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Adaptive Strategies of Islamic Education (PAI) Teachers toward Digital-Based Islamic Education Policies: A Case Study at SMAN 1 Selong

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Abstract

This study is motivated by the limited empirical research on how Islamic Religious Education (PAI) teachers adapt to digital-based education policies amid the growing influence of digital transformation in public secondary schools. It aims to examine PAI teachers' adaptive strategies, the enabling and constraining conditions that shape these strategies, and their implications for learning effectiveness at SMAN 1 Selong. Using a qualitative single-case study design, the research involved 15 purposively selected participants, including PAI teachers, students, and school leaders. Data were collected through semi-structured interviews, classroom observations, and document analysis, and were analyzed thematically to identify patterns of teacher adaptation, policy enactment, and learning outcomes. The findings reveal that PAI teachers exhibit adaptive capacity through the integration of pedagogical flexibility, functional use of digital technology, and sustained spiritual intentionality. Teacher adaptation is driven by intrinsic motivation, institutional support, and peer collaboration, while it is constrained by unequal student access to technology, varying levels of digital competence, and increased administrative demands. Importantly, digital-based instruction does not weaken religious values; rather, when implemented contextually, it supports cognitive engagement, affective development, and spiritual learning objectives. The study concludes that digital adaptation in PAI is a value-mediated and context-sensitive process rather than a purely technical response to policy mandates, and it contributes to theoretical

discussions on teacher adaptation in religious education while offering practical implications for policymakers and school leaders in designing digital policies and professional development that remain pedagogically effective and spiritually grounded.

Keywords: Adaptive Strategies; Islamic Religious Education; Digital Education Policies; Teacher Adaptation; SMAN 1 Selong

INTRODUCTION

Digital transformation in education has become a global imperative that continues to reshape instructional practices across diverse contexts, including Islamic education. International studies demonstrate that the successful implementation of digital-based learning policies is strongly influenced by sustainable professional development programs that enhance teachers' digital literacy and their capacity to design contextually relevant digital pedagogical content (Farisia & Syafi, 2024). However, disparities in technological infrastructure between urban and rural areas remain a persistent barrier to policy adoption, requiring strategic interventions in infrastructure and subsidized access to ensure equity (Istibana & Aimah, 2025). Within Islamic education specifically, digital transformation cannot be reduced to technical adjustments; teachers must adapt pedagogical practices to ensure that technology strengthens rather than weakens religious values and character formation (Muslim, 2024). Moreover, the increasing integration of artificial intelligence and adaptive systems presents significant opportunities for personalized religious learning, yet policies must regulate ethics, content validity, and privacy to maximize benefits and reduce misinformation risks (Bahijah & Khumairoh, 2025).

National research reinforces these concerns, showing that the effectiveness of digital transformation in Indonesia depends heavily on improving Islamic Education (PAI) teachers' digital literacy competencies—including technical skills, digital pedagogy, and ethics in using online resources—thereby making continuous professional development a policy priority (Nata et al., 2024). The digital divide remains a major obstacle; studies in Indonesia indicate that gaps in infrastructure between urban regions and 3T (frontier, outermost, underdeveloped) areas hinder digital policy implementation, requiring adaptive teacher strategies and targeted resource distribution (Farhatin, 2025). Further evaluations of PAI learning during and after the pandemic reveal that teachers employed adaptive strategies such

as simple platforms (e.g., WhatsApp, Google Classroom), micro-modular materials, and hybrid delivery to maintain the quality of religious instruction, underscoring the pedagogical flexibility required in digital education policy (Maifadillah, 2021). These developments highlight the importance of synchronizing national digital education initiatives with school autonomy; effective policy requires technical support, financial resources, and context-sensitive implementation guidelines (Faiz et al,. 2025).

Globally and nationally, digitalization in Islamic education is increasingly viewed as a strategic necessity to respond to technological advancements and shifting student characteristics in the 21st century (Mukarromah et al,. 2025). In Indonesia, government policies emphasizing technology integration—particularly in the post-pandemic era—demand curriculum adjustments and pedagogical innovations from PAI teachers (Zubaidah, 2025). These challenges are also evident at SMAN 1 Selong, a leading public high school in East Lombok where digital-based Islamic education policies require teachers to adopt adaptive solutions. Apriyani et al., (2025) emphasize that PAI teachers must demonstrate adaptive capacity in managing digital learning while safeguarding the essence of Islamic education. At SMAN 1 Selong, this adaptation includes a shift from exclusively offline methods to the use of digital platforms, Qur'an applications, and interactive multimedia to enhance student understanding. In this context, Harahap, (2025) stresses that technology must function as a pedagogical instrument rather than replacing the spiritual formation that remains central to PAI.

Previous studies have examined the use of digital media in Qur'an–Hadith instruction (Rusydianti rt al,. 2025), technology integration to strengthen Islamic values (Amaningsih et al,. 2025), and the development of a holistic digital-era Islamic curriculum requiring collaboration between institutions, policymakers, and communities (Yunus et al,. 2025). Furthermore, digital technology significantly shapes Islamic Education learning, even if its usage appears less dominant compared to other components (Nijo et al,. 2024) Major challenges relate not only to teachers' technical capacity but also to their pedagogical, managerial, and spiritual competencies, ensuring that learning remains grounded in Islamic values (Stiawan et al,. 2025). However, these studies tend to examine partial aspects of adaptation and do not address the unique dynamics of specific educational institutions. In the context of SMAN 1 Selong, there remains a lack of research exploring how PAI teachers integrate pedagogical, technological, and spiritual competencies simultaneously in implementing digital-based policies—a significant gap given the varying characteristics of learners across schools.

The novelty of this study is reinforced by several theoretical frameworks. Teacher Adaptation Theory highlights the professional capacity to adjust instructional strategies in response to policy changes (Fullan, 2016; Hargreaves & Fullan, 2012). The TPACK framework emphasizes the integration of content, pedagogy, and technology for effective digital teaching (Mishra & Koehler, 2006; Koehler et al., 2013). Diffusion of Innovation Theory explains technology adoption through stages shaped by perceived benefits, environmental readiness, and policy support (Rogers, 2003; Dearing & Cox, 2018). Meanwhile, Social Constructivism underscores learning through social interaction and mediated tools, including digital technologies (Vygotsky, 1978; Woolfolk, 2019). These theoretical foundations support a comprehensive analysis of adaptive strategies in Islamic education within contemporary technological ecosystems. The broader educational landscape also opens opportunities to reconstruct Islamic education approaches that are contextual, inclusive, and aligned with modern developments, highlighting the need for collaboration among policymakers, educators, and communities to strengthen Islamic values holistically (Wardani, 2025). Additionally, technological adaptation in Islamic religious learning must not shift the primary focus of spiritual education (Izzah et al,. 2025).

Preliminary observations at SMAN 1 Selong reveal that PAI teachers vary in their readiness and capacity to respond to digital policy demands. Some teachers have integrated multimedia Qur'an learning tools, interactive slide-based lectures, and blended learning modules. Others rely on basic platforms due to limited digital fluency or infrastructural constraints. Students demonstrate high familiarity with digital tools but inconsistent discipline in online religious tasks, prompting teachers to balance flexibility with spiritual guidance. The school provides internet access and devices for some learning activities, yet bandwidth limitations and uneven device ownership among students remain challenges that shape teachers' adaptation strategies.

Based on these issues and gaps, this study investigates how PAI teachers at SMAN 1 Selong develop adaptive strategies aligned with digital-based Islamic education policies across pedagogical, technological, and spiritual domains. The study aims to analyze the forms of adaptive strategies developed by PAI teachers, identify supporting and inhibiting factors influencing their implementation, and describe the impact of these adaptive strategies on learning effectiveness, digital media utilization, and the attainment of PAI learning objectives at SMAN 1 Selong.

METHODS

Research Type

This study employed a qualitative research approach to explore in depth the adaptive strategies of Islamic Education (PAI) teachers in responding to digital-based Islamic education policies at SMAN 1 Selong. A qualitative approach was selected because it allows researchers to capture participants' lived experiences, meanings, and interpretations within their natural contexts. Qualitative inquiry emphasizes contextual understanding, holistic perspectives, and process-oriented analysis, making it particularly suitable for examining complex educational phenomena shaped by policy, institutional culture, and technological change (Creswell & Poth, 2021).

Research Design

The study adopted a single-case study design, focusing specifically on SMAN 1 Selong. Case study research is appropriate when investigating contemporary phenomena embedded in real-life contexts, particularly when the boundaries between the phenomenon and its context are blurred. This design enables in-depth exploration of "how" and "why" questions related to teacher adaptation to digital-based PAI policies (Yin, 2021). The single-case design was chosen to provide a detailed and context-sensitive understanding of adaptive practices within one institutional setting that has formally implemented digital learning policies.

Population and Sample

This study was conducted at SMAN 1 Selong from September 20 to December 10, 2025. The population of this study consisted of stakeholders directly involved in the implementation of digital-based PAI learning at SMAN 1 Selong. Using purposive sampling, a total of 15 participants were selected based on criteria of relevance, professional experience, and direct involvement in PAI instruction and policy execution. The participants included PAI teachers as primary informants, students as supporting informants to reflect learning effectiveness, and school leaders (principal and vice principal for curriculum) to represent institutional perspectives. Purposive sampling was chosen because it enables the selection of information-rich participants who can provide deep insights into the phenomenon under study (Sugiyono, 2022).

Data Collection Instruments and Techniques

Data were collected using multiple qualitative techniques to enhance data credibility. The primary instruments included semi-structured interviews, classroom observations, and document analysis. Semi-structured interviews were used to explore teachers' adaptive pedagogical strategies, digital media utilization, and efforts to preserve spiritual values in digitally mediated instruction. This interview format allows flexibility while maintaining alignment with research objectives and analytical depth.

Classroom observations were conducted to examine authentic teaching practices, teacher–student interactions, and the integration of digital tools and Islamic values during learning activities. In addition, document analysis of digital lesson plans (RPP), syllabi, and institutional policy documents was used to validate consistency between planning and classroom implementation. The integration of multiple data sources supports methodological rigor and strengthens interpretive validity (Creswell & Poth, 2021).

Data Analysis

Data analysis was conducted using thematic analysis, following contemporary qualitative analysis procedures involving familiarization, coding, theme construction, and interpretation. This approach enabled the identification of recurring patterns related to adaptive strategies, supporting and inhibiting factors, and perceived impacts on learning effectiveness and policy implementation. Thematic analysis is widely recognized as a flexible yet rigorous method for analyzing qualitative educational data (Braun & Clarke, 2021).

To ensure trustworthiness, the study applied source triangulation, method triangulation, and member checking to confirm the accuracy of interpretations. In addition, the use of reflective memos and thick description supported analytical transparency and enhanced the credibility and transferability of the findings (Guest, MacQueen, & Namey, 2023).

RESULTS

1. Adaptive Strategies Developed by Islamic Education (PAI) Teachers in Responding to Digital-Based Education Policies at SMAN 1 Selong

The findings indicate that Islamic Education (PAI) teachers at SMAN 1 Selong developed adaptive strategies through three interconnected dimensions: pedagogical

adaptation, technological adaptation, and spiritual adaptation. These strategies emerged as deliberate, reflective, and context-sensitive responses to the implementation of digital-based Islamic education policies, shaped by teachers' professional experiences, institutional directives, and classroom realities. Data triangulation from interviews, classroom observations, and document analysis confirms that adaptation was neither uniform nor instantaneous, but evolved progressively in response to both opportunities and constraints within the school environment.

a. Pedagogical Adaptation Strategies

Pedagogical adaptation constituted the most visible and foundational form of teacher response to digital-based education policies. Interview data revealed a clear shift from traditional lecture-centered instruction toward more student-centered, flexible, and blended learning approaches. A senior PAI teacher emphasized that pedagogical change was unavoidable in the digital era, particularly given disparities in students' technological access. He stated, *"Changes in teaching methods are inevitable; I no longer rely solely on lectures but prepare short videos and visual materials so students can still follow the lesson when the internet connection is unstable"* (P01, male, 52, PAI teacher, Selong, personal communication, September 24, 2025).

This transformation was further reflected in the adoption of blended learning models that connected online and face-to-face instruction. One teacher explained how digital platforms were strategically used to extend learning beyond the classroom and deepen conceptual understanding: *"I apply a more interactive blended learning approach by uploading case-based discussions to Google Classroom, which are then explored further during face-to-face sessions"* (P02, male, 47, PAI teacher, Selong, personal communication, September 26, 2025). This approach enabled instructional continuity while preserving opportunities for dialogical learning and value clarification in the classroom.

Other teachers acknowledged that pedagogical adaptation was a gradual and sometimes demanding process. One female teacher described her efforts to maintain classroom engagement despite limited technological mastery, stating, *"The adaptation process is not always easy, but I try to keep the class dynamic through question-and-answer activities using images and short stories sourced from online media"* (P03, female, 48, PAI teacher, Selong, personal communication, September 28, 2025). This finding indicates that adaptive pedagogy did not necessarily depend on advanced technology, but rather on teachers' creative use of accessible digital resources aligned with instructional goals.

Innovation in assessment practices also emerged as a critical pedagogical adaptation. Teachers reported that digital assessment tools improved efficiency and reduced students' anxiety during evaluation. One teacher explained, *"I focus on updating learning evaluations by using digital quizzes because they are faster, reduce students' tension, and increase their enthusiasm during assessments"* (P04, female, 32, PAI teacher, Selong, personal communication, September 30, 2025). This perspective was reinforced by students, one of whom stated, *"Online quizzes feel less stressful than written exams, and I am more confident answering the questions"* (P08, female, 17, student, Selong, personal communication, October 10, 2025).

Classroom observations corroborated these interview findings. In P01's classroom, infographics and short instructional videos were used to clarify fiqh concepts, enabling students to remain engaged despite unstable internet connectivity (Observation, September 25, 2025). Observations in P02's classroom demonstrated consistent implementation of blended learning, where students accessed case-based materials online prior to in-class discussions, allowing face-to-face sessions to focus on critical reasoning and ethical reflection (Observation, October 3, 2025). Document analysis of digital lesson plans (RPP) further confirmed that these pedagogical shifts were systematically embedded in formal instructional planning (Document review, October 6, 2025).

From an institutional perspective, school leadership acknowledged and supported these pedagogical adaptations. The vice principal for curriculum stated, *"We encourage teachers to adjust teaching methods according to students' conditions, not to force full digitalization"* (P05, male, 54, vice principal for curriculum, Selong, personal communication, October 6, 2025). This indicates alignment between teacher initiatives and institutional policy.

Table 1. Pedagogical Adaptation Strategies of PAI Teachers

Aspect of Adaptation	Key Strategies Implemented	Illustrative Evidence
Instructional Approach	Shift from lecture-centered to student-centered and blended learning	Use of short videos, visuals, and interactive discussions
Learning Model	Integration of online and face-to-face instruction	Google Classroom for case-based materials followed by in-class discussion
Teaching Creativity	Use of accessible digital resources despite limited technological mastery	Images, short stories, and Q&A activities from online media
Assessment Practices	Adoption of digital-based evaluation	Online quizzes to reduce anxiety and increase student engagement

Aspect of Adaptation	Key Strategies Implemented	Illustrative Evidence
Institutional Support	Flexible policy encouraging contextual adaptation	Leadership support for non-mandatory full digitalization

The table 1 illustrates how pedagogical adaptation emerged as the primary strategy employed by PAI teachers in responding to digital-based education policies. Teachers shifted toward student-centered and blended learning approaches to ensure instructional continuity amid unequal technological access. Rather than relying solely on advanced digital tools, adaptation was characterized by creative and contextual use of accessible resources, interactive learning models, and digital assessments that enhanced student engagement and reduced evaluation anxiety. These pedagogical innovations were further reinforced by institutional support, indicating alignment between teacher initiatives and school-level policy in facilitating meaningful and flexible digital adaptation.

b. Technological Adaptation Strategies

Technological adaptation among PAI teachers was characterized by selective, pragmatic, and differentiated use of digital platforms based on individual readiness and instructional needs. Interview data revealed varied levels of technology adoption, ranging from basic material distribution to more advanced digital content creation. One teacher with moderate technological proficiency emphasized functionality over technical mastery, stating, *"I use Google Classroom even though I do not fully understand all its features. What matters most is that the material reaches the students"* (P01, male, 52, PAI teacher, Selong, personal communication, October 4, 2025).

In contrast, other teachers demonstrated higher levels of digital competence and confidence. One teacher explained, *"I am used to creating learning videos and Canva-based materials. When other teachers experience difficulties, they usually ask for assistance"* (P02, male, 47, PAI teacher, Selong, personal communication, October 2, 2025). This highlights the emergence of informal peer collaboration and mentoring as a key adaptive mechanism within the school.

Observational data reinforced these differences. Field observations showed that P02 effectively integrated videos, Canva-designed visual materials, and structured digital platforms into instruction, while P01 relied primarily on Google Classroom and YouTube with limited feature utilization. Meanwhile, P03 experienced operational difficulties when

using interactive digital applications, indicating partial technological adaptation (Observation, November 12, 2025).

School leadership recognized these disparities and framed them as a natural aspect of digital transition. The principal noted, *"Teachers' digital abilities are not the same, so our policy emphasizes gradual adaptation and mutual support"* (P06, male, 57, principal, Selong, personal communication, October 7, 2025). Students also perceived these differences, with one student commenting, *"Some teachers use videos and interactive media more often, which makes learning easier to follow"* (P10, male, 17, student, Selong, personal communication, October 12, 2025).

Table 2. Technological Adaptation Strategies of PAI Teachers

Aspect of Adaptation	Key Strategies Implemented	Illustrative Evidence
Platform Usage	Selective and pragmatic use of digital platforms	Google Classroom, YouTube, Canva-based materials
Technology Proficiency	Differentiated adoption based on individual skills	Moderate users focus on delivery; advanced users create learning videos
Peer Collaboration	Informal mentoring and support among teachers	Experienced teachers assist colleagues struggling with digital tools
Student Experience	Enhanced engagement through interactive digital media	Videos and visual content help students follow lessons more easily
Institutional Support	Gradual adaptation policy with mutual support	School leadership encourages stepwise digital adoption

Table 2 shows technological adaptation among PAI teachers was marked by selective and pragmatic use of digital platforms tailored to individual proficiency and instructional needs. Teachers ranged from moderate users, who focused on material delivery via basic platforms, to advanced users creating videos and visually rich content. Informal peer collaboration emerged as an important support mechanism, enabling teachers to share knowledge and overcome technical challenges. Observations and student feedback highlighted that effective integration of digital media enhanced learning engagement, while institutional policies emphasized gradual adaptation and mutual support, reflecting a flexible and inclusive approach to digital transition.

c. Spiritual Adaptation Strategies

Despite increasing digitalization, teachers consistently emphasized that technology should not diminish the spiritual essence of PAI learning. Interview findings revealed a

strong commitment to preserving Islamic values within digitally mediated instruction. A senior teacher asserted, *"Technology is only a tool, not the soul of education. The soul of education remains Islamic values"* (P01, male, 52, PAI teacher, Selong, personal communication, October 21, 2025).

Spiritual adaptation was enacted through the integration of Qur'anic verses and Hadith into digital formats to enhance memorization and engagement. One teacher explained, *"When verses are presented in digital card formats, students memorize them more quickly"* (P02, male, 47, PAI teacher, Selong, personal communication, October 22, 2025). Reflective spiritual practices were also transformed into digital activities. One teacher noted, *"Students complete weekly spiritual reflections using digital forms so they can connect technology with values"* (P04, female, 32, PAI teacher, Selong, personal communication, October 23, 2025).

Students confirmed the impact of these strategies. One student stated, *"Digital PAI lessons still remind us about worship and good behavior, not just technology"* (P14, male, 17, student, Selong, personal communication, December 2, 2025). From an institutional standpoint, the curriculum coordinator emphasized, *"We ensure that digital lesson plans explicitly include spiritual objectives"* (P07, female, 51, curriculum coordinator, Selong, personal communication, November 10, 2025).

Observational evidence confirmed the consistency of spiritual adaptation across classrooms. In P01's class, lessons were routinely concluded with religious reflection despite extensive multimedia use. P03 implemented a simple digital worship journal, while P02 embedded Qur'anic verses and hadith within digital instructional materials. P04 facilitated weekly online spiritual reflections to encourage students' moral self-evaluation (Observation, November 25, 2025). Document analysis further supported these findings, showing that spiritual outcomes were explicitly articulated in digital lesson plans (Document review, October 6, 2025).

Table 3. Spiritual Adaptation Strategies of PAI Teachers

Aspect of Adaptation	Key Strategies Implemented	Illustrative Evidence
Integration of Islamic Values	Embedding Qur'anic verses and Hadith in digital formats	Digital cards, multimedia materials for memorization and engagement
Reflective Practices	Digital tools to support moral and spiritual reflection	Weekly digital spiritual reflections, online worship journals

Aspect of Adaptation	Key Strategies Implemented	Illustrative Evidence
Student Engagement	Reinforcing worship and ethical behavior through digital learning	Students acknowledge lessons emphasize values, not just technology
Curriculum Alignment	Explicit inclusion of spiritual objectives in lesson plans	Digital RPPs outline spiritual outcomes for each session
Teacher Philosophy	Emphasis on technology as a tool, not the core of education	Teachers maintain Islamic values as the "soul" of learning

Table 3 shows Spiritual adaptation strategies ensured that digitalization did not compromise the core Islamic values of PAI learning. Teachers creatively integrated Qur'anic verses, Hadith, and reflective spiritual activities into digital formats, enhancing both memorization and moral engagement. Students reported that digital lessons continued to reinforce worship, ethical behavior, and value-based learning. Observations and document analysis confirmed that spiritual objectives were systematically incorporated into digital lesson plans. These strategies highlight that teacher adaptability in the digital era involves not only technical and pedagogical adjustments but also the deliberate preservation of spiritual and moral principles, ensuring that technology complements rather than replaces the essence of Islamic education.

Triangulated findings demonstrate that adaptive strategies developed by PAI teachers at SMAN 1 Selong were multidimensional, progressive, and contextually grounded. While pedagogical and technological adaptations varied according to individual capacity and experience, the consistent reinforcement of Islamic values ensured that digital transformation complemented rather than compromised the core mission of PAI learning. These findings position teacher adaptability not merely as technical adjustment, but as a reflective pedagogical and spiritual practice responsive to policy, context, and learners' needs.

The following is Figure 1, illustrating the adaptive strategies developed by PAI teachers at SMAN 1 Selong.

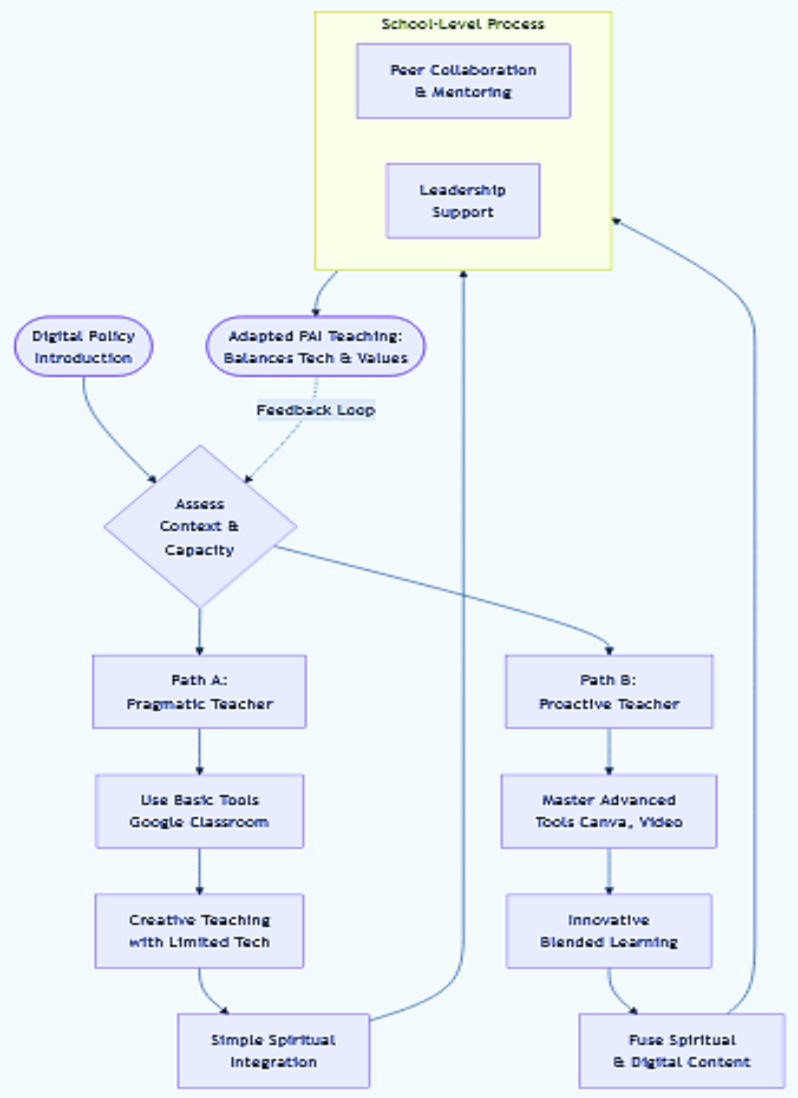

Figure 1. Adaptive Strategies Developed by Islamic Education (PAI) Teachers in Responding to Digital-Based Education Policies at SMAN 1 Selong

The figure 1 of flowchart illustrates the dynamic adaptation process of PAI teachers at SMAN 1 Selong in response to digital education policies. It begins with the introduction of the digital policy, after which teachers assess their own capacities and contextual constraints. This assessment leads to two distinct adaptation pathways: Path A for pragmatic teachers who start with basic tools and gradually integrate spiritual elements, and Path B for proactive teachers who master advanced technology and deeply fuse it with Islamic values. Both pathways converge at the school level through peer collaboration and leadership

support, ultimately resulting in a balanced PAI teaching approach that effectively integrates technology while preserving core spiritual values. The process is cyclical, featuring a continuous feedback loop where classroom experiences inform ongoing refinement, demonstrating that adaptation is not a one-time event but a progressive, reflective journey.

2. Supporting and Inhibiting Factors Influencing the Implementation of Digital-Based PAI Learning Policies at SMAN 1 Selong

Findings from interviews, classroom observations, and document analysis indicate that the implementation of digital-based PAI learning policies at SMAN 1 Selong was shaped by a dynamic interaction between supporting and inhibiting factors. These factors operated at multiple levels—personal, institutional, infrastructural, administrative, and pedagogical—collectively influencing teachers' capacity to adapt to educational digitalization.

a. Supporting Factors

One of the most prominent supporting factors was the strong intrinsic motivation and professional commitment demonstrated by PAI teachers. Interview data revealed that teachers perceived digital adaptation not merely as a policy obligation, but as a moral and professional responsibility inherent in their role as Islamic educators. A senior PAI teacher articulated this perspective clearly: *"If we refuse to adapt, we will be left behind. As PAI teachers, we must set an example by continuing to learn"* (P01, male, 52, PAI teacher, Selong, personal communication, September 24, 2025). This intrinsic motivation functioned as a critical internal driver that encouraged teachers to explore and sustain adaptive practices despite technical and pedagogical challenges.

Institutional support from school leadership further strengthened teachers' adaptive capacity. Interviews with school leaders indicated that digital-based learning policies were implemented through flexible and supportive approaches rather than rigid enforcement. The vice principal for curriculum explained, *"The school encourages digital learning, but we adjust expectations according to teachers' readiness. Training and mentoring are prioritized rather than pressure"* (P05, male, 54, vice principal for curriculum, Selong, personal communication, October 6, 2025). This leadership orientation fostered a psychologically safe environment that enabled teachers to experiment with digital tools without fear of administrative sanctions.

Additional institutional support was evident in the provision of internal training programs and ongoing technical assistance. Document analysis showed that the school organized several in-house workshops focusing on digital platforms, learning management systems, and online assessment tools during the academic year (Document review, October 6, 2025). Teachers acknowledged that peer collaboration and informal mentoring significantly facilitated their learning process. One teacher noted, *"I often learn from colleagues who are more familiar with technology; informal discussions help a lot"* (P03, female, 48, PAI teacher, Selong, personal communication, September 28, 2025). These collegial practices functioned as an informal professional learning community that mitigated individual limitations.

Adequate infrastructural support also emerged as a key enabling factor. Classroom observations confirmed that SMAN 1 Selong was equipped with basic digital infrastructure, including internet access, projectors, and multimedia devices that supported the integration of digital content into PAI instruction (Observation, October 15, 2025). Although internet stability varied across classrooms, the availability of foundational infrastructure reduced structural barriers to digital implementation and allowed teachers to apply blended instructional models.

From the learners' perspective, students' relatively high level of digital literacy further supported the effectiveness of digital-based PAI learning. Many students were already familiar with online platforms such as Google Classroom, YouTube, and digital assessment applications. One student remarked, *"We are used to learning through digital media, so PAI lessons feel more engaging when technology is used"* (P10, male, 17, student, Selong, personal communication, October 12, 2025). This familiarity facilitated smoother interaction between teachers' digital strategies and students' learning habits, enhancing overall instructional effectiveness.

Table 4. Supporting Factors for PAI Teachers' Adaptive Strategies

Supporting Factor	Key Aspects	Illustrative Evidence
Intrinsic Motivation	Strong professional and moral commitment	Teachers view adaptation as responsibility, not just policy requirement
Institutional Support	Flexible policies, training, and mentoring	Leadership adjusts expectations based on readiness and provides workshops
Peer Collaboration	Informal mentoring and knowledge sharing	Teachers learn from colleagues more familiar with technology
Infrastructure	Availability of digital tools and connectivity	Classrooms equipped with internet, projectors, and multimedia devices

Supporting Factor	Key Aspects	Illustrative Evidence
Student Digital Literacy	Familiarity with online platforms	Students effectively engage with Google Classroom, YouTube, and digital assessments

The table 4 highlights key factors supporting PAI teachers' adaptation to digital-based learning. Teachers' intrinsic motivation and sense of professional responsibility drove their willingness to adopt new methods despite challenges. Institutional support, including flexible policies, in-house training, and mentoring, created a safe environment for experimentation. Peer collaboration functioned as an informal professional learning community, while adequate infrastructure facilitated the practical implementation of digital tools. Additionally, students' digital literacy enhanced the interaction between teachers' strategies and learners' engagement, collectively strengthening the effectiveness of adaptive PAI instruction.

b. Inhibiting Factors

Despite the presence of multiple supporting factors, the study also identified several inhibiting factors that constrained the optimal implementation of digital-based PAI learning policies. These barriers emerged at the individual, student, administrative, and pedagogical levels, moderating the depth and consistency of digital integration.

A major inhibiting factor was the disparity in teachers' digital competence and adaptability to rapidly evolving educational technologies. Interview data revealed noticeable differences in technological readiness among PAI teachers. While some teachers demonstrated confidence in creating digital content and managing online platforms, others struggled with basic application features. One teacher acknowledged, *"I understand the importance of digital learning, but sometimes I feel overwhelmed by the rapid changes in technology"* (P03, female, 48, PAI teacher, Selong, personal communication, October 18, 2025). Classroom observations corroborated these findings, showing uneven levels of digital integration across PAI classes, with instructional quality closely linked to individual teachers' technological proficiency (Observation, November 12, 2025).

Limited access to digital devices and stable internet connections among students also emerged as a significant barrier. Both teachers and students reported that not all learners possessed personal devices or reliable internet access at home. One student explained, *"Sometimes I have to share a phone with my siblings, so I cannot always complete online tasks on time"*

(P09, male, 18, student, Selong, personal communication, October 11, 2025). This constraint required teachers to continuously adjust instructional design and maintain blended learning approaches to ensure equity and inclusivity.

Another inhibiting factor was the increased administrative workload associated with digital reporting and documentation requirements. Teachers reported that digital learning policies often necessitated extensive administrative tasks, including uploading lesson plans, reports, and assessment data to multiple platforms. One teacher stated, *"Digital learning is helpful, but the administrative tasks sometimes feel heavier than before"* (P02, male, 47, PAI teacher, Selong, personal communication, October 20, 2025). This additional workload occasionally diverted teachers' time and energy away from pedagogical innovation.

Pedagogical constraints related to the nature of PAI content were also identified as a limiting factor. Teachers emphasized that certain dimensions of Islamic education—particularly practical worship (*ibadah amaliyah*) and moral exemplification—were difficult to fully convey through digital media. A senior teacher explained, *"Technology helps explain concepts, but moral modeling and worship practices still require direct interaction and example"* (P01, male, 52, PAI teacher, Selong, personal communication, October 21, 2025). Classroom observations supported this perspective, revealing that teachers frequently combined digital explanations with face-to-face guidance to address the experiential and affective dimensions of PAI learning (Observation, November 25, 2025).

Table 5. Inhibiting Factors for PAI Teachers' Adaptive Strategies

Inhibiting Factor	Key Challenges	Illustrative Evidence
Digital Competence Disparity	Uneven technological readiness among teachers	Some teachers struggle with basic digital tools while others create advanced content
Student Access	Limited personal devices and unstable internet	Students share devices or experience connectivity issues affecting task completion
Administrative Workload	Increased reporting and documentation requirements	Teachers spend significant time uploading lesson plans and assessment data
Pedagogical Constraints	Difficulty conveying practical worship and moral modeling digitally	Teachers combine digital explanations with face-to-face guidance to ensure effective learning

The table 5 summarizes the main factors inhibiting the optimal implementation of digital-based PAI learning. Disparities in teachers' digital competence created uneven integration of technology across classrooms. Limited student access to devices and reliable internet required adaptive instructional adjustments to maintain equity. Additionally, increased administrative workload diverted time from pedagogical innovation. Certain aspects of Islamic education, particularly practical worship and moral exemplification, could not be fully mediated through digital platforms, necessitating blended approaches. Overall, these constraints highlight that successful digital transformation in PAI learning relies not only on technological tools but also on professional support, contextual sensitivity, and balanced integration of pedagogical, technological, and spiritual dimensions.

The findings demonstrate that the implementation of digital-based PAI learning policies at SMAN 1 Selong was shaped by a complex interplay between enabling and constraining factors. Strong intrinsic motivation, supportive institutional leadership, adequate infrastructure, and students' digital readiness facilitated teachers' adaptive efforts. Conversely, disparities in digital competence, access limitations, increased administrative demands, and pedagogical constraints moderated the scope and consistency of digital integration. These findings underscore that successful digital transformation in PAI learning depends not solely on technological availability, but on sustained professional support, contextual sensitivity, and alignment between pedagogical, technological, and spiritual dimensions.

The following is Figure 2, illustrates supporting and inhibiting factors influencing the implementation of digital-based PAI learning policies at SMAN 1 Selong:

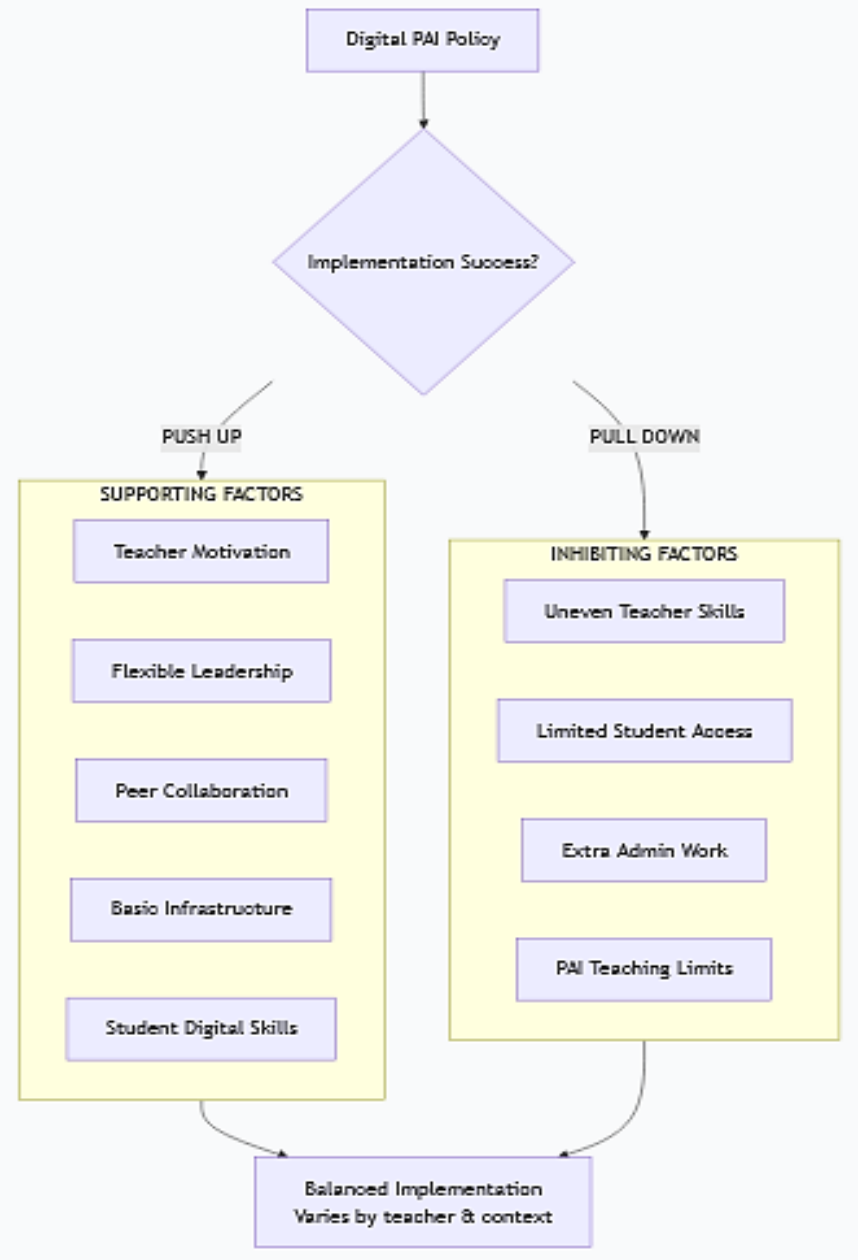

Figure 2. Supporting and Inhibiting Factors Influencing the Implementation of Digital-Based PAI Learning Policies at SMAN 1 Selong

This figure 2 shows that the implementation of digital PAI policies at SMAN 1 Selong results from a constant balance between supporting and inhibiting factors. On the supporting side, teacher motivation, flexible leadership, peer collaboration, basic infrastructure, and student readiness enabled adaptation. On the inhibiting side, uneven digital skills among teachers, limited student access to devices and stable internet, increased administrative burdens, and the inherent pedagogical limitations of digital tools for teaching

Islamic values and practices constrained full implementation. The final outcome—successful, context-sensitive digital integration—depends on whether supporting factors are strong enough to overcome or strategically mitigate the inhibiting barriers, highlighting that technological availability alone is insufficient without sustained professional support and pedagogical wisdom.

3. Impact of Adaptive Strategies on Learning Effectiveness, Digital Media Utilization, and the Achievement of PAI Learning Objectives at SMAN 1 Selong

a. Impact on Learning Effectiveness

Findings derived from interviews, classroom observations, and document analysis consistently indicate that the adaptive strategies implemented by PAI teachers at SMAN 1 Selong positively enhanced the overall effectiveness of the learning process. One of the most salient outcomes was a noticeable increase in student engagement and active participation during PAI learning activities.

Teachers reported that the strategic use of digital media—such as short educational videos, infographics, and online discussion platforms—stimulated students' interest and encouraged more active involvement in both synchronous and face-to-face learning contexts. As one teacher explained, *"Students become more responsive when digital media are used because the materials are closer to their daily experiences"* (P02, male, 47, PAI teacher, Selong, personal communication, October 20, 2025). This perception was corroborated by classroom observations, which revealed higher levels of student interaction, questioning, and peer discussion during lessons supported by multimedia resources (Observation, October 28, 2025).

Adaptive strategies also strengthened learning continuity through the implementation of blended and digitally supported instructional models. Teachers emphasized that digital platforms enabled learning activities to continue beyond classroom boundaries, particularly when face-to-face sessions were disrupted by scheduling constraints or institutional demands. One teacher stated, *"When we cannot meet in class, learning continues through Google Classroom, so students do not lose learning momentum"* (P01, male, 52, PAI teacher, Selong, personal communication, October 21, 2025). Document analysis of lesson plans further confirmed that teachers intentionally designed learning sequences that connected

online materials with in-class discussions, thereby ensuring instructional coherence (Document review, November 3, 2025).

Another significant impact concerned the reduction of student anxiety during assessment activities. Teachers reported that digital and formative assessment tools provided a more flexible and less intimidating evaluation environment. As noted by one participant, *"Online quizzes feel more relaxed for students, and they are more willing to try without fear of making mistakes"* (P04, female, 32, PAI teacher, Selong, personal communication, October 23, 2025). Observational data supported this finding, showing increased student confidence and participation during digitally mediated assessments compared to conventional paper-based tests (Observation, November 12, 2025).

Table 6. Impact of Adaptive Strategies on PAI Learning Effectiveness

Impact Area	Key Outcomes	Illustrative Evidence
Student Engagement	Increased participation, questioning, and peer interaction	Use of short videos, infographics, and online discussion platforms
Learning Continuity	Sustained learning beyond classroom boundaries	Blended learning and Google Classroom maintained momentum during disruptions
Assessment Experience	Reduced anxiety and increased confidence	Digital quizzes and formative assessments created a flexible, low-pressure environment

The table 6 illustrates the positive impact of adaptive strategies on PAI learning effectiveness at SMAN 1 Selong. The strategic integration of digital media enhanced student engagement by making lessons more relevant and interactive. Blended learning models ensured continuity, allowing instruction to proceed even when face-to-face sessions were limited. Furthermore, the use of digital assessments reduced students' anxiety and encouraged greater confidence during evaluations. Collectively, these adaptive strategies contributed to a more dynamic, continuous, and supportive learning environment, demonstrating that thoughtful integration of technology can complement pedagogical and spiritual objectives in PAI education.

b. Impact on Digital Media Utilization

The adoption of adaptive strategies substantially reshaped how digital media were utilized in PAI instruction. Rather than being used sporadically or superficially, technology became integrated in a more systematic, intentional, and pedagogically grounded manner.

Interview data revealed that teachers increasingly selected digital tools based on instructional relevance rather than technological novelty. One teacher remarked, *"I now choose digital media that truly support the lesson objectives, not just because they are trendy"* (P03, female, 48, PAI teacher, Selong, personal communication, October 18, 2025). Classroom observations confirmed that digital media were embedded at specific instructional stages, including concept introduction, facilitation of discussion, and formative assessment (Observation, November 25, 2025).

Enhanced teacher confidence and creativity also emerged as a critical outcome of sustained adaptive practice. Teachers who initially expressed hesitation toward technology reported growing confidence after repeated use, peer collaboration, and informal knowledge sharing. As one teacher stated, *"At first I was unsure, but now I enjoy creating simple videos and visual materials for PAI lessons"* (P02, male, 47, PAI teacher, Selong, personal communication, October 22, 2025). This increased confidence encouraged creative instructional designs that blended religious content with accessible and engaging digital formats.

Furthermore, teachers developed adaptive digital practices that were responsive to classroom realities and students' socio-technical conditions. Rather than adopting fully digital instruction, most teachers implemented flexible combinations of online and offline strategies. Observations indicated that teachers frequently modified digital activities based on students' access to devices and internet connectivity, thereby promoting inclusivity and equity in learning (Observation, December 5, 2025). This pattern reflects a pragmatic and context-sensitive approach to digital integration in PAI education.

Table 7. Impact of Adaptive Strategies on Digital Media Utilization

Aspect	Key Outcomes	Illustrative Evidence
Instructional Integration	Systematic and pedagogically grounded use of digital media	Digital tools embedded in concept introduction, discussions, and formative assessments
Tool Selection	Focus on instructional relevance over novelty	Teachers choose media that support lesson objectives rather than trending technologies
Teacher Confidence & Creativity	Increased willingness to create digital content	Teachers report enjoying making videos and visual materials after repeated use and peer support
Contextual Adaptation	Flexible online-offline strategies responsive to students' access	Digital activities adjusted based on device availability and internet connectivity to ensure inclusivity

The table 7 demonstrates how adaptive strategies positively influenced digital media utilization in PAI instruction. Technology became more intentionally integrated into lessons, aligned with pedagogical goals rather than trends. Teachers gained confidence and creativity in producing digital content, leading to more engaging and effective instructional designs. Moreover, adaptive practices were context-sensitive, combining online and offline strategies to accommodate students' varying access to devices and connectivity. This pragmatic approach enhanced inclusivity, equity, and the overall pedagogical impact of digital media in PAI education.

c. Impact on the Achievement of PAI Learning Objectives

The findings demonstrate that adaptive strategies not only enhanced instructional processes but also positively influenced the achievement of PAI learning objectives across cognitive, affective, and spiritual domains. Both teachers and students reported improved comprehension of PAI subject matter facilitated by the use of visual and interactive digital content.

Teachers observed that abstract religious concepts became more accessible when presented through visual explanations and contextualized digital examples. One teacher explained, *"When fiqh concepts are explained through short videos and illustrations, students understand them more quickly"* (P01, male, 52, PAI teacher, Selong, personal communication, October 21, 2025). Students echoed this perspective, noting that digital media helped them relate Islamic teachings to real-life situations (P14, male, 17, student, Selong, personal communication, December 2, 2025).

Importantly, the increased use of technology did not undermine the internalization of Islamic values. Teachers consistently emphasized that digital tools functioned as supportive instruments rather than substitutes for the spiritual essence of PAI education. As articulated by one senior teacher, *"Technology is only a tool; the values and character formation remain the main goal of PAI"* (P01, male, 52, PAI teacher, Selong, personal communication, October 21, 2025). Classroom observations confirmed that Qur'anic verses, hadith, and reflective spiritual activities were systematically integrated into digital learning materials (Observation, November 25, 2025).

The implementation of adaptive strategies strengthened the alignment between cognitive understanding, affective attitudes, and spiritual development. Digital learning activities were designed not only to transmit knowledge but also to foster reflection, moral

awareness, and religious practice. One teacher noted, *"Through digital reflections, students can think about how Islamic values apply in their daily behavior"* (P04, female, 32, PAI teacher, Selong, personal communication, October 23, 2025). This holistic alignment illustrates that thoughtfully implemented adaptive digital strategies can effectively support comprehensive PAI learning outcomes within a technologically mediated educational environment.

Table 8. Impact of Adaptive Strategies on the Achievement of PAI Learning Objectives

Learning Domain	Key Outcomes	Illustrative Evidence
Cognitive	Improved understanding of abstract religious concepts	Use of short videos, illustrations, and contextualized digital examples
Affective	Enhanced ability to relate Islamic teachings to daily life	Students reported connecting lessons to real-life situations through digital media
Spiritual	Sustained internalization of Islamic values	Integration of Qur'anic verses, Hadith, and reflective activities in digital learning

The table 7 highlights the positive influence of adaptive strategies on achieving PAI learning objectives across cognitive, affective, and spiritual domains. Digital tools such as videos, illustrations, and contextualized examples made complex religious concepts more comprehensible, while students reported improved ability to relate Islamic teachings to their daily lives. Importantly, technology was consistently used as a supportive instrument, ensuring that spiritual values and character formation remained central to PAI learning. Classroom observations confirmed the systematic integration of Qur'anic verses, Hadith, and reflective spiritual practices, demonstrating that adaptive strategies can enhance learning outcomes without compromising the essence of Islamic education.

The following is Figure 3, illustrates the impact of adaptive strategies on learning effectiveness, digital media utilization, and the achievement of PAI learning objectives at SMAN 1 Selong

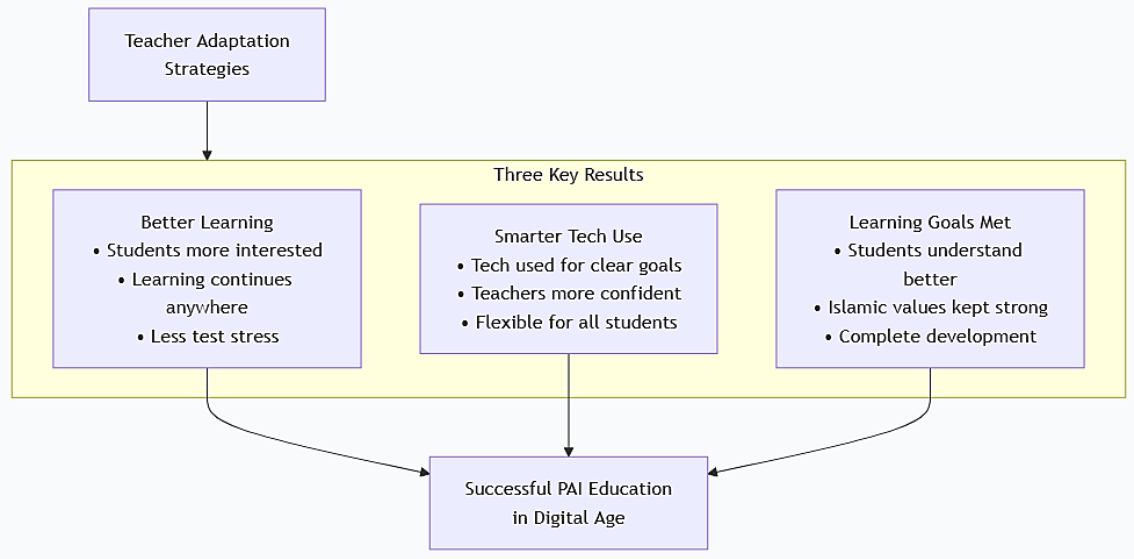

Figure 3. Impact of Adaptive Strategies on Learning Effectiveness, Digital Media Utilization, and the Achievement of PAI Learning Objectives at SMAN 1 Selong

This figure 3 illustrates how teacher adaptation strategies at SMAN 1 Selong created three interconnected positive outcomes for PAI learning. First, learning effectiveness improved as students showed greater engagement, experienced continuous learning beyond classroom walls, and felt less anxiety during assessments. Second, digital media utilization became more intentional and pedagogically purposeful, with teachers growing in confidence and applying technology flexibly according to student needs. Third, PAI learning objectives were successfully achieved through enhanced cognitive understanding, preserved spiritual values, and holistic student development. Together, these three impacts demonstrate that well-implemented adaptive strategies can successfully integrate digital tools into Islamic education while maintaining its core values and improving overall learning quality.

DISCUSSION

1. Results Analysis

a. Adaptive Strategies of PAI Teachers in Responding to Digital-Based Policies

In response to the first research question, the findings demonstrate that PAI teachers at SMAN 1 Selong developed adaptive strategies that were multidimensional and interrelated, encompassing pedagogical, technological, and spiritual adaptations. These strategies did not

emerge as uniform or immediate responses to policy mandates; rather, they evolved progressively through teachers' reflective engagement with classroom realities, institutional expectations, and students' socio-technical conditions. This indicates that teacher adaptation functioned as an ongoing process of interpretation and adjustment rather than a linear implementation of policy directives.

Pedagogical adaptation emerged as the core dimension shaping teachers' responses. The shift toward blended learning, student-centered instruction, and flexible assessment reflects teachers' efforts to reconcile digital policy demands with unequal student access to technology and the pedagogical nature of PAI content. Importantly, the findings suggest that pedagogical innovation was driven less by technological sophistication than by teachers' instructional creativity and sensitivity to learners' conditions. This highlights that adaptive capacity in digital PAI learning is fundamentally pedagogical in nature, with technology serving a supportive role.

Technological adaptation further illustrates differentiated patterns of policy enactment. Variations in teachers' digital competence led to selective and pragmatic use of platforms, ranging from basic content distribution to more advanced multimedia production. However, these disparities did not prevent adaptation; instead, informal peer collaboration and institutional tolerance for gradual learning enabled teachers to sustain functional digital practices. This finding indicates that effective digital adaptation does not require uniform technological mastery, but rather supportive organizational conditions that accommodate differentiated teacher readiness.

A distinctive contribution of this study lies in the identification of spiritual adaptation as an integral component of teacher responsiveness. Despite increased digitalization, teachers consistently positioned Islamic values, moral modeling, and spiritual reflection as non-negotiable elements of PAI instruction. The integration of Qur'anic verses, hadith, and reflective practices into digital formats demonstrates that adaptation was guided by ethical and theological considerations. Thus, the findings answer the first research question by showing that adaptive strategies in PAI are not merely technical or pedagogical adjustments, but value-oriented practices aimed at preserving the spiritual mission of Islamic education.

b. Supporting and Inhibiting Factors Shaping Policy Implementation

Addressing the second research question, the findings reveal that the implementation of digital-based PAI learning policies was shaped by a dynamic interaction between

supporting and inhibiting factors operating at multiple levels. Intrinsic teacher motivation emerged as the most influential enabling factor, indicating that teachers' sense of professional and moral responsibility played a decisive role in sustaining adaptation efforts. This internal drive allowed teachers to persist despite technological limitations and administrative pressures.

Institutional support further strengthened adaptive capacity. School leadership adopted a flexible, mentoring-oriented approach that emphasized gradual improvement rather than rigid compliance. This institutional stance created a psychologically safe environment for experimentation and reduced resistance to digital change. Infrastructural availability and students' digital familiarity also facilitated implementation, particularly in supporting blended learning models.

Conversely, several inhibiting factors constrained the depth and consistency of adaptation. Disparities in teachers' digital competence resulted in uneven instructional quality across classrooms, while unequal student access to devices and stable internet limited the feasibility of fully digital instruction. Additionally, increased administrative demands associated with digital reporting diverted teachers' time and attention from pedagogical innovation. Pedagogical constraints inherent to PAI content—especially the experiential and exemplary dimensions of worship and moral education—further limited the extent to which learning could be digitized. These findings suggest that policy implementation in PAI is mediated not only by resources, but also by the epistemological characteristics of religious education.

c. Impact of Adaptive Strategies on Learning Effectiveness and PAI Learning Objectives

In relation to the third research question, the findings indicate that adaptive strategies positively influenced learning effectiveness, digital media utilization, and the achievement of PAI learning objectives. Increased student engagement, interaction, and continuity of learning demonstrate that digital media, when integrated adaptively, enhanced rather than disrupted the instructional process. The use of multimedia and online platforms fostered greater participation and reduced assessment-related anxiety, contributing to a more supportive learning environment.

Adaptive strategies also transformed patterns of digital media utilization. Technology was employed more intentionally, with teachers selecting tools based on pedagogical

relevance rather than novelty. Over time, repeated use and peer support increased teachers' confidence and creativity, enabling more meaningful integration of digital resources into PAI instruction.

Crucially, the findings show that improved cognitive understanding did not occur at the expense of affective or spiritual outcomes. Instead, adaptive digital practices strengthened alignment across cognitive, affective, and spiritual domains. By embedding Islamic values and reflective activities within digital learning designs, teachers ensured that technology functioned as a medium for value internalization rather than mere information delivery. This demonstrates that adaptive digital strategies can support holistic PAI learning objectives when implemented with pedagogical intentionality and spiritual awareness.

The results analysis demonstrates that adaptive responses to digital-based PAI education policies at SMAN 1 Selong were complex, context-sensitive, and value-driven. Teacher adaptation was shaped by professional motivation, institutional conditions, infrastructural realities, and the moral foundations of Islamic education. The findings underscore that successful digital transformation in PAI depends not solely on technological adoption, but on teachers' capacity to integrate pedagogical effectiveness, technological pragmatism, and spiritual integrity in responding to policy demands.

2. Comparison with Previous Studies

Previous studies have extensively examined specific aspects of digital transformation in Islamic education. For instance, Rusydianti rt al,. (2025) focused on the use of digital media in Qur'an–Hadith instruction, highlighting its potential to enhance comprehension and learner engagement. Similarly, Amaningsih et al,. (2025) investigated technology integration as a means to strengthen Islamic values, emphasizing that digital tools can support moral and character education when used purposefully. At a broader level, Yunus et al,. (2025) proposed the development of a holistic Islamic curriculum for the digital era, stressing the importance of collaboration among educational institutions, policymakers, and communities. Other studies have shown that digital technology significantly influences Islamic Education learning, even when its role appears less dominant compared to other instructional components (Nijo et al,. 2024)

The findings of the present study are largely consistent with this body of literature, particularly in demonstrating that digital media can enhance engagement, learning continuity, and conceptual understanding in PAI instruction. However, this study also reveals important

nuances that extend previous research. While earlier studies tend to examine digital adaptation in partial or segmented forms—such as focusing solely on media use, value reinforcement, or curriculum design—the findings at SMAN 1 Selong illustrate how pedagogical, technological, and spiritual competencies are integrated simultaneously in everyday teaching practice. This integrative dimension represents a significant departure from prior studies that often treat these competencies as separate analytical categories.

Consistent with Stiawan et al,. (2025), this study confirms that the challenges of digital transformation in Islamic education extend beyond teachers' technical capacity to include pedagogical, managerial, and spiritual competencies. Teachers at SMAN 1 Selong were required not only to master digital tools, but also to manage administrative demands, design context-sensitive pedagogy, and preserve the spiritual essence of PAI learning. Unlike studies that emphasize technical readiness as the primary determinant of success, the present findings suggest that adaptive capacity emerges from a dynamic balance between professional commitment, institutional support, and reflective spiritual awareness.

From a theoretical perspective, the findings strongly support Teacher Adaptation Theory, which conceptualizes teachers as active agents capable of adjusting instructional strategies in response to policy changes and contextual constraints (Fullan, 2016; Hargreaves & Fullan, 2012). The adaptive strategies observed at SMAN 1 Selong—such as blended learning, flexible assessment, and selective technology use—demonstrate that adaptation is not a linear or uniform process, but a reflective and progressive professional practice. This aligns with Fullan's assertion that meaningful educational change depends on teachers' internal motivation and contextual understanding, rather than top-down policy enforcement alone.

The study also reinforces and extends the TPACK framework (Mishra & Koehler, 2006; Koehler et al., 2013). While previous research has validated the importance of integrating content, pedagogy, and technology, the findings at SMAN 1 Selong indicate that in Islamic education this integration must also encompass a spiritual dimension. Teachers' deliberate efforts to embed Qur'anic verses, moral reflection, and worship practices within digital instruction suggest that effective TPACK implementation in PAI requires alignment not only of pedagogical and technological knowledge, but also of religious values and ethical objectives. This aspect remains underexplored in much of the existing TPACK-based literature.

In terms of technology adoption, the findings are consistent with Diffusion of Innovation Theory (Rogers, 2003; Dearing & Cox, 2018). Similar to prior studies, this research found uneven adoption patterns shaped by perceived usefulness, individual readiness, peer influence, and institutional policy support. However, this study contributes additional insight by showing how informal peer mentoring and leadership flexibility can accelerate adoption even when disparities in competence persist. This contextualized diffusion process highlights that innovation in Islamic education is not merely a technological issue, but a socially mediated and culturally grounded phenomenon.

Moreover, the observed improvements in student engagement, reduced assessment anxiety, and enhanced meaning-making processes resonate with Social Constructivist perspectives (Vygotsky, 1978; Woolfolk, 2019), which emphasize learning through interaction and mediated tools. Unlike studies that focus primarily on cognitive outcomes, the present findings demonstrate that social constructivism in PAI learning also facilitates collective moral reflection and spiritual internalization through digitally mediated interaction. This supports Wardani's (2025) argument that digital-era Islamic education must be contextual, inclusive, and collaboratively constructed to strengthen Islamic values holistically.

Importantly, the findings also align with concerns raised by Izzah et al,. (2025), who caution that technological adaptation in Islamic religious learning must not shift the primary focus away from spiritual education. Evidence from SMAN 1 Selong shows that teachers consciously positioned technology as a pedagogical instrument rather than a substitute for spiritual formation. This contrasts with some prior studies that report value dilution in digital religious instruction, suggesting that intentional spiritual adaptation can mitigate such risks.

While this study confirms many findings from previous research regarding digital media use, teacher adaptation, and policy challenges in Islamic education, it advances the literature by offering a holistic, institution-specific analysis of how pedagogical, technological, and spiritual competencies intersect in practice. By addressing this gap, the study contributes a nuanced understanding of adaptive strategies in digital-based PAI learning and underscores the importance of contextualized, value-oriented digital transformation in Islamic education.

3. Implications of Findings

This study contributes to the literature on digital transformation in Islamic education by offering theoretically informed and practice-oriented implications derived from an

institution-specific case. The findings extend existing adaptation and technology integration frameworks by demonstrating that effective digital adaptation in Islamic Religious Education (PAI) requires the simultaneous integration of pedagogical, technological, and spiritual competencies. While dominant models such as TPACK emphasize the alignment of content, pedagogy, and technology, this study identifies spiritual intentionality as a mediating dimension that shapes instructional decisions and governs the ethical use of digital tools. This insight suggests the need for a more value-sensitive adaptation framework in religious education contexts.

The study also refines Teacher Adaptation Theory by showing that teacher adaptability in response to digital-based policies is not merely reactive but constitutes a reflective, agentic process influenced by internal motivation, institutional norms, and moral responsibility. The adaptive strategies observed among PAI teachers at SMAN 1 Selong illustrate how professional agency and contextual awareness interact to sustain pedagogical change, reinforcing the view of teachers as active policy interpreters rather than passive implementers.

From a practical perspective, the findings highlight the importance of aligning digital education policies with continuous professional development that integrates technical skills, pedagogical design, and spiritual orientation. Institutional support and peer collaboration emerged as key factors in enhancing teachers' confidence and creativity in digital instruction. Furthermore, the results underscore the need for flexible school-level implementation, allowing teachers to adapt digital strategies to infrastructural limitations and disparities in student access while maintaining equity and instructional quality.

Finally, the study demonstrates that contextualized digital pedagogy can support holistic PAI learning objectives. When guided by pedagogical intentionality and ethical awareness, digital strategies do not undermine religious values but can strengthen students' cognitive, affective, and spiritual engagement, positioning technology as a mediational tool for meaningful and value-oriented learning.

4. Research Limitations

Despite its contributions, this study has several limitations that should be acknowledged. First, the research was conducted as a single-case qualitative study at SMAN 1 Selong, involving a relatively limited number of participants. While this design allowed for in-depth exploration of adaptive strategies within a specific institutional context, the findings

may not be readily generalizable to other schools with different cultural, organizational, or technological conditions.

Second, the study relied heavily on self-reported data from teacher interviews, which may be subject to social desirability bias or selective recall. Although this limitation was mitigated through triangulation with classroom observations and document analysis, the possibility of subjective interpretation remains. Teachers may have emphasized successful practices while underreporting challenges or unsuccessful adaptations.

Third, the research did not systematically measure student learning outcomes quantitatively, such as test scores or longitudinal achievement data. As a result, the impact of adaptive strategies on learning effectiveness and the achievement of PAI objectives was inferred primarily from qualitative evidence, including perceptions, observed behaviors, and reflective accounts. Future studies employing mixed-methods or experimental designs could provide more robust evidence of causal relationships between adaptive strategies and learning outcomes.

Finally, external variables such as students' home learning environments, parental support, and varying levels of digital access were not fully controlled in this study. These factors may have influenced students' engagement and learning experiences, particularly in digitally supported instruction. Further research that accounts for these variables could offer a more comprehensive understanding of digital adaptation in Islamic education.

In light of these limitations, future research is encouraged to involve comparative multi-site studies, larger participant samples, and longitudinal designs to examine how adaptive strategies evolve over time and across diverse educational settings. Such efforts would strengthen the empirical foundation of digital-based Islamic education research and enhance the transferability of findings.

CONCLUSION

This study examined how PAI teachers at SMAN 1 Selong adapted to digital-based education policies, the conditions shaping this adaptation, and its implications for learning effectiveness. The findings indicate that adaptation was not a purely technical response to policy mandates, but a multidimensional and value-oriented process. PAI teachers mobilized interconnected pedagogical, technological, and spiritual strategies to reconcile digital

demands with classroom realities and the moral objectives of Islamic education. Pedagogically, they prioritized blended and student-centered approaches that were responsive to learners' access and needs. Technologically, adaptation was pragmatic and differentiated, supported by peer collaboration and institutional flexibility rather than uniform digital mastery. Throughout, spiritual considerations consistently guided instructional decisions, ensuring that digitalization did not dilute the ethical and religious foundations of PAI learning and contributing positively to student engagement, continuity of learning, and the alignment of cognitive, affective, and spiritual learning outcomes.

Scientifically, the study contributes to Islamic education and digital pedagogy scholarship by empirically demonstrating that teacher adaptation to digital-based policies in PAI is inherently value-mediated and cannot be reduced to the acquisition of technical skills or compliance with policy directives. By foregrounding the interplay among pedagogical, technological, and spiritual strategies, the study enriches existing understandings of teacher agency in policy enactment and highlights spirituality as a critical yet often underexamined analytical dimension in research on digital learning. Practically, the findings underscore the importance of school-level support structures—such as flexible institutional arrangements and peer collaboration—in enabling context-sensitive digital adaptation that safeguards the ethical and religious aims of PAI, with implications for how educational authorities design, implement, and monitor digital-based Islamic education policies.

These contributions should be interpreted in light of several limitations. The research was conducted in a single public senior high school, which constrains the transferability of the findings to other settings, such as madrasahs or institutions with different infrastructural conditions. The qualitative design relied primarily on teachers' perspectives and did not include quantitative measures of learning achievement, focusing instead on perceived effectiveness and instructional processes; as a result, students' long-term learning outcomes and variations across broader policy environments remain only partially captured. Future research is therefore recommended to extend the scope of inquiry across multiple schools and comparative contexts, including diverse types of Islamic educational institutions. Mixed-methods or longitudinal designs could generate deeper insight into the sustained impact of adaptive digital strategies on students' religious understanding and character formation. Further systematic exploration of spirituality as an analytical lens in digital education research is also needed to refine existing conceptual frameworks and better reflect the distinctive epistemological foundations of Islamic education.

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