

## Transforming pesantren educational management through religious moderation in the era of technological disruption

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### ABSTRACT

**Purpose** – Technological disruption has posed both challenges and opportunities for Pesantren as Islamic educational institutions rooted in tradition. On the one hand, rapid digital transformation demands managerial adaptation and innovation; on the other hand, Pesantren bear a strategic responsibility to cultivate religious moderation amid the proliferation of exclusive and intolerant religious narratives in digital spaces. This study aims to analyze the transformation of Pesantren educational management based on religious moderation in response to technological disruption through the POAC management framework (planning, organizing, actuating, controlling)

**Method** – Employing a qualitative approach with a case study design, data were collected through in-depth interviews, observations, and document analysis.

**Findings** – The findings reveal that the transformation of *Pesantren* educational management occurs in a systematic and contextual manner. At the planning stage, religious moderation is integrated into the vision, mission, and strategic educational policies. At the actuating stage, *Pesantren* mobilize educational resources adaptively by combining traditional learning methods with selective and value-oriented use of digital technology. Meanwhile, at the controlling stage, evaluation is conducted holistically by assessing not only academic achievement but also the internalization of moderate religious attitudes and digital ethics among students. The novelty of this study lies in the development of an integrated *Pesantren* educational management model that embeds religious moderation across all POAC functions within the context of technological disruption. This study contributes to the advancement of Islamic educational management scholarship and offers a practical framework for managing *Pesantren* in an adaptive, moderate, and sustainable manner in the digital era.

**Keywords:** Islamic Education; Pesantren Educational Management; Religious Moderation; Technological Disruption

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## INTRODUCTION

*Pesantren* are the oldest Islamic educational institutions in Indonesia, playing a strategic role in shaping the religious, moral, and social character of the community (Yugo, 2025; Mujahid, 2021). Historically, *Pesantren* have served not only as centers for the transmission of Islamic knowledge but also as agents of social change deeply rooted in traditional values, local wisdom, and Islamic spirituality (Pohl, 2006). However, in the

context of global developments marked by the acceleration of digital technology and rapid social change, *Pesantren* are faced with new challenges that require more adaptive, innovative, and sustainable adjustments to their educational management systems.

*Pesantren*, as Islamic educational institutions deeply rooted in scientific traditions and religious values, face significant challenges amidst technological disruption (Halimah, Yusuf, & Safiudin, 2024). The development of digital technology has not only transformed learning and communication patterns but also impacted leadership systems, institutional governance, and scholarly authority relations within the *Pesantren* environment (Halimah, Yusuf, & Safiudin, 2024). Nevertheless, *pesantren* educational management practices are still dominated by conventional and hierarchical patterns that have not fully responded to these changes (Hadi, 2025).

The integration of technology into *pesantren* education often occurs pragmatically and instrumentally, without a management framework based on the values of religious moderation. This situation has the potential to create tension between *pesantren* traditions and the demands of digitalization, while also opening up opportunities for value disorientation and polarization of religious understanding (Darmini, 2021). The absence of a conceptual framework that systematically integrates digital transformation with the principles of religious moderation demonstrates the urgency of transforming *pesantren* education management. This transformation cannot be interpreted simply as the adoption of technology, but rather as a process of reorienting values, structures, and managerial strategies based on religious moderation, enabling *pesantren* to adapt critically, ethically, and sustainably in the face of technological disruption (Faizin, 2024).

Technological disruption has fundamentally changed the way educational institutions learn, teach, communicate, and manage. The digitization of administrative systems, the use of online learning platforms, and the rapid flow of religious information in the digital space have become unavoidable realities (Seitakhmetova & Zhandossova, 2025). For *pesantren*, this situation presents a dilemma between maintaining the authenticity of *pesantren* values and the demands of modernizing educational management. Managerial unpreparedness in responding to technological disruption has the potential to create institutional stagnation, disparities in educational quality, and weaken *pesantren* competitiveness amidst the dynamics of national and global education (Hajar, 2024).

On the other hand, the development of digital technology also has serious implications for religious patterns, particularly the emergence of exclusive, radical, and intolerant religious narratives that are widely disseminated through digital media (Hamayotsu, 2013). As Islamic educational institutions, *pesantren* have a moral and social responsibility to instill moderate, tolerant, and inclusive Islamic values. Therefore, religious moderation serves as a normative and strategic foundation for responding to ideological challenges in the era of technological disruption. However, the internalization of religious moderation has not been fully integrated systematically in the management of *pesantren*

education, both in the aspects of planning, organizing, implementing, and evaluating education (Huda, 2024).

Transforming Pesantren education management based on religious moderation is an urgent need to ensure that they not only survive but also play an active role as centers for the development of Islam, a mercy for all the worlds, in the digital era. This transformation goes beyond the technical aspects of technology use, but also encompasses a managerial paradigm shift that places the value of moderation as a primary principle in policymaking, curriculum management, human resource development, and institutional governance. Thus, technology is positioned as an instrument for reinforcing values, not as a threat to the identity of the Pesantren.

Although numerous studies have discussed the modernization of *pesantren* and the use of technology in Islamic education, studies specifically elaborating on the transformation of *pesantren* education management based on religious moderation in the context of technological disruption are still relatively limited, including Nikmatullah, Wahyudin, Tarihoran, & Fauzi (2023); Halimah, Yusuf, & Safiudin (2024); Faizin (2024). This research gap highlights the need for a conceptual and empirical approach capable of explaining how *pesantren* can transform their management in an integrative manner, combining traditional values, principles of religious moderation, and technological innovation. Therefore, this article aims to critically and systematically examine the concept and strategy for transforming *pesantren* education management based on religious moderation in the face of technological disruption, in order to strengthen the relevance, competitiveness, and contribution of pesantren to the development of contemporary Islamic education.

This article offers a new conceptual approach by positioning religious moderation as a guiding principle in the transformation of pesantren education management amidst technological disruption. The article's primary contribution is the development of an integrative conceptual model that bridges *pesantren* education management, the values of religious moderation, and the dynamics of digital transformation, thereby enriching the discourse on Islamic education management and opening up space for further empirical research.

## **METHOD**

This research uses an interpretive qualitative approach with an in-depth case study design to comprehensively analyze the transformation of *pesantren* education management based on religious moderation in the context of technological disruption. This design was chosen because it allows researchers to explore in detail the managerial processes, decision-making patterns, and value dynamics that cannot be measured quantitatively, particularly in the institutional context of pesantren, which have unique cultural and religious characteristics.

The *Pesantrens* used as research locations consist of 2 *pesantrens*, namely the Walisongo in Ponorogo and the Al Hasanah in Bengkulu. The research location was

determined purposively with the following criteria: (1) *pesantren* that have integrated the use of technology in educational management, (2) the existence of policies or practices strengthening religious moderation, and (3) the active involvement of *pesantren* leaders in the managerial process. Research informants were selected using purposive and snowball sampling, including *pesantren* administrators, educational administrators, religious teachers, and student mentors. Informants were selected based on their level of direct involvement in the management functions of planning, organizing, actuating, and controlling, ensuring relevant and in-depth data collection.

Data collection was conducted through in-depth semi-structured interviews, focused non-participant observation, and institutional document analysis. Interviews were conducted repeatedly to capture consistency and depth of data, using interview guidelines developed based on the POAC framework and indicators of religious moderation. Observations focused on learning practices, technology use, leadership patterns, and educational oversight mechanisms. Documentation was analyzed to verify field data, including the *pesantren's* vision and mission, educational policies, curriculum, technology use guidelines, and evaluation reports.

Data analysis was conducted thematically and iteratively, referring to the Miles, Huberman, and Saldaña model (Miles, Huberman, & Saldaña, 2014). This analysis included data condensation, data display, and conclusion drawing. The data coding process was carried out in stages, starting with open coding to identify initial themes, followed by axial coding to link themes to POAC functions, and selective coding to formulate patterns of transformation in *pesantren* educational management. The POAC framework served as an analytical lens, while religious moderation served as a cross-cutting analytical category in interpreting all findings.

Data validity was ensured through the application of trustworthiness principles, including credibility, transferability, dependability, and confirmability. Credibility was strengthened through triangulation of sources and techniques, as well as member checking with key informants. Dependability was maintained through systematic recording of research procedures (audit trail), while confirmability was achieved by maintaining data traceability and researcher reflexivity. With these methodological procedures, this research is expected to produce robust empirical findings, academically accountable, and relevant to the development of *pesantren* education management theory and practice in the era of technological disruption.

## **RESULT AND DISCUSSION**

### ***Pesantren* Education Management Planning**

The research results show that *pesantren* education management planning in the context of technological disruption is directed at maintaining the continuity of *pesantren* values while responding to the demands of changing times. *Pesantren* strategic planning is no longer conventional, but has begun to integrate the value of religious moderation as a basic principle in establishing the vision, mission, and goals of education (Observation,

2025). This planning emphasizes the orientation of *pesantren* education on developing students who are knowledgeable, moral, and have a balanced and tolerant religious attitude amidst the rapid flow of digital information. A *pesantren* caretaker stated that the direction of planning must be able to bridge tradition and modernity without sacrificing the identity of the *pesantren*, namely not only talking about books and religious studies, but also how students behave moderately and are ready to face the digital world (In1, 2025).

Furthermore, research data shows that educational program planning includes curriculum adjustments to incorporate strengthening digital literacy and religious moderation. *Pesantren* have begun designing learning programs that emphasize not only mastery of Islamic material but also the ability of students to filter religious information in the digital space (Observation, 2025). This planning is carried out in stages and contextually, adapting to the resources and cultural capacity of the *pesantren*. As conveyed by the *pesantren's* education administrators:

*"They do not immediately change the curriculum, but rather add strengthening digital literacy and moderation to prevent students from being easily influenced by extremist ideologies"* (In2, 2025).

Furthermore, educational management planning also includes the development of normative policies regarding the use of technology within the *pesantren* environment. *Pesantrens* establish rules for the controlled and educational use of digital devices as part of a strategy to maintain a conducive and morally sound educational climate (Observation, 2025). This policy is designed to ensure that technology functions as a supporting tool for learning and management, not as a source of distraction or degradation of values. Interviews with a *pesantren* administrator revealed that: *"Technology use is planned with clear boundaries, so that students can use technology for learning, not the other way around"* (In3, 2025).

Human resource development planning was also a key finding in this study. *Pesantrens* plan to improve the competency of religious teachers and educational staff through digital literacy training and strengthening their understanding of religious moderation. This planning is seen as a prerequisite for the successful transformation of *pesantren* education management, as educators play a key role in internalizing values and utilizing technology. Therefore, as revealed in an interview with an *pesantren* teacher, that: *"Planning for educator capacity development is an urgent need for pesantrens"* (In4, 2025).

Overall, the research data indicates that *pesantren* education management planning in the face of technological disruption focuses not only on technical and administrative aspects but also on strengthening the value of religious moderation as a foundation for institutional transformation. This integrative planning is the primary foundation for the sustainability of *pesantrens* as moderate, adaptive, and relevant Islamic educational institutions in the digital era. The planning also includes mapping educational technology needs, strengthening the digital literacy of educators, and establishing normative

principles for technology use to ensure it does not conflict with *pesantren* values. The table 1 is the research findings on aspects of *pesantren* education management planning.

**Table 1.**

*Aspects of pesantren Education Management Planning*

<b>Planning Aspects</b>	<b>Key Findings</b>	<b>Implications</b>
Vision and Mission	Integration of religious moderation values and technological adaptation	Strengthening the moderate and adaptive direction of Pesantren policies
Program Planning	Curriculum adjustments to strengthen digital literacy and tolerance values	Curriculum more relevant to the challenges of the digital era
Technology Policy	Establishing normative boundaries for technology use	Technology used selectively and with educational value
Human Resources Development	Planning digital literacy and religious moderation training	Improving managerial and pedagogical capacity

**Implementation of Pesantren Education Management**

The research results indicate that the implementation of *Pesantren* education management in the face of technological disruption is carried out through an integrative approach, combining the preservation of *Pesantren* traditions with the selective use of digital technology. The learning process of Islamic texts and Islamic studies remains the core of *Pesantren* education, but in practice, it is enriched with the use of digital media as a supporting tool (Observation, 2025). Presentation media, learning videos, and digital platforms are used to clarify material and broaden students' horizons without changing the substance of the knowledge being taught. An interview with a religious teacher revealed that "*The use of technology contributes to the effectiveness of learning, particularly in explaining the context and relevance of Islamic material*" (In6, 2025).

In implementing religious moderation-based education, *Pesantrens* employ a dialogical and inclusive pedagogical approach. Students are encouraged to discuss, ask questions, and express their views openly while upholding the school's etiquette and ethics (Observation, 2025). This practice aims to foster a balanced religious attitude and critical thinking skills in addressing differing religious views, especially those stemming from digital media.

In addition to learning, the implementation of *Pesantren* educational management also encompasses the use of technology in administrative and institutional governance aspects. Digitization of student data, class schedules, and internal communication between administrators has been implemented to improve management efficiency and transparency. *Pesantren* administrators stated that "*The use of administrative technology helps expedite educational services without compromising control and oversight*" (In7, 2025).

Strengthening religious moderation is also implemented through habituation and role modeling in daily *Pesantren* life. Students are guided to use technology responsibly,

both in learning and personal activities (Observation, 2025). *Pesantrens* provide guidance on digital media use through an educational approach, ensuring that students are not only restricted but also guided in understanding the risks and ethics of using media. An interview with a student advisor revealed that " *The Pesantren not only restricts technology use but also guides students to be wise and avoid being influenced by deviant religious content*" (In5, 2025).

Overall, the research data indicates that the implementation of *Pesantren* education management based on religious moderation in the face of technological disruption is adaptive and contextual. This implementation emphasizes that technology is utilized as a supporting instrument to strengthen the quality of learning and *Pesantren* governance, while the value of religious moderation serves as the primary guideline in all educational practices. This approach allows *Pesantrens* to maintain their traditional identity while being responsive to the demands of Islamic education in the digital age. The table 2 is research findings on the implementation of *Pesantren* education management.

**Table 2.**

*Aspects of Implementation of Pesantren Education Management*

<b>Implementation Aspects</b>	<b>Key Findings</b>	<b>Implications</b>
Learning Process	Integration of traditional methods and digital media	More effective and contextual learning
Internalization of Moderation	Dialogic and inclusive approaches	Formation of moderate religious attitudes
Utilization of Technology	Limited and controlled use of digital platforms	Increased efficiency without eroding traditional values
Educational Administration	Digitalization of data and internal communications	More transparent <i>Pesantren</i> governance

### **Evaluation and Supervision of *Pesantren* Education Management**

Research results indicate that the evaluation of *Pesantren* education management in the context of technological disruption has expanded its focus and approach. Evaluation is no longer limited to measuring students' academic achievement, but also includes assessments of students' internalization of religious moderation values, digital media ethics, and social behavior within the *pesantren*. This evaluation is seen as a strategic instrument to ensure that educational management transformation aligns with institutional goals and *Pesantren* values. Information from a *pesantren* administrator highlights the importance of comprehensive evaluation, which encompasses not only grades but also students' attitudes toward religion and use of technology (In2, 2025).

Research data shows that *Pesantrens* have begun implementing a multi-layered evaluation mechanism involving various stakeholders, such as administrators, educational administrators, religious teachers (*ustadz*), and student mentors. Evaluations are conducted periodically through evaluation meetings, student progress reports, and educational program reflections. Technology is utilized in this process to document

evaluation results and monitor student progress more systematically. Interviews with a *pesantren* administrator revealed that "The digital systems make evaluation reports more organized and easier to monitor, allowing for quicker decision-making" (In8, 2025).

Furthermore, evaluation of technology use has become a crucial part of *Pesantren* educational management. *Pesantrens* monitor the use of digital devices using an educational and persuasive approach. Students are evaluated not only on the frequency of technology use but also on the purpose and impact of technology use on the learning process and religious attitudes. This approach was emphasized by one of the student mentors, who stated that "They do not outright prohibit technology, but rather evaluate whether technology is used for learning or is a distraction" (In5, 2025).

Evaluation also serves as the basis for follow-up improvements to *Pesantren* education programs. Evaluation results are used to revise policies, refine learning methods, and design programs to strengthen religious moderation and digital literacy. This follow-up process demonstrates that evaluation is not merely administrative but is part of a continuous cycle of improving the quality of *Pesantren* education. As interviewed with a religious teacher, that "Evaluation results are consistently used as input for improvements, both in teaching methods and in fostering student attitudes" (In1, 2025).

Overall, the research data indicates that the evaluation of *Pesantren* education management based on religious moderation in the face of technological disruption is carried out holistically, participatory, and development-oriented. Evaluation plays a crucial role in maintaining a balance between the use of technology and the strengthening of religious moderation values, ensuring that *Pesantrens* remain consistent with the vision of moderate, adaptive, and sustainable Islamic education in the digital era.

Thus, the evaluation phase shows that *Pesantrens* are beginning to implement a more comprehensive and adaptive evaluation system. Monitoring of technology use is carried out in an educational manner using a coaching approach, guiding students to be responsible in their use of technology. Technology-based evaluation is used to continuously monitor the effectiveness of educational programs.

**Table 3.**

*Evaluation Aspects of Pesantren Educational Management*

<b>Evaluation Aspects</b>	<b>Key Findings</b>	<b>Implications</b>
Evaluation Focus	Academics and Religious Moderation	More holistic educational assessment
Evaluation System	Utilization of Digital Documentation and Reports	More systematic program monitoring
Supervision Pattern	Educational and Persuasive Approaches	Raising awareness of digital ethics
Follow-up	Program Improvements Based on Evaluation Results	Improving the quality of continuous education

## Discussion

### ***Pesantren* Education Management Planning from a Planning Theory Perspective**

Research findings indicate that *Pesantren* education management planning in the face of technological disruption is oriented toward establishing integrated educational goals that strengthen *Pesantren* traditions and internalize the values of religious moderation. This practice aligns with George R. Terry's concept of planning, which emphasizes that planning is the process of determining goals and selecting the best course of action to achieve them (Terry, 2021). In the context of *Pesantrens*, planning encompasses not only academic goals but also affective and value goals, particularly the formation of moderate religious attitudes that are adaptive to technological change.

Empirically, the formulation of *Pesantren* visions, missions, and educational goals demonstrates a systematic effort to respond to the challenges of the digital era without shifting institutional identity. These findings reinforce Siagian's (2012) view that effective planning must be futuristic and responsive to changes in the organization's strategic environment. *Pesantrens* design educational policies by considering the realities of technological disruption, potential ideological risks in the digital space, and the students' need for moderate religious literacy.

The gradual and contextual planning of educational programs also reflects the principles of rationality and flexibility in planning, as proposed by Akpan (2018), and Caffarella & Daffron (2013). The *Pesantren* did not implement drastic curriculum changes, but instead incorporated digital literacy and religious moderation as part of an adaptive strategy. This approach demonstrates that planning in the *Pesantren* is realistic, resource-based, and aligned with the organizational culture.

Furthermore, the planning of technology use policies within the *Pesantren* demonstrates the application of normative planning principles, where each policy is designed based on the institution's values and goals. This aligns with Williams (2012), and Bryson's (2018) view that planning is not merely a technical activity but a process of determining the organization's direction based on values. Establishing limits on technology use is part of the strategy to ensure that digital innovation does not conflict with the values of religious moderation and *Pesantren* ethics.

Human resource development planning was also a key finding in this study. *Pesantrens* plan to improve educator competency in digital literacy and religious moderation as prerequisites for successful educational management transformation. This finding reinforces human resource planning theory, which emphasizes alignment between organizational goals and implementer readiness (Chakraborty & Biswas, 2019). Therefore, *Pesantren* educational management planning is not partial, but rather integrative and long-term.

Overall, the integration of research findings with management planning theory indicates that *Pesantren* educational planning based on religious moderation in the face of technological disruption meets the principles of strategic planning: goal-oriented, environmentally responsive, value-based, and realistic regarding organizational capacity.

Such planning serves as a key foundation for the successful implementation and evaluation of *Pesantren* educational management in the digital era.

### **Implementation of *Pesantren* Education Management**

Research findings indicate that the implementation of *Pesantren* education management in the face of technological disruption represents an actuating function, namely the process of mobilizing educational resources to realize institutional goals based on religious moderation. This aligns with Gagné's (2018) view, which defines actuating as an effort to direct, motivate, and guide organizational members so that planned goals can be effectively realized. In the context of *Pesantrens*, the actuating function is reflected in the leadership of *kiai* (Islamic clerics) and educational administrators who are able to motivate educators and students to utilize technology adaptively without shifting the core values of *Pesantrens*.

Empirically, the implementation of learning demonstrates a strengthening of the actuating function through the integration of traditional methods and digital media. This practice confirms that management implementation does not always require structural change, but rather the leadership's ability to build commitment and educator readiness to innovate. This finding reinforces Wu, Huang, Huang, & Du's (2019) view that the success of actuating is greatly influenced by the alignment of the managerial approach with the organizational culture. *Pesantrens* are able to drive gradual change because technology is positioned as a supporting instrument, not a substitute for values and traditions.

The implementation of internalizing religious moderation through a dialogical pedagogical approach also reflects value-based actuating. Students are not only directed to master religious material but also guided to think critically and tolerantly when addressing differing religious views in the digital space. This aligns with Elshof & Hendrawan's (2022) view that effective actuating requires a humanistic approach, exemplary behavior, and persuasive communication. In this context, the implementation of *Pesantren* management is not merely instructive, but transformative.

Furthermore, the use of technology in institutional administration and communication demonstrates that the actuating function is also oriented toward increasing organizational efficiency and effectiveness. This finding reinforces Kollenscher, Eden, Ronen, & Farjoun's (2017) perspective, which asserts that modern organizational leadership must utilize technology to improve performance without neglecting the organization's core values. The persuasive approach to monitoring technology use by students demonstrates that actuating in *Pesantrens* functions as a development mechanism, not a repressive control mechanism.

In summary, the research findings confirm that the implementation of *Pesantren* education management based on religious moderation in the face of technological disruption is a contextual and valuable form of actuating, where organizational leadership is directed not only at achieving performance but also at fostering moderate religious attitudes. The actuating function is key to the success of *Pesantren* management

transformation because it harmonizes technological innovation with traditional values and the goals of Islamic education.

### **Evaluation of *Pesantren* Education Management**

The research results indicate that the evaluation of *Pesantren* education management in the face of technological disruption is no longer solely administrative and academic, but has evolved into a holistic evaluation encompassing the cognitive, affective, and behavioral aspects of students. This finding aligns with the educational evaluation theory proposed by Stufflebeam (1983) through the CIPP (Context, Input, Process, Product) model, which emphasizes that evaluation should serve as a basis for decision-making and continuous program improvement. In the context of *Pesantrens*, context evaluation is conducted by assessing the suitability of educational goals based on religious moderation to the challenges of technological disruption, while process and product evaluations focus on learning implementation and changes in students' religious attitudes.

Empirical data shows that *Pesantrens* have begun implementing ongoing process evaluation, particularly in monitoring the internalization of religious moderation values and digital media ethics. This evaluation is not conducted through a repressive approach, but through collaborative coaching and reflection. This finding reinforces Tsipianitis & Mandellos (2022) view that formative evaluation plays a crucial role in improving program quality throughout the process. Formative evaluation in *Pesantrens* serves to guide students' behavior so they use technology wisely and are not influenced by extreme or intolerant religious content.

Furthermore, product evaluation in *Pesantren* education management is measured not only by students' academic achievements but also by changes in attitudes, mindsets, and moderate religious behavior. This finding aligns with the concept of authentic evaluation in education, which emphasizes assessing students' ability to apply values and competencies in real life (Koh, 2017; Ashford-Rowe, Herrington, & Brown, 2019). In the context of *Pesantrens*, educational success is measured by students' ability to demonstrate tolerance, think critically about digital religious information, and practice responsible media ethics.

The use of technology in *Pesantren* evaluation systems also strengthens the effectiveness of educational management. The use of digital documentation, student progress reports, and technology-based monitoring demonstrates that *Pesantrens* have adopted the principle of data-informed decision-making in educational evaluation. This aligns with the views of Yambi (2018), and Marsh, Nagengast, Fletcher, & Televantou (2011), who emphasize that educational evaluation must produce valid information that can be used to improve educational policies and practices. In practice, evaluation results serve as the basis for revising learning methods, technology use policies, and programs to strengthen religious moderation.

Furthermore, the findings of this study demonstrate that evaluation of *Pesantren* educational management serves both a control and developmental function, as outlined in the educational management theory of Terry, which positions evaluation as part of the

management cycle to ensure the achievement of organizational goals (Amanchukwu, Stanley, & Ololube, 2015). Participatory evaluation based on the value of religious moderation enables *Pesantrens* to maintain a balance between technological innovation and the preservation of traditional values. Thus, evaluation is not understood solely as an assessment tool, but as a reflective mechanism to strengthen the *Pesantren's* identity amidst technological disruption.

Overall, the integration of empirical findings and educational evaluation theory suggests that religious moderation-based evaluation of *Pesantren* educational management plays a strategic role in ensuring the sustainability of institutional transformation. Comprehensive, adaptive, and moderate evaluations enable *Pesantrens* to remain relevant as Islamic educational institutions capable of responding to technological challenges without losing their value orientation and educational goals.

Research findings indicate that the transformation of *Pesantren* education management based on religious moderation in the face of technological disruption can be comprehensively understood through the POAC (Planning, Organizing, Actuating, Controlling) framework. During the planning stage, *Pesantrens* formulate a vision, mission, and educational goals that integrate strengthening *Pesantren* traditions with responding to the challenges of digital technology. This practice aligns with George R. Terry and Siagian's planning theory, which emphasizes that planning must be futuristic, value-based, and responsive to the strategic environment (Amanchukwu, Stanley, & Ololube, 2015). *Pesantren* educational planning is not solely oriented toward academic achievement but also toward fostering moderate religious attitudes as a long-term normative goal.

During the organizing stage, *Pesantrens* adjust their structures and division of tasks to support the implementation of this plan. Empirical findings indicate the formation of specific units or assignments related to educational technology management, digital literacy, and strengthening the value of religious moderation. This practice reflects Choi & Yang's (2024) view that organizing functions to organize resources to effectively support goal achievement. In the *Pesantren* context, organizing is flexible and contextual, tailored to the institutional culture and the authority of the *kiai* (leader).

Next, in the actuating stage, the *Pesantren* mobilizes all educational components to implement the planned program. Learning implementation demonstrates the integration of traditional methods and the selective use of digital technology. Internalization of religious moderation is carried out through a dialogical pedagogical approach and role models, thus guiding students to be critical and tolerant of differing religious views in the digital space. This finding aligns with Terry's actuating theory, which emphasizes the importance of leadership, motivation, and persuasive communication in driving a values-based organization (Della Corte, et.al., 2017).

In the controlling stage, the *Pesantren* implements a holistic and adaptive evaluation system to ensure alignment between implementation and educational objectives. Evaluation focuses not only on academic achievement but also on the internalization of religious moderation values and digital media ethics. This practice aligns with the concept

of controlling in educational management, which positions evaluation as a mechanism for continuous control and improvement (feedback loop) (Serra, Alves, & Soares, 2023). The use of technology for documentation and monitoring demonstrates that controlling in the *Pesantren* functions as a means of development, not repressive control.

Overall, the integration of empirical findings with POAC theory indicates that the transformation of *Pesantren* education management in the face of technological disruption is systematic, gradual, and values-based. The POAC framework enables *Pesantrens* to maintain a balance between technological innovation and the preservation of tradition, while simultaneously strengthening religious moderation as the primary orientation of Islamic education. Thus, POAC serves not only as a technical managerial framework but also as a normative approach to developing *Pesantren* education management in the digital era.

This research's theoretical contribution expands the study of Islamic education management by positioning religious moderation as a managerial variable, rather than merely a pedagogical value or ideological discourse. These findings enrich the classical POAC theory (Terry) within the context of *Pesantrens*, demonstrating that planning, actuating, and controlling functions can operate effectively when guided by moderate religious values that are contextualized to the development of digital technology.

Practically, this research contributes an implementable framework for *Pesantrens* in designing educational policies that adapt to technological disruption without losing their institutional identity. This model can be used as a reference by *Pesantren* managers, Islamic education policymakers, and *Pesantren* development institutions in formulating sustainable, moderate, and relevant educational management strategies to the challenges of the digital era.

## CONCLUSION

This study concludes that the transformation of *pesantren* education management based on religious moderation in the face of technological disruption occurs through the systematic integration of planning, organizing, actuating, and controlling (POAC) functions. *Pesantren* educational planning is directed at formulating goals that harmonize *pesantren* traditions with the needs of technological adaptation. Management implementation is realized through the contextual mobilization of educational resources, utilizing technology as a supporting instrument for learning and institutional governance. Meanwhile, educational management evaluation is conducted holistically by assessing students' academic achievements, moderate religious attitudes, and digital media ethics. The findings of this study confirm that the success of *pesantren* in facing technological disruption is not determined solely by the level of technology adoption, but rather by the ability of educational management to internalize the values of religious moderation throughout the educational management cycle. Thus, *pesantren* are able to maintain their traditional identity while transforming into adaptive, moderate, and competitive Islamic educational institutions in the digital era. This study recommends strengthening values-

based *pesantren* education management policies as a primary strategy in addressing the challenges of contemporary Islamic education.

## DECLARATIONS

### Author Contribution

**Aryati, A.** contributed to conceptualization, drafting the original manuscript, as well as editing and visualization. **Mustofa, M.** was responsible for reviewing and editing the manuscript and conducting formal analysis. **Jemain, Z.** provided validation of the research and overall supervision. **Azizah, N.** contributed to the development of the research methodology. **Suradi, A.** was involved in reviewing and editing the manuscript.

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### Conflict of Interest

The authors declare no conflict of interest.

### Declaration of AI Use

No generative AI tools were used in the preparation of this manuscript.

### Additional Information

Not applicable.

## REFERENCES

- Akpan, C. P. (2018). *Types of educational planning/reasons for planning education*. Dept. of Educational Administration and Planning. Calabar: University of Calabar.
- Amanchukwu, R. N., Stanley, G. J., & Ololube, N. P. (2015). A review of leadership theories, principles and styles and their relevance to educational management. *Management*, 5(1), 6-14.
- Ashford-Rowe, K., Herrington, J., & Brown, C. (2019). Establishing the critical elements that determine authentic assessment. *Assessment & Evaluation in Higher Education*, 39(2), <https://doi.org/10.1080/02602938.2013.819566>
- Bryson, J. M. (2018). *Strategic planning for public and nonprofit organizations: A guide to strengthening and sustaining organizational achievement*. John Wiley & Sons.
- Caffarella, R. S., & Daffron, S. R. (2013). *Planning programs for adult learners: A practical guide*. John Wiley & Sons. <https://books.google.co.id/books?hl>.
- Chakraborty, D., & Biswas, W. (2019). Evaluating the impact of human resource planning programs in addressing the strategic goal of the firm: An organizational perspective. *Journal of advances in management research*, 16(5), 659-682. <https://doi.org/10.1108/JAMR-01-2019-0007>.
- Choi, M., & Yang, J. (2024). How allocation of resources and attention aids in pursuing multiple organizational goals. *Comput Math Organ Theory*, 30, 101–125. <https://doi.org/10.1007/s10588-023-09377-4>.

- Darmini, A. M. (2021). *Internet and the public sphere in the Indonesian Islamic boarding schools (Pondok Pesantren): power, piety, and the popular*. (Doctoral dissertation, University of Warwick).
- Della Corte, V., Del Gaudio, G., Sepe, F., & Zamparelli, G. (2017). The Role and Implications of Values-based Leadership. *Journal of Organisational Transformation & Social Change*, 14(3), 187–213. <https://doi.org/10.1080/14779633.2017.1378453>.
- Elshof, M., & Hendrawan, B. (2022). Humanistic communication professionals: dialogue and listening skills as core competencies of humanistic communication professionals in the Netherlands. *Journal of Communication Management*, 26(3), 236–253. <https://doi.org/10.1108/JCOM-12-2020-0162>.
- Faizin, M. A. (2024). Islamic Boarding Education Management Reform: Transformation Strategies to Improve Competitiveness and Relevance. *Al-Ishlah: Jurnal Pendidikan*, 16(2), 2497-2506. <https://doi.org/10.35445/alishlah.v16i2.4462>
- Gagné, M. (2018). From strategy to action: Transforming organizational goals into organizational behavior. *International Journal of Management Reviews*, 20, S83-S104. <https://doi.org/10.1111/ijmr.12159>
- Hajar, A. (2024). Navigating Globalization: Reforming Islamic Education for the 21st Century. *Sinergi International Journal of Islamic Studies*, 2(1), 53-65. <https://doi.org/10.61194/ijis.v2i1.599>
- Halimah, S., Yusuf, A., & Safiudin, K. (2024). Pesantren education management: The transformation of religious learning culture in the age of disruption. *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam*, 9(3), 648-666. <https://doi.org/10.31538/ndhq.v9i3.16>.
- Hamayotsu, K. (2013). The limits of civil society in democratic Indonesia: media freedom and religious intolerance. *Journal of Contemporary Asia*, 43(4), 658-677. <https://doi.org/10.1080/00472336.2013.780471>.
- Huda, M. (2024). Strengthening religious moderation through the core values of Islamic boarding school education. *Al-Hayat: Journal of Islamic Education*, 8(1), 59-71. <https://doi.org/10.35723/ajie.v8i1.458>.
- In1. (2025, 08 02). In-Depth Interview. (Suradi, Interviewer)
- In2. (2025, 08 03). In-Depth Interview. (Suradi, Interviewer)
- In3. (2025, 08 03). In-Depth Interview. (Suradi, Interviewer)
- In4. (2025, 08 05). In-Depth Interview. (Suradi, Interviewer)
- In5. (2025, 08 07). In-Depth Interview. (Suradi, Interviewer)
- In6. (2025, 08 10). In-Depth Interview. (Suradi, Interviewer)
- In7. (2025, 08 10). In-Depth Interview. (Suradi, Interviewer)
- In8. (2025, 08 12). In-Depth Interview. (Suradi, Interviewer)

- Koh, Kim H, 'Authentic Assessment' (27 Feb. 2017), in Kathy Hytten (ed.), *Oxford Research Encyclopedia of Education* (New York, NY, online edn, Oxford Academic, 9 June 2016 - ),<https://doi.org/10.1093/acrefore/9780190264093.013.22>
- Kollenscher, E., Eden, D., Ronen, B., & Farjoun, M. (2017). Architectural leadership: The neglected core of organizational leadership. *European Management Review*, 14(3), 247-264. <https://doi.org/10.1111/emre.12108>.
- Marsh, H. W., Nagengast, B., Fletcher, J., & Televantou, I. (2011). Assessing educational effectiveness: Policy implications from diverse areas of research. *Fiscal Studies*, 32(2), 279-295. <https://doi.org/10.1111/j.1475-5890.2011.00137.x>.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis*. sage.
- Mujahid, I. (2021). Islamic orthodoxy-based character education: creating moderate Muslim in a modern pesantren in Indonesia. *Indonesian Journal of Islam and Muslim Societies*, 11(2), 185-212. <https://doi.org/10.18326/ijims.v11i2.185-212> .
- Nikmatullah, C., Wahyudin, W., Tarihoran, N. A., & Fauzi, A. (2023). Digital pesantren: Revitalization of the Islamic education system in the disruptive era. *Al-Izzah: Jurnal Hasil-Hasil Penelitian*, 18(1), 1-14. <https://doi.org/10.31332/ai.v0i0.5880>
- Pohl, F. (2006). Islamic education and civil society: Reflections on the pesantren tradition in contemporary Indonesia. *Comparative Education Review*, 50(3), 389-409. <https://doi.org/10.1086/503882>
- Seitakhmetova, N., & Zhandossova, S. (2025). The influence of digitalization on religious identity: Socio-political context. *Eurasian Research Journal*, 7(1), 61-71. <https://doi.org/10.53277/2519-2442-2025.1-04>
- Serra, L. J., Alves, J. M., & Soares, D. R. (2023). The role of external evaluation control mechanisms and the missing loop of innovation. *Journal of Pedagogical Research*, 7(5), 156-182. <https://doi.org/10.33902/JPR.202322764>.
- Siagian, H. L. (2012). The Effect Of Strategic Planning And Budget Preparation To Financial Performance: A Study On Three Sda Higher Educational Institutions In Indonesia . *Jurnal Ekonomis*, 6(1), 81-97.
- Stufflebeam, D. L. (1983). The CIPP model for program evaluation . *In Evaluation models: Viewpoints on educational and human services evaluation*, 117-141). Dordrecht: Springer Netherlands. [https://doi.org/10.1007/978-94-009-6675-8\\_7](https://doi.org/10.1007/978-94-009-6675-8_7)
- Terry, G. R. (2021). *Dasar-Dasar Manajemen Edisi Revisi*. Jakarta: Bumi Aksara. <https://books.google.co.id/books?hl>.
- Tsipianitis, D., & Mandellos, G. (2022). The value of formative evaluation in an education program. *International Journal of Applied Systemic Studies*, 9(4), 381-388. <https://doi.org/10.1504/IJASS.2022.126770>.
- Williams, S. L. (2012). Strategic planning and organizational values: Links to alignment. *Human Resource Development International*, 5(2), 217-233. <https://doi.org/10.1080/13678860110057638>.

- Wu, L., Huang, I., Huang, W., & Du, P. (2019). Aligning organizational culture and operations strategy to improve innovation outcomes: An integrated perspective in organizational management. *Journal of Organizational Change Management*, 32(2), 224–250. <https://doi.org/10.1108/JOCM-03-2018-0073>.
- Yambi, T. D., & Yambi, C. (2018). *Assessment and evaluation in education*. . Janero: University Federal do Rio de Janeiro, Brazil. .
- Yugo, T. (2025). Improving the Quality of Islamic Education through Pesantren-Based Management in Indonesia. *Journal of Educational Research and Practice*, 3(2), 238–254. <https://doi.org/10.70376/jerp.v3i2.357>.