Journal of Islamic Education Research | Vol. 7 No. 4 (2026)
Available online at: https://jier.uinkhas.ac.id/index.php/jier
e-ISSN: 2716-0998
p-ISSN: 2716-1005

From *Amanah* and *Itqan* to Auditable Controls: Digital Governance of Educational Financing in Pesantren

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Article History:
Received:
6-10-2026
Revised:
29-10-2026
Accepted:
20-11-2026
Published:
24-11-2026

Keywords:
Amanah,
Itqan,
Digital governance,
Educational financing,
Internal controls.

Abstract: Purpose of the study: This study examines how digital governance makes educational financing transactions auditable in an Islamic boarding school and how *amanah* and *itqan* inform their interpretation. Method: A qualitative single-case study drew on limited participant observation, semi-structured interviews across eight stakeholder categories, and institutional records. An interactive model guided analysis, supported by triangulation and member checking. The analysis focused on authorization, verification, and reconciliation. Main findings: Virtual account transfers and cash deposits entered a shared ledger. Cash accounted for 44.41% of recorded top-up value over 30 days. The dashboard recorded payment of 98.01% of the billed amount. Role-based permissions separated transaction entry from verification, although physical reconciliation forms were sometimes signed the following morning. Novelty of the study: The study explains how cash and digital transactions remain traceable within one accounting workflow and distinguishes ethical framing from documented control practices. Contribution of the study: The findings connect *amanah* to responsibility for entrusted funds and *itqan* to careful verification. They identify practical priorities for educational institutions, including documenting reconciliation timing, preserving correction histories, and training backup operators to sustain financial oversight.

***Abstrak**: Tujuan penelitian. Penelitian ini mengkaji bagaimana tata kelola digital memungkinkan transaksi pembiayaan pendidikan di pesantren diaudit serta bagaimana amanah dan itqan digunakan untuk menafsirkan praktik tersebut. Metode: Studi kasus tunggal kualitatif ini menggunakan observasi partisipatif terbatas, wawancara semiterstruktur dengan delapan kategori pemangku kepentingan, dan dokumen kelembagaan. Data dianalisis dengan model interaktif, disertai triangulasi dan konfirmasi kepada informan. Analisis berfokus pada otorisasi, pencatatan, verifikasi, dan rekonsiliasi transaksi. Temuan utama: Transfer melalui rekening virtual dan setoran tunai dicatat dalam satu buku besar. Setoran tunai mencakup 44,41% dari nilai pengisian saldo selama 30 hari. Dasbor mencatat pembayaran sebesar 98,01% dari nilai tagihan. Hak akses berbasis peran memisahkan pencatatan dan verifikasi transaksi. Formulir rekonsiliasi fisik terkadang ditandatangani keesokan paginya. Kebaruan penelitian: Studi ini menjelaskan bagaimana transaksi tunai dan digital dapat ditelusuri dalam satu alur pencatatan serta membedakan penjelasan berbasis nilai dari praktik pengendalian yang terdokumentasi. Kontribusi penelitian: Temuan ini mengaitkan amanah dengan tanggung jawab atas dana titipan dan itqan dengan ketelitian dalam verifikasi. Temuan ini juga menunjukkan pentingnya mendokumentasikan waktu rekonsiliasi, menyimpan riwayat koreksi transaksi, dan melatih operator cadangan agar pengawasan keuangan tetap berjalan.*

Please cite this article in APA style as:
Arifah, W., Umam, K., & Hartono. (2026). From *Amanah* and *Itqan* to Auditable Controls: Digital Governance of Educational Financing in Pesantren. *Journal of Islamic Education Research, 7*(4), 929–946. https://doi.org/10.35719/jier.v7i4.649

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INTRODUCTION

When an Islamic boarding school (*pesantren*) moves its financial records online, the people who collect payments may no longer be the same people who verify them, authorize corrections, or review discrepancies. This shift matters because the school handles both institutional revenue and money entrusted to it by families. Digital transformation research distinguishes converting paper records into digital form from reorganizing workflows and renewing organizational routines and capabilities (Brennen & Kreiss, 2016; Verhoef et al., 2021; Vial, 2019; Warner & Wäger, 2019; Westerman et al., 2014). Research on management control shows that digitalization can change staff responsibilities and the competencies needed to carry them out (Fähndrich & Pedell, 2025). Evidence from corporate financial reporting also suggests that automation can strengthen some controls while reducing the attention paid to monitoring over time (Ashraf, 2025). These studies raise a question for Islamic educational institutions. When a payment system changes, who can verify that money has been received, recorded, and accounted for correctly?

In Indonesia, the value of electronic money transactions reached IDR 34.1 trillion in March 2023, up 11.39% year on year, while the value of digital banking transactions reached IDR 4,944.1 trillion, up 9.88% (Bank Indonesia, 2023). For a *pesantren*, expanding these payment channels creates practical choices about which transactions to integrate and how to record them. This study defines educational financing operationally. It examines monthly tuition (*syahriyah*), deposits of students' spending money, and purchases made with those balances at participating campus businesses. Tuition is treated as institutional revenue, student deposits as funds held for students, and campus purchases as retail transactions. The analysis focuses on collecting, recording, verifying, and reconciling these transactions. Law No. 18 of 2019 on Islamic Boarding Schools and Minister of Religious Affairs Regulation No. 30 of 2020 provide the institutional context for *pesantren operations*. Law No. 27 of 2022 on Personal Data Protection is relevant to the processing of student and parent data in digital financial services.

At Pondok Pesantren Baitul Hikmah Tempurejo in Jember, East Java, staff previously recorded payments in handwritten ledgers and stamped tuition cards, accepted cash during family visits (*sambangan*), and checked bank-transfer screenshots sent through WhatsApp. This arrangement required staff to reconcile records kept in different places and gave parents limited access to current information about fees and spending. In March 2023, the institution began an initiative involving Bank Jatim Syariah through the One Pesantren One Product program and PT Teknologi Kartu Indonesia, the technology provider. The subsequent rollout of Baitul Hikmah Mobile and PSP Admin introduced a shared system for recording transactions made through virtual accounts and at the cash counter. These two channels provide a basis for examining how the institution accommodates different payment methods while keeping transactions traceable and assigning responsibility for discrepancies.

Research on financial digitalization in *pesantren* has already addressed governance questions. Maela (2025) examined how the CARDS application supported financial transparency, accountability, and participation in two institutions. Hartono and Sa'adah (2026) showed how SiCashless integrated tuition

payments, balance monitoring, and transaction histories, while identifying connectivity and digital literacy barriers. Isnaini (2025) traced the implementation of digital payments and the role of user training, while Maulana (2024) examined the contractual basis (*akad*) of E-Smart transactions. Related studies have addressed student information systems (Ma'sum, 2024), digital learning and policy implementation (Junaidi, 2024), resource-based financing in an Islamic school (*madrasah*) (Widiastuti, 2025), and enterprise partnerships under One Pesantren One Product (Hilyatin, 2025). This study asks how responsibilities are assigned and verified when financing transactions span several actors and payment channels, and how the institution's ethical commitments shape those arrangements.

Two Islamic ethical concepts guide the analysis. *Amanah* concerns the faithful discharge of an entrusted responsibility, a reading informed by Qur'an 4:58. *Itqan* concerns diligence, precision, and excellence in carrying out work (Tlaiss, 2015; Tlaiss & Goby, 2026). Qur'an 2:282, which addresses documenting deferred debt, provides a related basis for interpreting the importance of keeping verifiable records. Research on Islamic religious organizations likewise shows that formal reporting can help institutions demonstrate how they have fulfilled obligations arising from the trust placed in them (Basri et al., 2016). In this case, *amanah* highlights who is responsible for handling, authorizing, and reviewing transactions. *Itqan* focuses on how staff check entries, reconcile balances, and correct discrepancies. The analysis distinguishes instances in which participants explicitly connect these values to institutional decisions from instances in which the values provide an interpretive lens for the researcher.

The study examines three related dimensions. Process digitalization concerns how billing, payments, student deposits, and retail transactions enter the accounting workflow. Digital governance concerns who can authorize, record, correct, and review those transactions, drawing on research on decision rights, digital governance, and internal control (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013; Lips, 2020; Weill & Ross, 2004; Welchman, 2015). A control is auditable when available evidence allows an authorized reviewer to reconstruct the action, identify the responsible role, and examine any verification or correction. This definition highlights the relationship among formal rules, software permissions, and observed practice. Organizational capability concerns how training, role allocation, and coordination help staff carry out controls and adapt them when problems arise (Muhith et al., 2023; Teece, 2007, 2018; Warner & Wäger, 2019). Farrell (1957) and Leibenstein (1966) provide a secondary lens for discussing how organizational routines may affect the use of available capabilities. The analysis considers the continued use of cash in relation to access and reconciliation, without treating the share of cash payments as a measure of inefficiency.

The study contributes to research on Islamic educational management by examining how ethical commitments connect to specific controls and how those controls are checked in practice. Three questions guide the inquiry: (1) How did the introduction of digital and cash-counter payment channels change the recording and verification of financing transactions at Pondok Pesantren Baitul Hikmah Tempurejo? (2) How, and to what extent, did *amanah* and *itqan* inform the design and day-to-day use of auditable controls across the *pesantren*, bank, and technology

provider? (3) What organizational capabilities help sustain these controls when staff encounter transaction errors, reconciliation delays, or gaps in technical expertise?

METHOD

Research Design and Case Boundaries

This study used a qualitative single-case design to examine the digital governance of educational financing at Pondok Pesantren Baitul Hikmah Tempurejo in Jember Regency, East Java (Creswell & Poth, 2018; Yin, 2018). The unit of analysis was the institution's system for collecting, recording, verifying, and reconciling tuition payments, student spending-money deposits, and purchases made with those balances at participating campus businesses. The *pesantren* was selected purposively because its collaboration with Bank Jatim Syariah and PT Teknologi Kartu Indonesia (PT TKI) offered an opportunity to examine how responsibility for these transactions was distributed across an educational institution, a bank, and a technology provider.

The study examined the period from the start of the digital payment initiative in March 2023 through November 2026. Interviews and observations took place between September and November 2026. Earlier stages of implementation were reconstructed from institutional records and retrospective interview accounts. Pre-implementation ledgers and tuition cards provided a basis for describing earlier procedures. Evidence from institutional leadership, finance staff, system operators, external partners, students, and parents was synthesized into a single case analysis.

Participant Selection

Interview participants were purposively selected based on their direct involvement in decision-making, system administration, operational support, or use of the payment services (Patton, 2015). Selection covered eight stakeholder categories. Internal participants described policy decisions and transaction handling. Representatives of the bank and technology provider contributed evidence about payment processing and technical support. Students and parents or guardians described their experiences with the services. Cashier activity at participating campus businesses was examined through observation of point-of-sale (POS) transactions.

Table 1. Interview Participant Categories and Their Contribution to the Case Analysis

No.	Participant category	Contribution to the case analysis
1	Head of the *pesantren* and foundation chair (*kyai*)	Rationale for digital adoption, authorization of procedures, allocation of responsibilities and resources, and institutional oversight
2	Treasurer (*bendahara*)	Cash verification, daily closing, bank reconciliation, and review of discrepancies
3	Technical operator responsible for billing and records	Maintenance of master records, bill generation, card activation, and assistance to parents
4	Technical operator responsible for counter transactions and POS monitoring	Documentation of cash top-ups, monitoring of campus transactions, and handling of operational problems

No.	Participant category	Contribution to the case analysis
5	Bank Jatim Syariah representative	Role of the One Pesantren One Product initiative, management of the pooled account, virtual account processing, and payment confirmation
6	PT TKI development and support personnel	PSP Admin configuration, access permissions, system updates, technical support, and handling of escalated incidents
7	Boarding students (*santri*)	Experience using payment cards, daily spending limits, and procedures for lost cards
8	Parents or guardians	Access to billing information and electronic receipts, and experiences with virtual account transfers and cash-counter top-ups

Data Collection

Three sources of evidence were used. First, limited participant observation focused on cash-counter top-ups, POS transactions, and end-of-day reconciliation. Structured field notes documented the steps staff followed, the records they consulted, and the points at which transactions were checked or handed over to another person.

Second, semi-structured interviews followed a pilot-tested guide organized around process digitalization, digital governance, and organizational capability. The questions were adapted to participants' roles. The interviews covered changes in payment procedures, responsibility for verifying and correcting transactions, and the support available when operational problems arose. Interviews were audio-recorded with consent and transcribed verbatim.

Third, document analysis drew on Cooperation Agreement (*Perjanjian Kerja Sama*) No. TKI/PKS/128/V/2023, Leader's Decree No. 021/SK-KEU/PPBH/IV/2023, five written financial standard operating procedures (SOPs), and minutes from six joint meetings. The records examined also included handwritten ledgers and stamped tuition cards from before implementation, logs from PSP Admin version 2.4.7, and helpdesk incident logs. The agreement, decree, and SOPs established what each party was expected to do. The transaction and incident records provided evidence about particular actions and problems within the periods covered by those records.

Data Analysis

Analysis followed the interactive model of Miles et al. (2020), in which data condensation, data display, and conclusion drawing and verification proceed iteratively. During condensation, I selected and organized interview transcripts, field notes, and documents around the three analytical dimensions. Comparative matrices and workflow diagrams were used to map how transactions moved from initiation to recording, verification, correction, and reconciliation. This allowed comparison of evidence from different roles and sources within the same case.

The analysis examined three aspects of each control where evidence was available. These were the formal procedure, the software-permitted action, and what happened in practice. For a cash-counter correction, for example, the SOP could establish who was authorized to approve the change, while an incident record

could show how a particular correction was handled. An interview could clarify why staff followed a particular course of action. Agreements and discrepancies among sources were considered in drawing conclusions about the operation of the control. This approach follows guidance that case study triangulation should make evidence comparisons visible in the analysis (Schlunegger et al., 2024).

The interpretation of *amanah* and *itqan* distinguished between connections participants made explicitly and connections the researcher drew. An explicit participant account or documentary statement could support an interpretation of an ethical value's role in a decision. A documented authorization, correction, or reconciliation procedure could support an interpretation of how that value was reflected in practice. Dashboard figures were used descriptively within their recorded scope. Billing, top-up, and account activity figures were interpreted with attention to their reporting periods and denominators.

Trustworthiness and Research Ethics

Credibility and confirmability were supported through cross-source comparison, two rounds of member checking with key informants, external academic peer debriefing, a reflexive journal, and a research audit trail (Lincoln & Guba, 1985). The researcher's insider position informed access to the setting and was considered when interpreting accounts from participants in different institutional roles. Reflexive journaling and peer debriefing helped surface the researcher's assumptions and interpretations. Reporting emphasized the relationship between the study design, the evidence used, and the claims drawn from it, consistent with Braun and Clarke's (2025) guidance on qualitative reporting.

The study proceeded with formal institutional authorization and voluntary informed consent. Interview recording was subject to participant consent. Student and respondent identifiers were anonymized in the reporting of the study.

RESULTS AND DISCUSSION

Results

Digitalization of Tuition, Student Deposits, and Campus Purchases

Before the digital payment initiative began in March 2023, staff recorded monthly tuition (*syahriyah*) of IDR 400,000 to 450,000 and student spending-money deposits in handwritten ledgers and on stamped tuition cards. Retrospective accounts required three to five working days for monthly recapitulation. Staff reported recurring discrepancies when information was copied between cards and ledgers. Parents paid in cash during family visits (*sambangan*) or sent screenshots of bank transfers for staff to verify.

Under the revised workflow, Technical Operator 1 generated bills on the 25th of each month using the billing module in PSP Admin v2.4.7. The Treasurer validated the bills before they appeared in Baitul Hikmah Tempurejo Mobile, the Android application used by parents. Each student had a static virtual account (VA) with Bank Jatim Syariah. According to the documented workflow, once the bank verified the payment, it sent an encrypted confirmation to the PT Teknologi Kartu Indonesia (PT TKI) server, which updated the payment status and generated a

timestamped electronic receipt. Student spending-money balances were linked to cards used at four participating campus businesses: the canteen, cooperative, printing press, and retail store. Four card terminals supported contactless payments and applied daily spending limits.

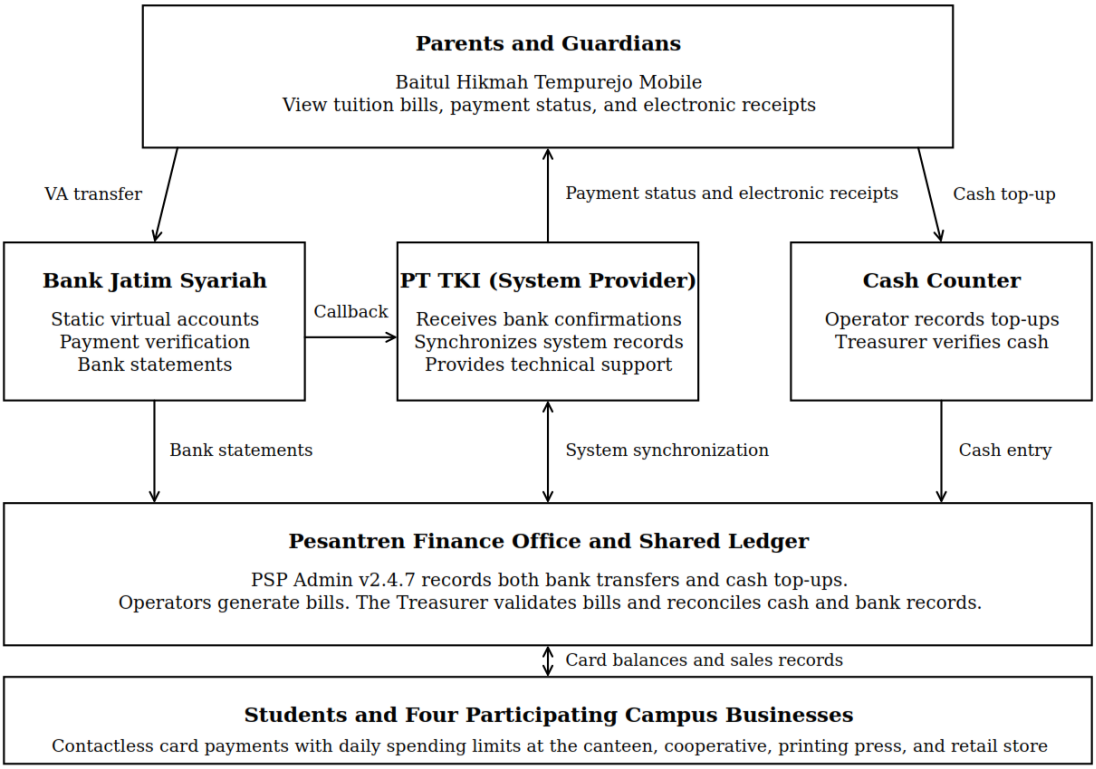


Figure 1. Tri-Institutional Digital Financing Ecosystem Architecture
Source: Synthesized from PKS No. TKI/PKS/128/V/2023, system observations, and developer interviews (2026).

The PSP Admin dashboard extract dated November 18, 2026, showed 417 registered users and 380 accounts classified as active, equivalent to 91.13% of registered users. The billing records in the extract showed IDR 33,680,100 received against IDR 34,363,100 billed. This was 98.01% of the recorded billed amount, leaving IDR 683,000 unpaid. The digital recap could be generated in under five minutes. The earlier estimate of three to five working days and the time required to generate the digital recap describe different stages of financial work. They therefore provide separate observations about manual recapitulation and digital report generation.

During the reported 30-day period, 1,200 smart-card point-of-sale (POS) transactions totaled IDR 4,459,200, with zero reversals recorded in the POS logs. Student balance top-ups over the same period totaled IDR 36,500,000. Bank Jatim Syariah processed IDR 20,290,000 across 58 VA transfers, accounting for 55.59% of the total top-up value. The cash counter processed the remaining IDR 16,210,000, or 44.41% of the total value. These figures describe the monetary value of top-ups by channel, separately from tuition payments and student purchases.

The Treasurer reported that some parents from rural areas preferred handing over cash at the administration desk during *sambangan*. Operators reported entering counter top-ups in less than 30 seconds. Cash received at the counter was

included in the reconciliation of the physical cash balance against the ledger. The October 12, 2026, incident log recorded a two-minute delay during the midday canteen break before staff switched to the backup connection. Other reported problems included parents entering incorrect VA digits and students misplacing payment cards. Staff reported that a replacement card could be issued in approximately five minutes.

Governance of Authorization, Verification, and Correction

Leader's Decree (*Surat Keputusan Pengasuh*) No. 021/SK-KEU/PPBH/IV/2023 and five standard operating procedures (SOPs) established how transactions were to be handled. SOP-KEU-01 set monthly bill generation for the 25th. SOP-KEU-02 governed VA payment clearing, SOP-KEU-03 covered cash-counter top-ups, SOP-KEU-04 set the daily ledger cutoff at 22:00 Western Indonesian Time, and SOP-KEU-05 specified procedures for correcting records and escalating incidents. The decree required staff to use a common system of record, restricted cash use in the boarding environment, and prescribed rules for protecting individual login credentials.

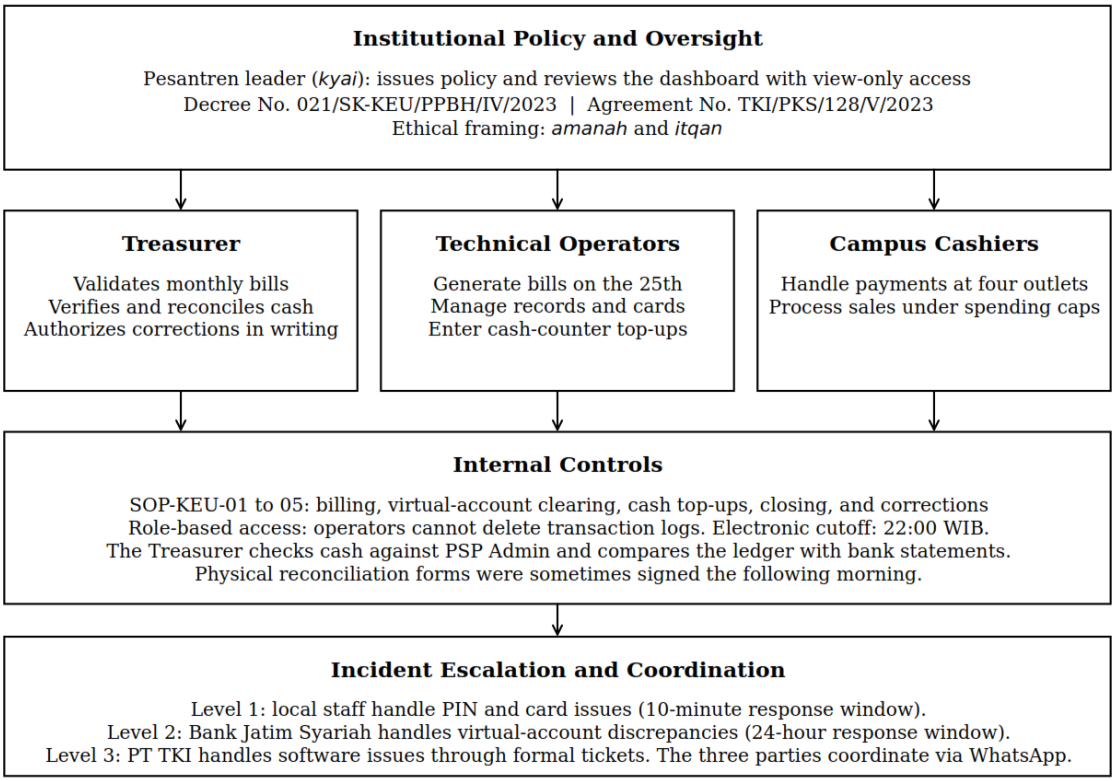


Figure 2. Multi-Layered Digital Governance and Segregation of Duties Framework
Source: Derived from Decree No. 021/SK-KEU/PPBH/IV/2023, SOP-KEU-01 to 05, and field interviews (2026).

The system configuration assigned the head of the *pesantren* view-only access to the executive dashboard. The Treasurer could verify transactions, reconcile bank records, and export reports. The two technical operators used individual accounts restricted to their operational modules. Parents could view records associated with their own child. The operators' accounts did not permit deletion of stored transaction logs. Under the documented procedure, correction of an erroneous

counter entry required written verification by the Treasurer and a formal ticket to PT TKI.

Verification took place at several points. Operators entered cash top-ups in the system, and the Treasurer verified the physical cash. Staff reconciled cash held in the safe with the system total at daily closing and periodically checked the PSP Admin ledger against Bank Jatim Syariah statements. During some major *pesantren* events, staff signed the physical reconciliation form the next morning. The electronic ledger still closed at 22:00. The field evidence establishes the electronic cutoff time and the delay in signing. At the same time, the physical cash count time on those occasions was not specified.

A dedicated WhatsApp group connected the *pesantren*, Bank Jatim Syariah, and PT TKI for incident coordination. The reported escalation protocol assigned first-level issues, including PIN resets and card blocking, to local staff, with a 10-minute response window. It referred VA clearing discrepancies to the banking partner, with a 24-hour response window, and routed software defects to PT TKI through developer tickets. These windows describe the reported protocol. The source material does not provide resolution times for all incidents.

Staff Capability and the Use of Financial Records

Retrospective implementation accounts identified differences in digital readiness between younger administrative staff and senior finance staff accustomed to handwritten ledgers. They also reported variation in parents' familiarity with smartphone services. The institution responded through four stages of practical training: (1) Administrators attended a two-day workshop using training accounts and printed manuals; (2) A dormitory pilot ran from April 3 to 16, 2023, with on-site mentoring from PT TKI and parallel manual verification. The wider rollout followed on May 8, 2023; (3) Campus cashiers received technical guidance before POS integration at the participating outlets on June 5, 2023; (4) Staff continued to receive peer mentoring across generations and support through the helpdesk.

By 2026, internal staff handled routine billing, counter top-ups, and card replacement without daily vendor assistance. The institution paired younger operators with the experienced Treasurer and invested in computers, four contactless card terminals, attendance equipment, and a backup internet connection. The backup connection was installed after the January 15, 2024, annual review. The head of the *pesantren* also participated in the coordination group with the bank and the developer. Technical expertise remained concentrated in two operators, and certain corrections and software problems still required vendor involvement. Staff used historical dashboard records primarily for routine reporting. The reported use of those records for cash-flow forecasting and analysis of campus business margins remained limited.

Accounts of leadership described adopting new procedures in relation to *amanah*, *itqan*, *syaffafiyyah*, and *mas'uliyyah*. They also referred to the maxim *al-muhafazhah 'ala al-qadim al-shalih wa al-akhdhu bi al-jadid al-ashlah*, understood in the case as preserving sound practices while adopting improvements. These accounts describe how the change was framed. The decree, SOPs, and observations document the procedures and roles through which the system operated. The student-card records establish that daily spending limits were applied.

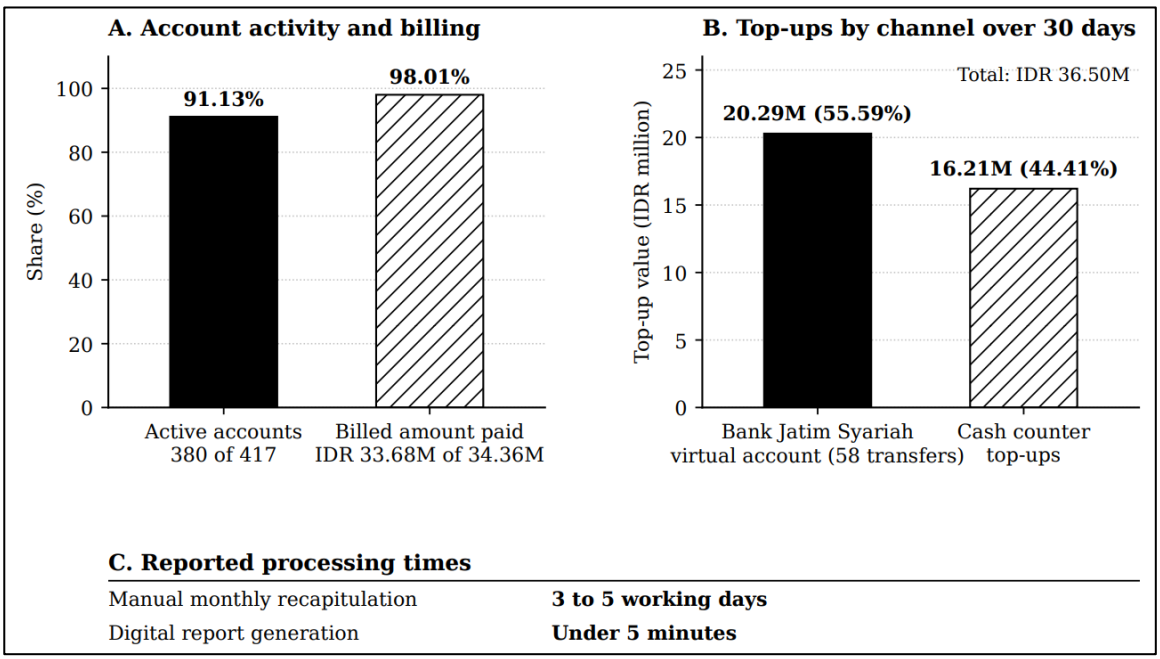


Figure 3. Empirical Operational Efficiency and Top-Up Channel Distribution in PSP Admin v2.4.7

Source: PSP Admin v2.4.7 dashboard records, Pondok Pesantren Baitul Hikmah, November 18, 2026.

Table 2. Cross-Focus Synthesis of Digital Financing Transformation Findings

Dimension	Core empirical finding	Theoretical and ethical interpretation	Operational conditions and exceptions
Process digitalization	The common ledger recorded both VA transfers and cash-counter top-ups. Manual monthly recapitulation was reported to take three to five working days. The digital recap could be generated in under five minutes. The dashboard recorded payment of 98.01% of the billed value in its reported scope.	The shared workflow illustrates process digitalization (Verhoef et al., 2021; Westerman et al., 2014).	Cash-counter top-ups accounted for 44.41% of the recorded top-up value. Midday network congestion interrupted service on a reported occasion. The manual and digital timings refer to different scopes of work.
Digital governance	The decree and five SOPs assigned duties. Access was role-based, operators could not delete stored logs, the electronic ledger closed at 22:00, and incidents followed three	Decision rights and internal control explain the division between entry, authorization, and review (Committee of Sponsoring Organizations of the Treadway Commission [COSO], 2013; Lips,	Physical reconciliation forms were sometimes signed the following morning. Some corrections required Treasurer verification and a

Dimension	Core empirical finding	Theoretical and ethical interpretation	Operational conditions and exceptions
	escalation levels.	2020; Weill & Ross, 2004; Welchman, 2015). These procedures can be interpreted through *amanah* and *itqan*.	developer ticket.
Organizational capability	A four-stage training and support process included a two-week pilot, cashier instruction, and peer mentoring. Internal staff assumed responsibility for routine operations.	Piloting and changes in work roles can be interpreted through dynamic capabilities and digital mastery (Teece, 2018; Warner & Wäger, 2019; Westerman et al., 2014).	Technical knowledge remained concentrated in two operators. Dashboard data were used mainly for routine reporting, with limited use for forecasting.

Source: Within-case synthesis of interviews, observations, and institutional records (2026).

Discussion

Digitalization Reorganized the Workflow While Preserving Two Payment Channels

The shift at Baitul Hikmah changed how transactions moved between families, campus staff, the bank, and the technology provider. Bills issued by an operator were validated by the Treasurer and made available to parents. Bank confirmations updated the ledger, while cash received at the counter entered the same record through an operator. These changes illustrate the distinction between converting paper records into digital form and reorganizing how transactions are recorded, shared, and verified (Brennen & Kreiss, 2016; Verhoef et al., 2021). They also illustrate Westerman et al.'s (2014) argument that digital value depends on changes to core operations. Bhimani et al. (2026) similarly argue that digitalization reshapes both the data organizations track and the controls applied to those data. In this case, the shared ledger made it possible to apply related verification procedures to transactions that entered through different channels.

Maela (2025) identified improvements in access to financial information and oversight through CARDS. Hartono and Sa'adah (2026) documented how SiCashless integrated tuition payments, balance monitoring, and transaction histories while encountering difficulties related to connectivity and users' digital literacy. Baitul Hikmah adds detail about how a cash channel can be retained within an integrated workflow. The Treasurer's account connects counter use to the established practice of *sambangan*. The 44.41% share shows the channel's financial significance during the period examined. It leaves open whether families chose cash because of visiting routines, digital access, familiarity with the system, or other considerations. Mahardika (2025) identifies unequal access as a concern in Indonesian electronic-money policy, and Rezki et al. (2026) find that the substitution of electronic money

for cash varies across Indonesian provinces. At the institutional level, the Baitul Hikmah case shows the corresponding control obligation. Retaining cash access requires staff to verify physical receipts and reconcile them with the common ledger.

Auditable Controls Made Responsibility Visible Across Institutions

The clearest evidence of auditability concerns the allocation of responsibilities. An operator records the counter transaction, the Treasurer verifies the cash and authorizes corrections, the bank supplies payment confirmations and statements, and the developer handles specified escalations. This division illustrates how decision rights are assigned across roles (Weill & Ross, 2004). The combination of written procedures and software permissions also reflects Welchman's (2015) emphasis on aligning strategy, policy, and technical standards. COSO's (2013) distinction between preventive and detective controls helps explain their different functions. Restricted access limits what an operator can do, while cash counts, reconciliations, and comparisons with bank statements can identify discrepancies after entry. Lips's (2020) relational perspective helps explain why coordination among the three institutions remains important when a transaction cannot be resolved by the *pesantren* alone.

The delayed reconciliation signatures show why auditability depends on the evidence of human review. The software cutoff was established when the ledger closed. The physical count and signed form served different verification functions. If the form was signed the next morning, the ledger timestamp could establish the cutoff, while the timing of the physical count remained unclear. Similarly, operators' inability to delete logs limits what they can do with their accounts. Evidence on which roles can amend records and which details are retained after a correction would more precisely establish how far a reviewer can reconstruct the event. Ashraf's (2025) study of corporate reporting provides a relevant parallel. Automation can strengthen some internal controls while changing the extent of human monitoring. In the *pesantren* case, the electronic record and the Treasurer's review each contribute distinct evidence about the same transaction.

***Amanah* and *Itqan* as Principles for Interpreting Financial Practice**

The leadership accounts provide evidence that Islamic values were invoked when explaining the adoption of digital procedures. The operational evidence provides a basis for interpreting how those values were reflected in everyday work. *Amanah* is most visible in the way responsibility for entrusted funds is assigned and checked. *Itqan* is reflected in practices that require accuracy and follow-through, including checking entries against receipts, reconciling balances, and documenting corrections. This reading draws on Qur'an 4:58 on the discharge of trusts and Qur'an 2:282 on documenting deferred debt. It also accords with Basri et al.'s (2016) discussion of formal reporting as a means of demonstrating accountability in Islamic religious organizations and Tlaiss's (2015) account of *itqan* as excellence in work.

The distinction between ethical framing and operational evidence defines the strength of the article's contribution. Participants' accounts show that the values formed part of the institutional language of change. The procedures show how records and checks can make responsibility and precision visible. A claim that a

particular control was adopted because of a specific value requires a participant account or document linking that value to the decision. This focus complements Maulana's (2024) analysis of the contractual basis of E-Smart transactions and Widiastuti's (2025) resource-based analysis of *madrasah* financing. It shifts attention to what happens after a transaction is initiated, particularly who verifies it, what evidence remains, and how discrepancies are resolved.

Organizational Capability Sustained Routine Controls and Shaped Their Limits

The sequence from recognizing the banking opportunity to piloting the system, training cashiers, and redistributing daily tasks can be interpreted through the dynamic capabilities of sensing, seizing, and transforming (Teece, 2007, 2018; Warner & Wäger, 2019). The pilot provided time to test the revised workflow alongside manual procedures. Mentoring helped staff take on routine tasks, and the backup connection gave them a practical response to a later service interruption. These adaptations illustrate the relationship between technology and leadership capabilities discussed by Westerman et al. (2014). The case also places these changes in a specific institutional context. Ma'sum (2024) and Junaidi (2024) provide points of comparison for digital adaptation in student information management and learning, respectively. Muhith et al. (2023) situate digital change within *pesantren* organizational culture, while Hilyatin (2025) provides context for external partnerships through One Pesantren One Product. In this case, the leader's empirically documented role is evident in staffing decisions, infrastructure investment, and participation in joint coordination.

Operational continuity remained vulnerable because specialized knowledge was concentrated in two staff members and some problems required developer intervention. Limited use of dashboard data for forecasting points to a separate question about whether staff have the time, skills, and data quality needed to use historical records for planning. Fähndrich and Pedell (2025) likewise show that digitalization changes both management-control tasks and the competencies required to perform them. Farrell (1957) and Leibenstein (1966) offer a basis for asking how fully institutional resources and capabilities are used. The available evidence supports identifying continuity risks and opportunities to expand data use. A formal efficiency estimate would require comparable inputs, outputs, and a feasible performance benchmark. The use of a cash channel is better understood in terms of payment access and the additional reconciliation work it entails.

Contribution and Limitations

The case contributes to Islamic educational management by showing how responsibility for entrusted funds can be expressed in concrete procedures. Separate permissions make it possible to identify who records or authorizes a transaction. Reconciliation checks connect the ledger to cash receipts and bank records. Escalation procedures assign responsibility when a discrepancy requires action by an external partner. These features specify what it means for a control to be auditable in a *pesantren* that continues to accept both cash and digital payments. They also identify where the evidence is less complete, especially when physical sign-off is delayed, or a correction moves beyond the institution to the software provider.

The qualitative single-case design supports interpreting these practices in their institutional context. Earlier procedures were reconstructed from records and retrospective accounts, and the manual and digital timings were not established for equivalent tasks. The dashboard extract and the reported 30-day window provide bounded indicators of billing, top-ups, and POS activity. They offer limited evidence about changes over time, individual reasons for choosing a payment channel, or changes in students' spending behavior. The researcher's insider position and software changes during implementation also affect how the findings should be interpreted. Reflexive journaling, member checking, and version logging helped document these conditions.

CONCLUSION

At Pondok Pesantren Baitul Hikmah Tempurejo, digitalization changed how tuition payments and student funds were recorded, verified, and reconciled. Virtual account transfers and cash-counter top-ups entered the same digital ledger, with distinct responsibilities assigned to operators, the treasurer, the bank, and the technology provider. Cash-counter deposits accounted for 44.41% of the recorded top-up value over 30 days, showing that cash remained a substantial part of the digital workflow. This finding challenges the assumption that digital financial governance requires eliminating cash. The case shows how a *pesantren* can retain a familiar payment channel while making cash transactions traceable through ledger entries, physical cash checks, and reconciliation.

The study reinforces earlier findings on the value of integrated financial records and extends them by explaining how individual actions become auditable. Reviewers can trace a transaction when the records identify who entered it, who verified it, and how any discrepancy was handled. The case also puts claims about automation into perspective. The electronic ledger closed at 22:00 WIB, while staff sometimes signed the physical reconciliation form the following morning. Leadership framed *amanah* and *itqan* within the ethics of digital adoption. The documented controls give these values practical meaning by assigning responsibility for entrusted funds and carefully verifying records. The evidence supports this interpretation of the controls, while the role of each value in specific design decisions remains open to further investigation.

The study examined a single *pesantren* with a limited group of participants, which restricts the transferability of its findings. Earlier procedures were reconstructed retrospectively, and the manual monthly recap and digital report generation covered different tasks. The dashboard extract also captured a limited period of activity. In practice, *pesantren* administrators can strengthen continuity by cross-training backup operators, recording when physical cash checks and sign-offs occur, and retaining a traceable history of transaction corrections. Future research should compare institutions with different financing arrangements, include a wider range of parents and staff, and use equivalent measures across longer periods to assess how governance practices affect processing time, reconciliation accuracy, and access to payment services.

ACKNOWLEDGMENT

The authors thank Universitas Islam Negeri Kiai Haji Achmad Siddiq Jember and the leadership, staff, students, and parents of Pondok Pesantren Baitul Hikmah Tempurejo, Jember, for supporting the research. Wasi'atul Arifah designed the study, collected and analyzed the data, and drafted the manuscript. Khotibul Umam contributed to the conceptual framework and interpretation of the findings. Hartono provided methodological guidance and critically revised the manuscript.

REFERENCES

Ashraf, M. (2025). Does automation improve financial reporting? Evidence from internal controls. *Review of Accounting Studies, 30*(1), 436–479. https://doi.org/10.1007/s11142-024-09822-y

Bank Indonesia. (2023). *Laporan kebijakan moneter triwulan I 2023* [Monetary policy report for the first quarter of 2023]. https://www.bi.go.id/id/publikasi/laporan/Pages/Laporan-Kebijakan-Moneter-Triwulan-I-2023.aspx

Basri, H., Siti-Nabiha, A. K., & Majid, M. S. A. (2016). Accounting and accountability in religious organizations: An Islamic contemporary scholars' perspective. *Gadjah Mada International Journal of Business, 18*(2), 207–230. https://doi.org/10.22146/gamaijb.v18i2.15553

Bhimani, A., Cinquini, L., & Malmi, T. (2026). What happens at the interface of digitalisation and accounting? *The British Accounting Review, 58*(2), Article 101742. https://doi.org/10.1016/j.bar.2025.101742

Braun, V., & Clarke, V. (2025). Reporting guidelines for qualitative research: A values-based approach. *Qualitative Research in Psychology, 22*(2), 399–438. https://doi.org/10.1080/14780887.2024.2382244

Brennen, J. S., & Kreiss, D. (2016). Digitalization. In K. B. Jensen, R. T. Craig, J. D. Pooley, & E. W. Rothenbuhler (Eds.), *The international encyclopedia of communication theory and philosophy* (pp. 1–11). Wiley. https://doi.org/10.1002/9781118766804.wbiect111

Committee of Sponsoring Organizations of the Treadway Commission. (2013). *Internal control—Integrated framework*. https://www.coso.org/guidance-on-ic

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). SAGE Publications.

Fähndrich, J., & Pedell, B. (2025). Digitalisation as a driver of transformation for management control of small and medium-sized enterprises. *Qualitative Research in Accounting & Management, 22*(2), 134–157. https://doi.org/10.1108/QRAM-08-2023-0149

Farrell, M. J. (1957). The measurement of productive efficiency. *Journal of the Royal Statistical Society: Series A (General), 120*(3), 253–281. https://doi.org/10.2307/2343100

Hartono, & Sa'adah, M. (2026). Digitalization of financial management in the educational financing system of Islamic boarding schools. *Journal of Schooling and Pesantren Studies, 1*(1), 29–44. https://jsps.kaifama.id/jsp/article/view/4

Hilyatin, D. L. (2025). *Role model ekosistem UMKM berbasis pesantren: Studi kasus pada Program OPOP (One Pesantren One Product) Pesantren Ihya'us Sunnah Al-Hasany Jember Jawa Timur* [A model for a pesantren-based micro, small, and medium enterprise ecosystem: A case study of the One Pesantren One Product program at Pesantren Ihya'us Sunnah Al-Hasany, Jember, East Java] [Doctoral dissertation, UIN Profesor Kiai Haji Saifuddin Zuhri Purwokerto]. Repository UIN Profesor Kiai Haji Saifuddin Zuhri. https://repository.uinsaizu.ac.id/32743/

Isnaini, M. (2025). *Transformasi sistem digital payment dalam optimalisasi pengelolaan keuangan Pesantren Bustanul Ulum Mlokorejo* [Transformation of the digital payment system to improve financial management at Pesantren Bustanul Ulum Mlokorejo] [Master's thesis, UIN Kiai Haji Achmad Siddiq Jember]. Digital Library UIN KHAS Jember. https://digilib.uinkhas.ac.id/46103/

Junaidi, K. (2024). *Transformasi pondok pesantren di era digital di Kabupaten Kampar: Implementasi Peraturan Menteri Agama Nomor 30 Tahun 2020* [Transformation of Islamic boarding schools in the digital era in Kampar Regency: Implementation of Minister of Religious Affairs Regulation No. 30 of 2020] [Doctoral dissertation, Universitas Islam Negeri Sultan Syarif Kasim Riau]. Repository UIN Sultan Syarif Kasim Riau. https://repository.uin-suska.ac.id/78089/

Leibenstein, H. (1966). Allocative efficiency vs. "X-efficiency." *The American Economic Review, 56*(3), 392–415.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.

Lips, M. (2020). *Digital government: Managing public sector reform in the digital era*. Routledge. https://doi.org/10.4324/9781315622408

Maela, S. N. (2025). *Manajemen keuangan pondok pesantren berbasis aplikasi CARDS (studi kasus di Pondok Pesantren Az Zahra Al Gontory dan Pondok Pesantren Al Qur'an Al Yusufiyah)* [Financial management in Islamic boarding schools using the CARDS application: A case study at Pondok Pesantren Az Zahra Al Gontory and Pondok Pesantren Al Qur'an Al Yusufiyah] [Master's thesis, UIN Profesor Kiai Haji Saifuddin Zuhri Purwokerto]. Repository UIN Profesor Kiai Haji Saifuddin Zuhri. https://repository.uinsaizu.ac.id/33089/

Mahardika, Z. (2025). Indonesia's electronic money landscape: Between effectivity and inclusivity. *Journal of Central Banking Law and Institutions, 4*(1), 1–22. https://doi.org/10.21098/jcli.v4i1.253

Ma'sum, M. (2024). *Inovasi sistem informasi manajemen pendidikan berbasis aplikasi Sistem Informasi Santri di Pondok Pesantren Darussalam Blokagung Banyuwangi* [Innovation in education management information systems using the Student Information System application at Pondok Pesantren Darussalam Blokagung, Banyuwangi] [Master's thesis, UIN Kiai Haji Achmad Siddiq Jember]. Digital Library UIN KHAS Jember. https://digilib.uinkhas.ac.id/33272/

Maulana, A. I. (2024). *Tinjauan akad dalam penggunaan E-Smart sebagai alat transaksi non tunai di Pondok Pesantren Modern Zam-Zam* [An examination of the contractual basis for using E-Smart for cashless transactions at Pondok Pesantren Modern Zam-Zam] [Master's thesis, UIN Profesor Kiai Haji Saifuddin Zuhri Purwokerto]. Repository UIN Profesor Kiai Haji Saifuddin Zuhri. https://repository.uinsaizu.ac.id/24827/

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.

Muhith, A., Dwiyono, Y., Munawati, S., Mustofa, A., & Haryanto, S. (2023). Challenges of Islamic boarding school organizational culture in the millennial generation and the digital era 4.0. *Nazhruna: Jurnal Pendidikan Islam, 6*(3), 457–474. https://doi.org/10.31538/nzh.v6i3.4231

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE Publications.

Peraturan Menteri Agama Republik Indonesia Nomor 30 Tahun 2020 tentang Pendirian dan Penyelenggaraan Pesantren, Berita Negara Republik Indonesia Tahun 2020 Nomor 1432 (2020). https://peraturan.go.id/id/permenag-no-30-tahun-2020

Rezki, J. F., Justinus, Y. C., Desdiani, N. A., Adriansyah, M., Vandika, R., & Muhammad, H. (2026). Digital effect: How e-money is changing the demand for cash in Indonesia. *Economic Modelling, 162*, Article 107636. https://doi.org/10.1016/j.econmod.2026.107636

Schlunegger, M. C., Zumstein-Shaha, M., & Palm, R. (2024). Methodologic and data-analysis triangulation in case studies: A scoping review. *Western Journal of Nursing Research, 46*(8), 611–622. https://doi.org/10.1177/01939459241263011

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350. https://doi.org/10.1002/smj.640

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(1), 40–49. https://doi.org/10.1016/j.lrp.2017.06.007

Tlaiss, H. A. (2015). How Islamic business ethics impact women entrepreneurs: Insights from four Arab Middle Eastern countries. *Journal of Business Ethics, 129*(4), 859–877. https://doi.org/10.1007/s10551-014-2138-3

Tlaiss, H. A., & Goby, V. P. (2026). Islamic business ethics, Muslim feminism, and the rhetorical construction of entrepreneurial legitimacy: Evidence from Emirati women. *Journal of Business Ethics*. Advance online publication. https://doi.org/10.1007/s10551-026-06429-y

Undang-Undang Republik Indonesia Nomor 18 Tahun 2019 tentang Pesantren, Lembaran Negara Republik Indonesia Tahun 2019 Nomor 191 (2019). https://peraturan.bpk.go.id/Details/122743/uu-no-18-tahun-2019

Undang-Undang Republik Indonesia Nomor 27 Tahun 2022 tentang Pelindungan Data Pribadi, Lembaran Negara Republik Indonesia Tahun 2022 Nomor 196 (2022). https://peraturan.bpk.go.id/Details/229798/uu-no-27-tahun-2022

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research, 122*, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems, 28*(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning, 52*(3), 326–349. https://doi.org/10.1016/j.lrp.2018.12.001

Weill, P., & Ross, J. W. (2004). *IT governance: How top performers manage IT decision rights for superior results*. Harvard Business School Press.

Welchman, L. (2015). *Managing chaos: Digital governance by design*. Rosenfeld Media.

Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading digital: Turning technology into business transformation*. Harvard Business Review Press.

Widiastuti, H. (2025). *Manajemen pembiayaan pendidikan perspektif teori resource-based view di Madrasah Aliyah Negeri 3 Banyumas* [Educational financing management from a resource-based view at Madrasah Aliyah Negeri 3 Banyumas] [Master's thesis, UIN Profesor Kiai Haji Saifuddin Zuhri Purwokerto]. Repository UIN Profesor Kiai Haji Saifuddin Zuhri. https://repository.uinsaizu.ac.id/32670/

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.