



# Beyond the Classroom: Total Quality Management and Digital Innovation in Education

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## Abstract:

This study aims to analyze the implementation of digital education innovation based on Total Quality Management (TQM) in Islamic Boarding Schools in the Bangka Belitung Islands. This study uses a qualitative approach with a case study design, where data is collected through interviews, observations, and documentation, then analyzed descriptively with the Interactive Analysis Model from Miles & Huberman, including data reduction, data display, and data verification. The study results indicate that the commitment of Islamic boarding school management is significant in providing adequate digital infrastructure for learning. Implementing TQM in Islamic boarding schools requires the involvement of all elements of the school, including managers, teachers, and students. Designing a digital-based curriculum that integrates local wisdom also plays a role in maintaining Islamic boarding school values while meeting the demands of technological developments. In addition, enhancing resource capacity, especially teachers, through technology training is the key to success in implementing digital media. Focusing on user satisfaction, both students and teachers, is also essential to ensure the success of digital learning. The implications of this study indicate that implementing digital-based TQM in Islamic boarding schools not only strengthens the quality of education but also introduces a technology-based approach relevant to the needs of the times without ignoring the traditional values of Islamic boarding schools.

**Keywords:** *Total Quality Management, Digital Education, Curriculum Design, User Satisfaction*

## Abstrak:

Penelitian ini bertujuan untuk menganalisis penerapan inovasi pendidikan digital berbasis Total Quality Management (TQM) di Pondok Pesantren di Kepulauan Bangka Belitung. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus, di mana data dikumpulkan melalui wawancara, observasi, dan dokumentasi, lalu dianalisis secara deskriptif dengan Model Analisis Interaktif dari Miles & Huberman yang meliputi reduksi data, display data, dan verifikasi data. Hasil penelitian menunjukkan bahwa komitmen manajemen pesantren sangat penting dalam menyediakan infrastruktur digital yang memadai untuk pembelajaran. Penerapan TQM di pesantren memerlukan keterlibatan seluruh elemen pesantren, termasuk pengelola, pengajar, dan santri. Desain kurikulum berbasis digital yang mengintegrasikan kearifan lokal juga berperan dalam mempertahankan nilai-nilai pesantren sekaligus memenuhi tuntutan perkembangan

teknologi. Selain itu, peningkatan kapasitas sumber daya, terutama pengajar, melalui pelatihan teknologi, menjadi kunci keberhasilan dalam penerapan media digital. Fokus pada kepuasan pengguna, baik santri maupun pengajar, juga penting untuk memastikan keberhasilan pembelajaran digital. Implikasi dari penelitian ini menunjukkan bahwa penerapan TQM berbasis digital di pesantren tidak hanya memperkuat kualitas pendidikan, tetapi juga memperkenalkan pendekatan berbasis teknologi yang relevan dengan kebutuhan zaman tanpa mengabaikan nilai-nilai tradisional pesantren.

**Kata Kunci:** *Total Quality Management, Pendidikan Digital, Desain Kurikulum, Kepuasan Pengguna*

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## INTRODUCTION

Digital technology-based education, including Indonesia, has become a significant pillar in transforming global education (Tang et al., 2022; Vonitsanos et al., 2024). However, Islamic boarding schools, especially those in the Bangka Islands, need help maximizing the adoption of digital technology. Meanwhile, Total Quality Management (TQM), which focuses on continuous improvement and management of educational quality (Krymets et al., 2022; Menteşoğullari, 2023), has proven effective in various sectors, including education. However, applying TQM in Islamic boarding schools with unique characteristics and traditions still needs to be improved.

This gap creates challenges in integrating the theory of quality-based educational management with the reality on the ground, where the adoption of digital technology still needs to grow. A strategy for continuous quality improvement can help Islamic boarding schools to innovate and adapt to the times (Efendy et al., 2023; Ridwan et al., 2022). With all their potential advantages, Islamic boarding schools have made an undeniable contribution to the history of the formation of this nation (Alfathon et al., 2022; Rahmansyah, 2023).

Previous studies have examined the implementation of TQM in public schools and universities and the use of digital technology in educational institutions. However, research that combines the two in the context of Islamic boarding schools still needs to be made available. Research by Alauddin & Yamada (2022), Glaveli et al. (2022), and Martínez-Zarzuelo et al. (2022) examines the implementation of TQM in public schools, while Jubba et al. (2022), Efendy et al. (2023) and Musyaffa et al. (2023) focus more on implementing digital technology in Islamic boarding schools. However, both need to integrate the two elements comprehensively. This gap indicates an opportunity to develop a more practical education model by combining TQM and digital technology in Islamic boarding schools.

Along with implementing TQM, digital technology opens up great opportunities for Islamic boarding schools to improve the quality of education through more flexible and efficient learning innovations. Research by Mustapa et al. (2023) and Maulana (2024) shows that digital technology, such as e-learning platforms and Islamic boarding school management applications,

allows for the enrichment of teaching materials, the development of technological skills for standing well, and expanding access to information. In addition, Ahmed & Opoku (2022) and Yeung & Yau (2022) emphasize that technology supports online learning, provides more transparent and efficient management of Islamic boarding school administration, and improves communication between students, caregivers, and parents (Hanafi et al., 2021). Furthermore, Chuanchen & Zaini (2023), Mukti et al. (2022), and Zaini & Hamidah (2023) remind us that technology should support, not replace, the traditional values of Islamic boarding school education. A similar view was also expressed by Muhajir (2022), who emphasized that the success of technology integration depends on the ability of Islamic boarding schools to maintain harmony between modernity and tradition.

The novelty of this study lies in the combination of two concepts rarely applied in the context of Islamic boarding schools: TQM and digital technology. Although TQM has been implemented in general educational institutions and digital technology has been used in several Islamic boarding schools, integrating the two to create a quality-based education model and digital technology still needs to be improved. This study proposes a new model by integrating TQM principles that emphasize continuous improvement and quality with the application of digital technology that can accelerate, expand access, and improve learning effectiveness. Thus, this study focuses not only on the use of technology but also on technology management with a structured quality-based approach to create a more efficient and sustainable education system.

This study aims to fill this gap by examining the implementation of digital media-based TQM in Islamic Boarding Schools in the Bangka Islands and exploring its impact on the quality of education. The main question to be answered is: "How do Islamic boarding schools respond to the challenges of digital education innovation based on Total Quality Management in Islamic Boarding Schools in the Bangka Belitung Islands?"

Adopting digital technology in Islamic boarding schools, often hampered by tradition and infrastructure limitations, requires a structured managerial approach to ensure sustainability and improvement of the quality of education. By integrating TQM principles, which emphasize continuous improvement, involvement of all elements, and systematic quality management, this study is expected to provide valuable insights for Islamic boarding school managers in designing and implementing more innovative and quality digital education models to the needs and challenges of the times.

## **RESEARCH METHOD**

This study uses a qualitative research design with a case study approach, which was chosen to explore the implementation of Total Quality Management (TQM) based on digital media as an innovation in education at Islamic Boarding Schools in the Bangka Belitung Islands. This case study was chosen because it can provide a deep understanding of the phenomena in the field (Taherdoost,

2022; Welch et al., 2022), especially in the context of Islamic boarding school education, which usually combines traditional methods with the potential for technology adoption. This qualitative approach allows researchers to explore perspectives from various related parties, such as Islamic boarding school managers, teachers, and students, regarding implementing TQM and digital technology in the learning process. This is to describe and analyze social phenomena that occur at Islamic Boarding Schools, with more emphasis on the process than the results.

The selection of Islamic Boarding Schools in the Bangka Belitung Islands, Indonesia, was based on exploring the challenges and opportunities in implementing technology-based education in areas that still rely on traditional methods. Islamic boarding schools in the Bangka Belitung Islands have great potential to integrate technology into education, but they also need help accessing technology infrastructure. Therefore, this study focuses on how digital innovation can be applied to improve the quality of education through TQM in Islamic boarding schools with unique characteristics.

The data collection process was carried out through three main techniques, namely interviews, observations, and documentation. Interviews were conducted with Islamic boarding school managers, madrasah principals, teachers, and students to explore their views on implementing digital-based TQM in learning. Observations were conducted to study classroom interactions and the use of technology in the teaching and learning process. Meanwhile, documentation was collected through relevant archives and documents, such as education policies, learning materials, and reports related to technology used in Islamic boarding schools. The data obtained from the three techniques will be analyzed descriptively using the Interactive Analysis Model developed by Miles and Huberman (2014), which includes the stages of data reduction, data display, and data verification (Asipi et al., 2022).

Data analysis in this study was carried out by referring to data reduction, data display, and data verification. Data was reduced by filtering and grouping relevant data to focus on the main themes that emerged from interviews, observations, and documentation. After that, the reduced data will be presented in a form that is easier to understand, such as narrative or graphs. The verification process is carried out by comparing data obtained from various sources through triangulation techniques to ensure consistency and credibility of information. Data validity testing confirms the findings through various sources and data collection techniques.

## **RESULT AND DISCUSSION**

### **Result**

#### **Management Commitment**

Management commitment is significant in providing adequate resources for developing and maintaining digital media as a learning tool. Implementing TQM requires the involvement of all elements of the Islamic boarding school, including Islamic boarding school managers, teachers, and students. One of the

caretakers of an Islamic boarding school in Bangka Regency conveyed this: "Man, management commitment is indeed very important in this case. We realize that to improve the quality of education, especially in this digital era, we must provide adequate technological infrastructure. This includes the procurement of hardware, software, and digital learning platforms that can be accessed by all parties - both managers, teachers, and students" (P\_3/2024).

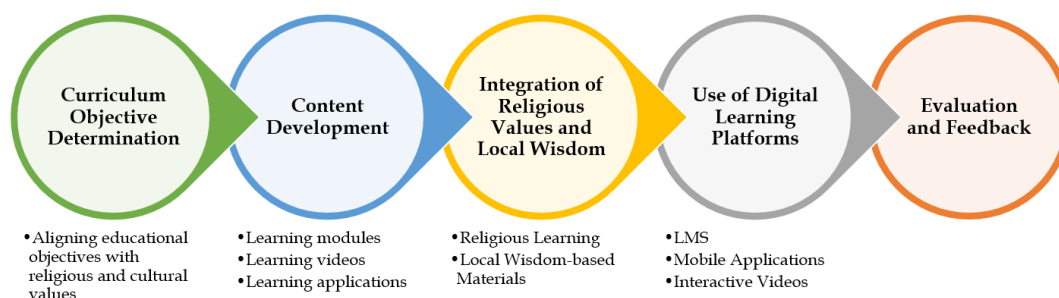
The head of an Islamic boarding school in Pangkal Pinang City also conveyed the same message: "The implementation of TQM cannot be successful without the involvement of all parties. We, as Islamic boarding school managers, ensure that every policy made focuses on the quality and involvement of all elements of the Islamic boarding school. For that, we provide full support, including resources for the development of digital infrastructure" (PK\_7/2024).

Observations in Islamic boarding schools show that implementing TQM and digital technology has been introduced systematically. Islamic boarding school managers provide the necessary hardware and software, while teachers receive training to utilize technology in teaching. Students are given access to digital learning platforms as part of their learning process. Despite the improving technological infrastructure, the challenges of the digital divide among students and limited devices remain obstacles that must be overcome. Some of these data show that the success of TQM and digital technology in Islamic boarding schools is greatly influenced by the management's commitment to providing adequate resources and training. Islamic boarding school managers are very involved in developing digital infrastructure and involve teachers and students. Despite progress in technology integration, challenges such as the digital divide and limited access still exist.

This shows that TQM and digital technology can only be successful if the Islamic boarding school's management is fully committed to providing resources and training and involving all elements of the school. Although technology opens up great opportunities to improve the quality of education, the biggest challenge is ensuring equal access to technology for all students. Without addressing the digital divide, technology can create inequalities in learning.

### **Digital-based Curriculum Design**

The design of a digital-based curriculum in Islamic boarding schools that integrates local wisdom aims to create an education system balanced between technological developments and the religious and cultural values typical of Islamic boarding schools. This curriculum compiles learning materials that can be delivered through digital platforms, such as learning videos, electronic modules, and mobile applications, ensuring that students continue to understand local religion and culture deeply. In addition, technology is also used to optimize the evaluation process, with online exams and interactive quizzes, which allow for more efficient measurement of students' understanding. This can be seen in Figure 1.



**Figure 1. Digital-based Curriculum Design in Islamic Boarding Schools**

According to one of the leaders of an Islamic boarding school in the Bangka Islands, he explained that although digital technology has begun to be implemented, there are still strong efforts to maintain local religious and cultural values in the curriculum. "We do not only focus on developing technology, but we also ensure that the digital curriculum we compile still contains religious values that are the basis of education in Islamic boarding schools. We want our students to not only be skilled in technology but also understand and practice deep Islamic values" (KB\_9/2024).

This is reinforced by the results of researchers' observations in the field, which show that although various digital platforms have been used to deliver learning materials, much teaching still refers to traditional methods, such as teaching yellow books and face-to-face religious studies. However, technology, such as learning videos and digital-based educational applications, is increasingly being introduced. This digital-based teaching focuses on strengthening religious understanding and general knowledge. However, there are efforts to maintain local values and religious teachings to remain dominant in the learning process.

The data above shows that Islamic boarding schools in the Bangka Islands are trying to combine digital technology with religious education and local values in their curriculum. Although technology is increasingly introduced into teaching methods, Islamic boarding schools still prioritize religious values and local wisdom as the basis of Islamic boarding school education. The digital curriculum implemented not only focuses on mastering technology but also ensures that students continue to understand and appreciate their religious and cultural teachings. This shows that Islamic boarding schools are trying to balance tradition and modernity in facing the challenges of the Industrial Revolution 4.0.

This finding confirms that Islamic boarding schools must balance technological advances and traditional values in developing a digital-based curriculum. Although digital technology offers many benefits, education in Islamic boarding schools must still focus on strengthening character and deep religious values. The digital curriculum must prepare students to face the digital world and maintain local religious and cultural values. Therefore, Islamic boarding schools need to integrate technology in a way that supports religious teaching and local wisdom without sacrificing both. This will create a generation competent in technology and adhere to strong religious and cultural principles.

## Enhancing Resource Capacity

Enhancing the Resource Capacity of Islamic boarding school resources in the Bangka Belitung Islands can significantly advance Islamic boarding schools. The results of an interview with one of the caretakers of an Islamic boarding school in the Bangka area conveyed the importance of training teachers to utilize technology for learning. "Our teachers are not yet fully accustomed to using technology in teaching. Therefore, we hold regular training so that they can master various digital tools that can enrich learning materials and help them in online class management," (BK\_1/2024).

During an observation at one of the Islamic boarding schools in East Java, it was found that although technological devices had begun to be provided, many teachers still needed help to integrate technology optimally into their teaching. Several teachers were seen using e-learning platforms but had yet to fully utilize various digital features such as learning videos or interactive applications. Students also appeared enthusiastic when following digital learning materials, but teachers' skills in managing online classes still needed to be improved to maximize the effectiveness of online learning.

Interview and observation data showed that developing teachers' capacity to use technology was a critical factor in implementing digital learning in Islamic boarding schools. Although technological devices were provided, teachers still needed help optimizing these tools, mainly due to adequate training. Without sufficient skills, online learning platforms and digital applications would not effectively improve the quality of education.

This finding emphasizes the importance of ongoing training for teachers to utilize technology optimally. In addition to providing the necessary devices, Islamic boarding schools must allocate time and resources for regular training, ensuring that teachers not only master digital tools but can also innovate with interactive learning media, which can be seen in Table 1. This is important so that Islamic boarding schools remain relevant in the digital era and can provide quality education to students.

**Table 1. Enhancing Resource Capacity in Islamic Boarding Schools Related to the Implementation of TQM and Digital Technology**

Aspects	Activities/Efforts	Success Indicators
Technology Infrastructure Teacher Training	Provision of hardware (laptops, tablets, computers)	Availability of adequate devices for digital-based teaching.
	Procurement of software and digital learning applications	Access to e-learning platforms and digital applications that can be accessed by all parties.
	Provision of stable internet connections	Smooth internet access that can be used by students and teachers
Student Empowerment	Training of teachers in the use of technology and e-learning	Teachers can operate digital tools and integrate technology into learning.
	Workshop on creating digital-based learning materials	Teachers can compile digital teaching materials and use interactive media.
	Provision access to students for digital devices	Students get access to digital learning media

	Basic training in the use of technology for students	Students can access online learning and use digital platforms.
Aspects	Use of a digital-based Islamic boarding school management system	Management of Islamic boarding school administration is more efficient and transparent.
	Digitization of student data (personal data, grades, attendance)	Students' data can be easily accessed, facilitating supervision and evaluation.

Table 1 shows strategic steps to increase the capacity of Islamic boarding school resources in implementing TQM and digital technology, such as providing infrastructure, teacher training, empowering students, and digitizing administration. All of this aims to create a more efficient and responsive learning system. Without solid infrastructure support and the involvement of all elements of the Islamic boarding school—managers, teachers, and students—the implementation of technology and TQM will not be effective. Solid collaboration will improve the quality of education and management of the Islamic boarding school.

### Focus on User Satisfaction

To increase satisfaction among users of Islamic boarding schools in the Bangka Belitung Islands, it was found that they emphasized the importance of listening to input from students and teachers regarding their experiences in using digital media for learning. This is conveyed by the caretaker of an Islamic boarding school in Central Bangka, who said, "We always open communication channels to receive feedback, both from students and teachers, regarding the use of the digital platform we implement. The goal is to find out whether this media helps them in the teaching and learning process or becomes an obstacle," (BT\_6/2024)

The results of the observation show that students and teachers at Islamic boarding schools have the opportunity to provide input regarding their experiences using digital technology in learning. Some students feel helped by the online learning platform, although some need help with less user-friendly applications. Teachers also stated that although digital platforms help deliver material, they need further training to optimize their use. Islamic boarding schools provide communication channels such as discussion forums and regular meetings to accommodate feedback from both parties.

These data show that Islamic boarding schools are concerned about students' and teachers' satisfaction with learning technology. By providing communication channels to collect input, Islamic boarding schools strive to ensure that the digital media implemented can meet their needs. Although there has been a positive response to the ease of access to materials through digital platforms, several obstacles related to usability and the need for teacher training need to be addressed immediately to improve the quality of digital learning.

These findings indicate that the success of implementing digital technology in Islamic boarding schools is highly dependent on the level of user satisfaction, both students and teachers. Although technology offers much



potential, its implementation must be supported by efforts to identify and address problems faced by users, both in terms of accessibility and training. Therefore, providing effective communication channels to receive feedback and then responding to it with appropriate development programs is a strategic step to ensure the sustainability and improvement of the quality of digital learning in Islamic boarding schools. This aligns with TQM principles, which emphasize the importance of continuous improvement based on customer input, as illustrated in Table 2.

**Table 2. Focus on Islamic Boarding School User Satisfaction**

Strategic Steps	Actions	Objectives
Feedback Collection	Provide communication channels (forums, surveys, discussions) for students and teachers.	To gain first-hand insight into the digital learning experience.
Input Analysis	Collect and analyze feedback to identify problems and needs.	To develop a clear picture of areas for improvement.
Development Program Preparation	Create development programs based on feedback received.	To develop concrete steps to improve the quality of learning.
Program Implementation and Evaluation	Implement development programs and measure their impact on user satisfaction.	To assess whether the changes made have a positive impact on the learning experience.

Table 2 illustrates the strategic steps in implementing a TQM approach focusing on customer satisfaction (students and teachers) in digital learning at Islamic boarding schools. The first step is to collect user feedback through the communication channels provided and then analyze the input to understand the existing needs and problems. Based on this analysis, the Islamic boarding school prepares a development program that aims to improve the quality of learning. The program is then implemented and evaluated to ensure that the steps taken improve the learning and teaching experience.

## Discussion

This study shows that implementing Total Quality Management (TQM) in Islamic boarding schools, especially in utilizing digital technology, is highly dependent on several key factors: management commitment, digital-based curriculum design, enhancing resource capacity, and focusing on student and teacher satisfaction. Strong management commitment ensures the availability of adequate infrastructure, including hardware and software, that all elements of the Islamic boarding school can access. This is in line with the findings of previous studies that emphasize the importance of managerial support in successfully implementing educational technology (Almaiah et al., 2022; Granić, 2022; Trzeciak et al., 2022). With a commitment from Islamic boarding school managers, technology implementation will run effectively and optimally.

A digital-based curriculum design that integrates local wisdom is also a strategic step in creating a balance between technological developments and Islamic boarding schools' religious and cultural values. Digital platforms, such

as learning videos and mobile applications, allow Islamic boarding schools to deliver material in a more exciting and accessible way without sacrificing local and religious values. This study supports previous studies emphasizing the importance of maintaining cultural values in the digital curriculum (Baber, 2022; Yang & Li, 2022). This also shows that digital curriculum in Islamic boarding schools must consider the local context to maintain the relevance and sustainability of education.

In addition, enhancing the resource capacity of teachers to use technology is another critical factor. Regular training for teachers to master digital tools is needed to optimize the use of technology in the teaching and learning process. This finding aligns with research that emphasizes that continuous teacher training is essential to ensure the effectiveness of technology integration in education (Diano et al., 2023; Gomez et al., 2022; Kilag et al., 2023). Without adequate teacher skills, even though digital infrastructure is available, the use of technology will not be maximized in improving the quality of learning.

The focus on student and teacher satisfaction is also significant in this study. Islamic boarding schools that provide communication channels to receive input and feedback from users can continue to improve the quality of their digital learning. This reflects the principle of TQM, which prioritizes customer satisfaction (students and teachers) as the leading indicator when assessing the quality of education. From a theoretical and practical perspective, this study makes an essential contribution to Islamic Education Management (IEM) by offering a model of TQM and digital technology integration that is responsive to the needs and aspirations of Islamic boarding school education users. Its practical contribution is to direct Islamic boarding schools to continue improving education quality through a measurable and sustainable technology-based approach.

## CONCLUSION

This study found that the implementation of TQM in Islamic boarding schools through the integration of digital technology is highly dependent on management commitment, curriculum design that combines local religious and cultural values, and teacher capacity building. Training for teachers and communication channels to collect feedback from students and teachers are vital to creating higher quality and relevant learning. This shows that although technology has great potential, the success of its implementation depends on alignment with Islamic boarding school values and the readiness of trained human resources. This study makes an essential contribution to Islamic Education Management by offering a model of TQM and digital technology integration that Islamic boarding schools can adopt. This study renews the perspective on the application of educational technology, especially in the context of Islamic boarding schools, and introduces an approach that balances technological advances with the preservation of local values. The limitations of this study lie in the limited sample of Islamic boarding schools in the Bangka Belitung Islands and the absence of quantitative measurements to assess the direct impact of technology use on learning outcomes.

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## REFERENCES

- Ahmed, V., & Opoku, A. (2022). Technology Supported Learning and Pedagogy in Times of Crisis: The Case of Covid-19 Pandemic. *Education and Information Technologies*, 27(1), 365-405. <https://doi.org/10.1007/s10639-021-10706-w>
- Alauddin, N., & Yamada, S. (2022). TQM Model Based on Deming Prize for Schools. *International Journal of Quality and Service Sciences*, 14(4), 635-651. <https://doi.org/10.1108/IJQSS-09-2021-0131>
- Almaiah, M. A., Ayouni, S., Hajjej, F., Lutfi, A., Almomani, O., & Awad, A. B. (2022). Smart Mobile Learning Success Model for Higher Educational Institutions in The Context of The Covid-19 Pandemic. *Electronics*, 11(8), 1278. <https://doi.org/10.3390/electronics11081278>
- Asipi, L. S., Rosalina, U., & Nopiyadi, D. (2022). The Analysis of Reading Habits Using Miles and Huberman Interactive Model to Empower Students' Literacy at IPB Cirebon. *International Journal of Education and Humanities*, 2(3), 117-125. <https://doi.org/10.58557/ijeh.v2i3.98>
- Baber, H. (2022). Social Interaction and Effectiveness of Online Learning Moderating Role of Maintaining Social Distance during the Pandemic COVID-19. *Asian Education and Development Studies*, 11(1), 159-171. <https://doi.org/10.1108/AEDS-09-2020-0209>
- Chuan Chen, C., & Zaini, A. W. (2023). Cultivating Cultural Synergy: Unifying Boarding Schools, Local Wisdom, and Authentic Islamic Values for the Enhancement of Islamic Identity. *Managere: Indonesian Journal of Educational Management*, 5(2), 187-197. <https://doi.org/10.52627/managere.v5i2.339>
- Efendy, R., Rahman, A., & Karim, A. R. (2023). Scientific Transformation of Islamic Boarding Schools through Role of Alums the Islamic Education Study Program. *Al-Hayat: Journal of Islamic Education*, 7(2), 355-369. <https://doi.org/10.35723/ajie.v7i2.349>
- Glaveli, N., Vouzas, F., & Roumeliotou, M. (2022). The Soft Side of TQM and Teachers Job Satisfaction: An Empirical Investigation in Primary and Secondary Education. *The TQM Journal*, 34(5), 922-938. <https://doi.org/10.1108/TQM-11-2020-0269>
- Gomez, F. C., Trespalacios, J., Hsu, Y. C., & Yang, D. (2022). Exploring teachers' technology integration self-efficacy through the 2017 ISTE Standards. *TechTrends*, 1-13. <https://doi.org/10.1007/s11528-021-00639-z>

- Granić, A. (2022). Educational Technology Adoption: A Systematic Review. *Education and Information Technologies*, 27(7), 9725-9744. <https://doi.org/10.1007/s10639-022-10951-7>
- Hanafi, Y., Taufiq, A., Saefi, M., Ikhsan, M. A., Diyana, T. N., Thoriquttyas, T., & Anam, F. K. (2021). The New Identity of Indonesian Islamic Boarding Schools in the "New Normal": The Education Leadership Response to Covid-19. *Heliyon*, 7(3). <https://doi.org/10.1016/j.heliyon.2021.e06549> PMID: 33851049 PMCID: PMC8024600
- Krymets, L. V., Saienko, O. H., Bilyakovska, O. O., Zakharov, O. Y., & Ivanova, D. H. (2022). Retracted: Quality Management in Higher Education: Developing the Methodology based on Total Quality Management. *Review of Education*, 10(1), e3322. <https://doi.org/10.1002/rev3.3322>
- Martínez-Zarzuelo, A., Rodríguez-Mantilla, J. M., & Fernández-Díaz, M. J. (2022). Improvements in Climate and Satisfaction after Implementing A Quality Management System in Education. *Evaluation and Program Planning*, 94, 102119. <https://doi.org/10.1016/j.evalprogplan.2022.102119>
- Maulana, M. M. (2024). Exploring the Impact of Digital Media in Pesantren-Based Education: Enhancing Islamic Studies Learning and Fostering Character Development among Students. *Jurnal Islam Nusantara*, 8(1), 86-98. <https://doi.org/10.33852/jurnalnu.v8i1.519>
- Menteşoğullari, E. (2023). Total Quality Management in Education: A Strategic Approach for Continuous Improvement and Success. *Uluslararası Sosyal Bilimler Dergisi*, 7(29), 184-198. <https://doi.org/10.52096/usbd.7.29.10>
- Milles, M. B., & Huberman. (2014). *Qualitative Data Analysis: A Methods Sourcebook*. Sage Publications.
- Musyaffa, A. A., Ichsan, I., Setianto, A. Y., & Hasanah, M. (2023). Examining It-Based Human Resources Strategies in Islamic Higher Education and Islamic Boarding Schools In Indonesia. *Tafkir: Interdisciplinary Journal of Islamic Education*, 4(3), 519-534. <https://doi.org/10.31538/tijie.v4i3.664>
- Rahmansyah, I. T. (2023). Pesantren and Community Development. *Jurnal Syntax Transformation*, 4(11), 192-205. <https://doi.org/10.46799/jst.v4i11.860>
- Ridwan, Y., Nurmila, N., Erihadiana, M., & Nursobah, A. (2022). Quality Management Development of Boarding School Education in West Java. *International Journal of Social Service and Research*, 2(5), 390-408. <https://doi.org/10.46799/ijssr.v2i5.110>
- Taherdoost, H. (2022). What are Different Research Approaches? Comprehensive Review of Qualitative, Quantitative, and Mixed Method Research, Their Applications, Types, and Limitations. *Journal of Management Science & Engineering Research*, 5(1), 53-63. <https://doi.org/10.30564/jmser.v5i1.4538>
- Tang, M., Zulkifli, Z., Bangkara, B. A., Maryam, M., & Ristianti, D. H. (2022). Exploration of Technology Transformation-Based Learning Experiences and Higher Education Leadership. *Tafkir: Interdisciplinary Journal of Islamic Education*, 3(2), 181-197. <https://doi.org/10.31538/tijie.v3i2.249>

- Trzeciak, M., Kopec, T. P., & Kwilinski, A. (2022). Constructs of Project Programme Management Supporting Open Innovation at the Strategic Level of the Organisation. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(1), 58. <https://doi.org/10.3390/joitmc8010058>
- Vonitsanos, G., Moustaka, I., Doukakis, S., & Mylonas, P. (2024, May). Transforming Education in the Digital Age: Exploring the Dimensions of Education 4.0. In *2024 IEEE Global Engineering Education Conference (EDUCON)* (pp. 01-10). IEEE. <https://doi.org/10.1109/EDUCON60312.2024.10578747>
- Welch, C., Paavilainen-Mäntymäki, E., Piekkari, R., & Plakoyiannaki, E. (2022). Reconciling Theory and Context: How the Case Study Can Set A New Agenda for International Business Research. *Journal of International Business Studies*, 53(1), 4-26. <https://doi.org/10.1057/s41267-021-00484-5>
- Yang, W., & Li, H. (2022). The Role of Culture in Early Childhood Curriculum Development: A Case Study of Curriculum Innovations in Hong Kong Kindergartens. *Contemporary Issues in Early Childhood*, 23(1), 48-67. <https://doi.org/10.1177/1463949119900359>
- Yeung, M. W. L., & Yau, A. H. Y. (2022). A Thematic Analysis of Higher Education Students' Perceptions of Online Learning in Hong Kong Under Covid-19: Challenges, Strategies and Support. *Education and Information Technologies*, 27(1), 181-208. <https://doi.org/10.1007/s10639-021-10656-3>
- Zaini, A. W., & Hamidah, T. (2023). Transformation of Traditional Values to the Phenomenon of Santri Courtship in the Digital Era. *Jurnal Islam Nusantara*, 7(2), 211-222. <https://doi.org/10.33852/jurnalnu.v7i2.508>