



Integrating Faith and Technology: Developing SIJAGU PAI as an LMS-Based Digital Reporting System for Islamic Religious Education

Miftahul Barokah*, Umar Manshur

Universitas Nurul Jadid, Indonesia

Email : barokah.sale@gmail.com

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ABSTRACT

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***Corresponding Author**

The rapid advancement of digital technology has transformed educational reporting systems, resulting in increased transparency and efficiency. This study aims to design and implement SIJAGU PAI, a digital reporting system that enhances objectivity, accuracy, and collaboration in Islamic Religious Education. Using a qualitative case study approach, data were collected through interviews, observations, and documentation involving teachers, students, and parents. Findings reveal that SIJAGU PAI simplifies grade input, facilitates real-time communication, and visually represents student progress, fostering collaboration and trust among stakeholders. The application integrates faith-based design principles with data-driven transparency, bridging spiritual values and digital functionality. The study contributes to the development of an Islamic-oriented digital education model that prioritizes accountability and inclusivity. It is recommended that future implementations expand the system's features for broader institutional integration and adopt adaptive analytics to support continuous quality improvement in religious education management.

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INTRODUCTION

Despite the progress in educational technology adoption, many schools continue to face fundamental challenges in reporting students' learning outcomes. Most institutions, particularly at the secondary level, still rely on manual systems for recording and reporting grades. This process is not only time-consuming but also prone to data entry errors and delays in communicating information to parents. In the context of Islamic Religious Education (IRE), the problem becomes more complex as the subject involves multidimensional assessment covering cognitive, affective, and psychomotor domains (Abubakari

et al., 2025; Arif et al., 2025; Pham, 2023). The absence of an integrated digital reporting system leads to limited transparency among teachers, students, and parents, while increasing the administrative workload of teachers. Consequently, there is a pressing need for an innovative digital solution that promotes accuracy, efficiency, and openness in reporting students' learning outcomes in IRE.

Field observations in several secondary schools indicate that IRE learning outcome reports are still prepared using basic spreadsheets or handwritten documents. Teachers often express frustration over the repetitive and unsystematic process of inputting student grades (Puvanachandra et al., 2024; Werntz et al., 2023). On the other hand, students and parents find it challenging to understand the overall learning progress due to the lack of visual elements such as charts or analytical performance trends. As a result, the reporting process fails to serve as a constructive feedback mechanism for continuous learning improvement (Cornwall et al., 2024; Liao et al., 2023). This phenomenon is also evident at SMP Negeri 9 Probolinggo, where IRE teachers continue to employ conventional manual reporting methods. Such conditions highlight a significant gap between the demand for educational digitalization and the existing practices, thus emphasizing the need for an integrated and user-friendly digital reporting system.

Previous studies have attempted to design digital systems to support the reporting of learning outcomes. Liao et al. (2021), Perle et al. (2024), and Zhou et al. (2021) examined the effectiveness of a Moodle-based Learning Management System (LMS) in facilitating student evaluation. Setyarto et al. (2025), and Leivaditis et al. (2025) developed an online competency-based assessment application. Tarshish et al. (2025), and Zhang et al. (2025) highlighted the use of interactive media such as Google Forms and Quizizz in IRE instruction. In addition, Maruszewska (2025), Bodur et al. (2025), and Jayalath et al. (2025) investigated the use of digital spreadsheets as a cost-effective and straightforward alternative for reporting. Although these studies demonstrate progress in digitalizing educational practices, most remain limited to technical functionality and do not address the integration of objectivity, transparency, and stakeholder involvement within the assessment process.

The primary limitation of previous studies is their lack of a holistic approach to reporting digital learning outcomes in Islamic education. Existing systems often fail to provide real-time data analytics or multi-user access for teachers, students, and parents. In IRE, parental engagement plays a crucial role in supporting students' moral and spiritual development (Kohanová et al., 2025; Roberto et al., 2025). This research gap is addressed through the development of SIJAGU PAI (*Islamic Education Learning Report Network System*), a digital reporting application designed explicitly for Islamic Religious Education. Unlike prior

systems, SIJAGU PAI integrates real-time progress tracking, visual performance displays, and downloadable report features. Hence, this study positions itself as a strategic contribution to the literature on digital educational reporting by embedding Islamic values of transparency, accountability, and collaboration in learning management.

The novelty of this research lies in the design and implementation of a web-based reporting system that integrates educational accountability and collaboration principles within the context of Islamic Religious Education. SIJAGU PAI not only simplifies the process of grade input for teachers but also enables students and parents to monitor progress directly. The system provides dynamic graphical representations of learning achievement, topic-based scores, and mid-term and final exam results (Ma'arif et al., 2023; Wuysang et al., 2025). Additionally, its PDF export feature facilitates documentation for schools and stakeholders. With a simple yet functional interface, SIJAGU PAI serves as an innovative digital platform that enhances reporting efficiency while strengthening communication between schools and families. This positions the study as a pioneering effort in transforming IRE reporting practices toward digital transparency and pedagogical inclusivity.

Based on the background and research gaps identified, the central question addressed in this study is: How practical is the SIJAGU PAI application in improving the quality of Islamic Religious Education learning outcome reporting at SMP Negeri 9 Probolinggo? Specifically, this study investigates how the application enhances the speed, accuracy, and transparency of reporting while reducing teachers' administrative burdens. Employing a descriptive qualitative approach, the research gathers data through interviews, observations, and documentation to provide an in-depth understanding of the design, implementation, and impact of SIJAGU PAI on IRE management practices at the secondary education level.

This study makes a theoretical and practical contribution to the digital transformation of Islamic education in Indonesia. Theoretically, it enriches the academic discourse on technology-based assessment and reporting systems that align with Islamic values of fairness, transparency, and accountability. Practically, SIJAGU PAI offers an innovative model for Islamic educational institutions seeking to implement accessible, efficient, and transparent digital reporting systems. Furthermore, the implementation of this application is expected to strengthen parental engagement in students' spiritual development, promote collaborative communication between teachers and families, and support the establishment of adaptive educational cultures in the era of digital transformation.

RESEARCH METHOD

This research employed a qualitative approach with a case study design to gain a deeper understanding of the design and implementation process of the SIJAGU PAI (*Islamic Education Learning Report Network System*) application, a digital innovation for reporting learning outcomes. The qualitative approach enabled researchers to explore the experiences, perceptions, and responses of application users naturally and in context (White & Cooper, 2022). The case study design was chosen because it provided ample scope for exploration of a single, specific phenomenon: the application of digital technology in the Islamic Education evaluation system. Through this design, the research focused not only on the implementation results of the application but also explored the dynamics of implementation, effectiveness, and the challenges encountered in the field.

The research location was SMP Negeri 9, Probolinggo City, which was purposively selected because this school is one of the educational institutions that has adopted a comprehensive Islamic Education-based digital learning outcome reporting system through the SIJAGU PAI application. This location selection was also based on the school's technological infrastructure readiness, the principal's policy support for digital innovation, and the active participation of teachers and parents in using the system. This situation makes SMP Negeri 9 Probolinggo City a representative location for assessing the effectiveness of digital technology integration in reporting religious education grades, particularly in increasing the transparency and objectivity of learning evaluations.

Research data was collected through three main techniques: in-depth interviews, observation, and documentation (Lim, 2024). Interviews were conducted with Islamic Religious Education (PAI) teachers, eighth-grade students, and parents directly involved in using the application to explore their perceptions, experiences, and perceived benefits and challenges. Direct observations of the process of inputting grades, verifying data, and reporting learning outcomes using SIJAGU PAI allowed researchers to assess the application's effectiveness in a real-life school context. Furthermore, documentation was collected, including student grade data, application screenshots, digital learning outcome reports, and administrative records to support an in-depth analysis of the system.

Data analysis was conducted using the Miles and Huberman interactive model, which includes three main stages: data condensation, data display, and conclusion drawing or verification (Im et al., 2023). In the condensation stage, researchers sorted, simplified, and grouped data according to the research focus, particularly regarding the effectiveness, accuracy, and transparency of learning outcome reporting. Next, in the data presentation stage, the results of the

interviews and observations were compiled into narratives and thematic tables to facilitate the identification of patterns and relationships between the findings. The final stage, namely data verification, was conducted to draw valid conclusions and ensure the alignment between the empirical findings and the research objectives. To maintain data validity, the researcher employed triangulation of sources and techniques, including comparing information from teachers, students, and parents, as well as matching the results of interviews, observations, and documentation. Furthermore, member checking was conducted to confirm the accuracy of the researcher's interpretation of the data obtained, so that the research results could be scientifically and contextually accounted for.

RESULT AND DISCUSSION

Result

This section presents the main findings of the research on the design and implementation of SIJAGU PAI as a digital reporting system for Islamic Religious Education. Each finding reflects how technology, pedagogy, and faith converge to enhance collaboration, integrate moral values into digital design, and strengthen accountability through transparent documentation within the Islamic education context.

Digital Transformation Enhancing Educational Collaboration

Digital transformation in educational collaboration through the implementation of SIJAGU PAI at SMP Negeri 9, Probolinggo City, is operationally defined as the process of strengthening collaboration between teachers, students, and parents with the help of an integrated digital system. This system not only functions as a tool for inputting grades but also as a communication bridge, enabling all parties to connect and monitor learning progress directly. Therefore, educational collaboration is defined here as a three-way, mutually supportive relationship facilitated through efficient, transparent, and participatory technological mechanisms.

An Islamic Religious Education teacher stated, "Through SIJAGU PAI, we can more easily update students' grades and character records without having to wait for manual recaps. Parents also know the results immediately, so there are no more misunderstandings." This statement indicates that the teacher experienced ease and efficiency in work, as well as increased transparency of information. Researchers interpret that the use of SIJAGU PAI has shifted the paradigm of learning administration from a closed system to an open system, fostering a sense of shared responsibility in the educational process.

Meanwhile, one parent expressed, "We feel more connected to our children's development because we can directly see the grades and teacher

comments." This testimony confirms the emergence of a sense of emotional closeness between families and schools through real-time access to digital data. From these interviews, researchers understand that the system serves not only as a tool for reporting grades, but also as a means of strengthening communication and trust between parents and teachers in the context of modern Islamic education.

Based on observations, researchers found that the process of uploading grades by teachers and accessing reports by parents ran smoothly through their respective devices. Teachers appeared more focused on learning compared to the previously time-consuming manual administration. Data patterns suggest that the digitization of this system not only enhances effectiveness but also promotes a participatory culture among the relevant parties. SIJAGU PAI, in this case, serves as an integrative medium that combines the values of collaboration, transparency, and social responsibility within an Islamic-based education ecosystem.

Meaningful Design Connecting Faith and Data

In operational terms, the theme "Meaningful Design Connecting Faith and Data" refers to how the visual and functional design of the SIJAGU PAI application bridges technological efficiency with Islamic educational values. In the field, this concept is observed through the way teachers interact with the system's interface, combining digital practicality with spiritual reflection in assessment. The design is not only functional but symbolic, representing how data reporting can carry moral and religious meaning. This operationally translates into a system that helps teachers record grades quickly, while encouraging them to contemplate the ethical and spiritual aspects embedded in each learning evaluation.

Table 1. Observation of Meaningful Design Connecting Faith and Data

Observed Aspect	Indicator	Observation Percentage
Simplicity of Interface	Ease of navigation, minimal menu complexity	92%
Integration of Religious Context	Presence of Islamic terminology and character-based evaluation	85%
Efficiency of the Input Process	Time efficiency during grade input and report generation	88%
Aesthetic Harmony	Visual design reflecting calm, faith-based colors and a balanced layout	90%
User Engagement	Level of user comfort and frequency of system	87%

The observation table above reveals that the highest percentage is attributed to the simplicity of the interface (92%), indicating that teachers found the system highly accessible without requiring advanced technical skills. The

integration of a religious context (85%) demonstrates the designer's success in embedding spiritual elements within the digital environment. Efficiency and aesthetics also scored high, suggesting that the SIJAGU PAI platform not only supports administrative speed but also stimulates a faith-oriented working atmosphere. The relatively balanced percentages across indicators demonstrate that the system successfully merges functional usability with ethical and spiritual identity.

The researcher interprets these data as highlighting a pattern of human-centered design, where digital interaction becomes an extension of pedagogical and spiritual engagement. In restating the data, SIJAGU PAI's design meaningfully transforms grading from a mechanical activity into a reflective process rooted in Islamic values. The consistency across observed indicators suggests that teachers experience the system as both efficient and spiritually resonant. This pattern shows that meaningful design in Islamic education technology is not merely about user interface aesthetics but about constructing a bridge between faith, function, and educational purpose.

Transparent Reporting: Building Trust and Accountability

Operationally, the sub-theme "Transparent Reporting Building Trust and Accountability" in the SIJAGU PAI context refers to the documentation process of how digital reports, automated summaries, and visual analytics are generated and accessed within the system. Transparency here is not limited to the visibility of data, but also extends to the traceability of every score input, update, and output in the reporting process. The reviewed documentation includes exported PDF reports, automatic grading summaries, and progress charts, all of which serve as concrete evidence of system accountability. This operational definition emphasizes that SIJAGU PAI's reporting framework aims to transform static administrative documents into dynamic reflections of student learning growth and institutional integrity.

According to the researcher's interpretation, these documented findings reaffirm that digital reporting through SIJAGU PAI fosters a culture of trust and responsibility. Restating the data, every recorded number in the system symbolizes transparency and ethical accuracy. This digital documentation provides both evidence of performance and a medium for reflection, allowing teachers to see the effectiveness of their instruction, while parents can monitor their children's learning journey. The pattern emerging from this data indicates that transparent digital documentation fosters mutual accountability, ensuring that educational communication becomes both measurable and meaningful.

Discussion

The findings of this study reveal that the implementation of SIJAGU PAI represents a significant evolution in how Islamic education institutions adopt digital transformation to improve collaboration, meaningful design, and transparency in reporting. When compared to the existing literature on digital learning systems, this research aligns with studies that highlight the role of educational technology in fostering participatory communication and accountability among teachers, students, and parents. However, it goes beyond the conventional scope by integrating Islamic ethical values into digital system design, a dimension that is rarely emphasized in general digital education models (Hasanah, 2024; Widiasari, 2024). The alignment between spiritual principles and technological efficiency in SIJAGU PAI indicates a distinctive model of faith-driven edutech, where digitalization supports not only administrative transparency but also moral formation.

The sub-theme of Digital Transformation Enhancing Educational Collaboration reinforces previous theoretical perspectives that emphasize collaborative engagement as the cornerstone of effective digital education. However, unlike most digital platforms that focus primarily on functionality, SIJAGU PAI embeds spiritual and relational dimensions into its collaborative mechanisms. This differs from the findings of mainstream research, which often situates digital collaboration within secular or value-neutral frameworks. Theoretically, this contributes to the discourse of Islamic digital pedagogy, presenting collaboration not merely as a technical interaction but as a shared moral responsibility (Heru, 2024; Herlina, 2024; Hina, 2024). Practically, it implies that the use of digital platforms in Islamic schools can catalyze the cultivation of communication, empathy, and social cohesion within the learning community (Abdullah, 2024; Khaer, 2024).

In the second finding, Meaningful Design Connecting Faith and Data, the discussion highlights how design thinking in educational technology can be reinterpreted through a spiritual-ethical lens. Existing design models, such as human-centered design, prioritize usability and efficiency (Jali, 2025; Nisa', 2024; Zamroni et al., 2025). Still, the SIJAGU PAI framework extends this by embedding the values of reflection (*tafakkur*) and sincerity (*ikhlas*) into the user experience. This convergence between functionality and faith signifies a new theoretical orientation, a spiritually centered design that integrates emotional, ethical, and cognitive engagement (Fawaid et al., 2025; Zawawi, 2025). In practice, this finding highlights the importance of aligning digital systems in Islamic education with value-based aesthetics, ensuring that technology serves as a tool that enhances both professional performance and moral consciousness among educators.

The theme 'Transparent Reporting: Building Trust and Accountability' confirms that accountability in education is no longer limited to institutional compliance, but expands toward ethical transparency rooted in shared trust. Prior literature on educational reporting systems often emphasizes accuracy and efficiency as key indicators of quality (Baharun, 2023; Sain, 2025). However, this research demonstrates that the inclusion of moral accountability transforms data transparency into a relational practice. The digital documentation in SIJAGU PAI not only verifies data integrity but also fosters relational trust between the school and family. Theoretically, this advances the concept of ethical transparency in Islamic education (Aziz, 2025; Munawwaroh, 2024). At the same time, it demonstrates how digital reporting can foster honesty, fairness, and mutual respect as essential components of assessment practices.

Taken together, the three findings illustrate that the design and implementation of SIJAGU PAI bridge the gap between technology, pedagogy, and theology in a balanced and integrated manner. Theoretically, this study contributes to the growing body of literature on Islamic digital education by proposing a model in which faith and function are mutually reinforcing. Practically, this implies that digital systems in Islamic schools should not only aim to streamline administrative processes but also incorporate ethical and spiritual dimensions that foster holistic human development. The pattern emerging from this study suggests that digital transformation, when rooted in moral purpose, can redefine the very essence of educational innovation, transforming it from a tool of efficiency into a medium of meaningful collaboration, reflection, and accountability.

CONCLUSION

The findings of this study reveal that the design and implementation of SIJAGU PAI successfully integrate technological innovation with the moral and spiritual dimensions of Islamic Religious Education. The system not only enhances efficiency and transparency in reporting learning outcomes but also fosters stronger collaboration between teachers, students, and parents. The digital transformation observed through SIJAGU PAI demonstrates that technology, when designed with ethical and faith-based principles, can humanize educational administration and cultivate a more reflective and participatory learning culture. The key insight gained is that meaningful digitalization in Islamic education must connect data-driven processes with values that nurture integrity, communication, and mutual trust.

This study contributes to the scholarly discourse on Islamic education technology by offering an empirical model that merges usability, accountability, and spiritual relevance in digital learning assessment. Its strength lies in

demonstrating that digital systems can serve as both administrative tools and ethical frameworks for enhancing educational quality. However, the research is limited by its single-site case study approach and the absence of longitudinal analysis. Future research should expand the scope to multiple institutions, explore user adaptation over time, and investigate the integration of SIJAGU PAI with broader digital learning ecosystems to enhance its scalability and sustainability.

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