digital Transformation of Smes : A Mixed-Methods Approach. *Cognition, Technology & Work*, 25(1), 151–179. <https://doi.org/10.1007/s10111-022-00714-2>
- Hyzen, A., Van den Bulck, H., Puppis, M., Kulig, M., & Paulussen, S. (2026). Epistemic Welfare and Algorithmic Recommender Systems: Overcoming the Epistemic Crisis in the Digitalized Public Sphere. *Communication Theory*, 36(1), 46–57. <https://doi.org/10.1093/ct/qtaf018>

- Indarti, S., Syamsuri, A. R., & Wasnury, R. (2025). Advancing Administrative Service Quality in Higher Education: An Integrated Model of Digital Competence, Organizational Capability, Career Path Clarity, Cross-Unit Collaboration, and Administrative Process Effectiveness. *Journal of Cultural Analysis and Social Change*, 16(1), 2192–2203. <https://doi.org/10.64753/jcasc.v10i4.3159>
- Ingsih, K., Astuti, S. D., & Riyanto, F. (2024). The Role of Digital Competence in Improving Service Quality and Employee Performance. *SA Journal of Human Resource Management*, 22(1), 1–18. <https://doi.org/10.4102/sajhrm.v22i0.2689>
- Jambi, K. W. K. A. P. (2025). *Statistik Kanwil Kementerian Agama Provinsi Jambi 2025*. https://jambi.kemenag.go.id/admin/gallery/file2/statistik_kanwil_jambi_2025.pdf
- K., R. P. J., & K., R. (2024). *Contextual Learning*. In *Digital Skill Development for Industry 4.0*. Auerbach Publications.
- Kohli, J. K., Raj, R., Rawat, N., & Gupta, A. (2025). Impact of Faculty E-Readiness on Service Quality in Higher Education Institutions: A Gendered Perspective. *Journal of Applied Research in Higher Education*, 12(2), 1–15. <https://doi.org/10.1108/JARHE-10-2024-0524>
- Kuniawan, A., Suryatna, Y., Saifuddin, Yusup, Carnawi, & Muspiroh, N. (2025). Examining Leadership, Digital Adaptation, Organizational Culture, and Lecturer Performance as the Predictors of Enhancing Competitiveness of Cyber Islamic University. *Journal of Lifestyle and SDGs Review*, 5(3), 4914. <https://doi.org/10.47172/2965-730x.sdgsreview.v5.n03.pe04914>
- Libarkin, J. C., & Kurdziel, J. P. (2023). Research Methodologies in Science Education: The Qualitative-Quantitative Debate. *Journal of Geoscience Education*, 50(1), 78–86. <https://doi.org/10.1080/10899995.2002.12028053>
- Marchelia, K., Nur Sasongko, R., & Putri Kartiwi, A. (2026). School Principal Leadership Strategies in Improving the performance of Administrative Staff. *IJORER: International Journal of Recent Educational Research*, 11(1), 13–24. <https://doi.org/10.46245/ijorer.vi.1413>
- Mukul, E., & Büyüközkan, G. (2023). Digital Transformation in Education: A Systematic Review of Education 4.0. *Technological Forecasting and Social Change*, 194, 122664. <https://doi.org/10.1016/j.techfore.2023.122664>
- Nurlela, N., Arifin, A. G., & Hidayat, A. (2025). Impact of Islamic Psychoeducation in Facing the Challenges of Digital Education Practices: Student and Lecturer Perceptions. *International Journal of Learning, Teaching and Educational Research*, 24(2), 560–585. <https://doi.org/10.26803/ijlter.24.2.28>
- Okunlola, J. O., & Naicker, S. R. (2025). Principals' Digital Leadership Competencies in the Fourth Industrial Revolution: Teachers' Perspectives. *Education Sciences*, 15(6), 1–12. <https://doi.org/10.3390/educsci15060656>
- Pilcher, N., & Cortazzi, M. (2024). "Qualitative" and "Quantitative" Methods and Approaches Across Subject Fields: Implications for Research Values,

- Assumptions, and Practices. In *Quality and Quantity* (Vol. 58, Issue 3). Springer Netherlands. <https://doi.org/10.1007/s11135-023-01734-4>
- Ragin, C. C. (2024). *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies*. Univ of California Press.
- Ramberg, J., & Hemmingsson, H. (2026). School Leadership and the Association to Teachers' Digital Competence in Supporting Students with Special Educational Needs. *Education Sciences*, 16(2), 1-15. <https://doi.org/10.3390/educsci16020226>
- Reis-Andersson, J. (2024). Leading the Digitalisation Process in K-12 Schools – The School Leaders' Perspective. *Education and Information Technologies*, 29(3), 2585-2603. <https://doi.org/10.1007/s10639-023-11935-x>
- Rohani, R., Yuniar, Y., Astuti, M., & Zainuri, A. (2026). Innovative School Leadership and Digital Literacy of Islamic Education Teachers. *Journal of General Education and Humanities*, 5(1), 1-21. <https://doi.org/10.58421/gehu.v5i1.1109>
- Sailin, M., Masbahuddin, I. M. R., Tohet, M., Islami, I. M. R., & Dewi, N. E. C. (2024). Integrating Situational Leadership and Traditional Values: Enhancing Student Discipline in Islamic Boarding Schools Through Holistic Training Programs. *Communautaire: Journal of Community Service*, 3(1), 107-122. <https://doi.org/10.61987/communautaire.v3i1.466>
- Shittu, A. A., Sheu, M. A., Bakare, R. B., Alao, M. I., & Adam, Z. (2026). Principals' Communication Planning Skills and Administrative Effectiveness in Public Senior Secondary Schools in Ilorin East Local Government Area, Kwara State. *Edulead: Journal of Education Management*, 8(1), 1-16. <https://doi.org/10.47453/edulead.v8i1.4048>
- Suprapti, & Rizal, A. (2023). Influence of Personality and Competence on Organizational Citizenship Behavior (Ocb) with Moderate Work Environment (Study on Public Health Center). *International Journal of Social and Management Studies (Ijosmas)*, 3(2), 1-12. [10.3389/fpsyg.2022.900787](https://doi.org/10.3389/fpsyg.2022.900787)
- Suprihatiningrum, J., & Syaripudin, A. (2025). Technology for Equity: A Systematic Review of AI, Adaptive Tools, and Digital Platforms in Differentiated Instruction. *Texto Livre*, 19(1), 1-21. <https://doi.org/10.1590/1983-3652.2026.61658>
- Ukhova, N., & Gabelaia, I. (2025). A Systematic Review and Cluster Analysis of 21st-Century Skills Relevant to Digital Formal Learning in Higher Education. *INTED2025 Proceedings*, 6(1), 1683-1692. <https://doi.org/10.21125/inted.2025.0509>
- Victorizal, V., Somantri, M., Syafryadin, S., & Khairi, A. (2026). Principal Leadership in Developing Administrative Staff Competence: A Case Study of the Center of Excellence Vocational School. *Tadbir: Jurnal Studi Manajemen Pendidikan*, 10(1), 67-94. <https://doi.org/10.29240/jsmp.v10i1.14503>
- Wariunsora, M., Subroto, D. E., Haribowo, R., Ramli, A., Nugroho, I. H., & Sujatmiko, W. (2026). The Effect Of Classroom Management, Digital Literacy And School Environment Quality On Educational Service Quality In Higher Education Institutions. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*,

4(3), 18638–18642. <https://doi.org/10.31004/jerkin.v4i3.5154>
Wu, X.-Y. (2024). Exploring the Effects of Digital Technology on Deep Learning:
a Meta-Analysis. *Education and Information Technologies*, 29(1), 425–458.
<https://doi.org/https://doi.org/10.1007/s10639-023-12307-1>