Adaptation Strategies of Ar Royyan Islamic Boarding School in the Era of Technological Disruption

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Sections Info	ABSTRACT
	Objective: This study aims to analyze the adaptive strategies implemented by Pondok Pesantren Ar Royyan in utilizing digital technology, particularly through optimizing social media and Artificial Intelligence (AI), to support religious outreach, educational management, and fundraising activities. **Method:** *A qualitative descriptive method with a case study approach was employed. Data collection involved interviews, direct observations, and digital documentation analysis on the pesantren's social media platforms, including Facebook, Instagram, YouTube, and WhatsApp.* **Results:** *Findings reveal that Pondok Pesantren Ar Royyan effectively leverages social media as a means of impactful communication and outreach. Facebook emerged as the dominant platform with 4,997 followers (59%), followed by Instagram (1,665 followers, 20%), YouTube (1,440 followers, 17%), and WhatsApp (329 followers, 4%). Additionally, AI technology has been integrated to enhance creative content creation, schedule posts, analyze audience preferences, and enable automated communication. Key initiatives include establishing a Vocational Training Center for digital competence development, training media staff at BBPVP Bandung, developing a web-based application for monitoring student progress, and conducting online parenting workshops via Zoom to engage with parents.* **Novelty:** *This study demonstrates that Islamic boarding schools can effectively adapt to technological disruption by wisely adopting digital tools, strengthening religious outreach, and fostering a sustainable digital ecosystem. The research offers a reference framework for other pesantren to integrate modern technology in delivering education rooted in Islamic values.*

INTRODUCTION

The era of technological disruption is a time when technological innovations significantly change the way we live, work, and learn [1]. Disruption has been around for a long time, but it became popular again after being discussed in the book The Innovator's Dilemma by Clayton M. Christensen, who is a professor at Harvard Business School in Boston [2]. In the world of education, technological disruption has introduced new digital-based learning methods, such as e-learning, hybrid learning, and the use of educational applications. This change challenges traditional institutions, including pesantren, to adapt in order to remain relevant amidst the changing times. In the world of pesantren, the traditional education system that focuses on the teaching of yellow books and dormitory-based learning has become a hallmark [3]. However, in this era, the system faces significant challenges. Students are not only required to have a deep understanding of religion, but they must also be able to compete in the modern world, which is heavily influenced by technology [4]. For example, digital literacy, technological skills, and the ability to utilize digital media have become increasingly urgent needs for the current generation of santri.

Technological disruption also affects the management of pesantren. In this case, technology offers many solutions, such as the digitalization of pesantren administration, application-based communication, and online monitoring of student development. However, challenges such as limited technological infrastructure, lack of teacher training, and resistance to cultural change often become obstacles that must be overcome by pesantren. However, the era of technological disruption also opens up great opportunities for pesantren. With the right adaptation, pesantren can strengthen their role as Islamic educational institutions that not only preserve tradition but also remain relevant to the needs of the times. Pesantren can develop digital literacy programs, introduce technology-based edupreneurship, and build application-based management systems to improve operational efficiency [5].

Adaptation to technological disruption is not only about the sustainability of institutions but also ensuring that pesantren can produce a generation of students who excel in both religious knowledge and modern skills [6]. The pesantren that successfully transforms will become an ideal model of how traditional institutions can coexist with technology without losing their identity. This shows that technological disruption should not be seen as a threat, but rather as an opportunity to develop further. Moreover, the adaptation of technology can also enhance the efficiency and quality of learning in Islamic boarding schools [7]. Teaching the yellow book can be enhanced by using digital applications that allow students to learn more interactively. The pesantren management system, which was previously manual, can also be automated with web-based technology or applications, making it easier to manage administration and communication with the students' parents. However, this adaptation process is not without challenges. Many pesantren still face challenges such as limited technological infrastructure, lack of training for educators, and cultural resistance to change [8]. Therefore, it is important for the pesantren to find adaptation strategies that align with its needs and capacities. This can be done through gradual steps, such as introducing digital literacy programs to students, involving the community in infrastructure development, and providing technology training to pesantren teachers.

By adapting, pesantren can not only survive but also develop into institutions capable of meeting the needs of the times [9]. Pesantren can become a center of innovation in Islamic education that integrates traditional values with technological advancements, producing a generation of students who excel in religious knowledge and modern skills. This adaptation is not merely a choice, but a necessity to ensure the relevance of pesantren in educating future generations. In the era of technological disruption, Pondok Pesantren Ar Royyan Pacitan faces various challenges that affect its learning system, management, and interaction with the surrounding community and students' guardians. Some of the challenges faced include limited technological infrastructure, resistance to cultural changes and traditional systems, and the need to enhance the capacity of teaching staff. These challenges certainly require solutions with proper handling. This research also aims to identify the adaptation strategies implemented by Pondok Pesantren Ar Royyan

Pacitan in facing the era of technological disruption, with the hope of providing a clearer picture of how the pesantren can remain relevant by integrating traditional Islamic values with modern technology.

Technological disruption is a phenomenon where technological innovations significantly change or replace traditional ways of doing things, including in the field of education [10]. In the context of education, technological disruption is evident from the emergence of new methods, such as online learning, hybrid learning, the use of digital devices in the classroom, and e-learning platforms that enable learning to take place anywhere and anytime [11]. This provides a great opportunity for education to become more inclusive and efficient. Religious-based educational institutions, such as Islamic boarding schools, face unique challenges in the era of technological disruption. The long-standing tradition of face-to-face religious education and conservative values often contrasts with the fast-paced and dynamic approach of modern technology. However, many studies show that religious-based institutions can successfully adapt if the strategies used align with the values they uphold [12]. For example, the teaching of the yellow book, which is usually done manually, is starting to be enriched with the use of digital applications that allow students to learn independently. Some pesantren also adopt technology-based information systems to manage administration, such as student registration and financial management [13]. This not only increases operational efficiency but also helps pesantren remain relevant in the modern era.

Although the modern era demands change, Islamic boarding schools still possess advantages that other educational institutions do not have. This advantage lies in the holistic approach to educating students, which not only emphasizes intellectual development but also character building [14]. The tradition of direct teaching by kyai, the close personal relationship between teachers and students, and the simple daily life are some values that must be preserved [15]. This tradition not only instills discipline but also produces a generation with strong moral integrity. However, challenges arise when this tradition must coexist with the demands of modernization, such as the teaching of the yellow book using the sorogan or bandongan methods, which are often considered less efficient compared to interactive digital learning methods. Therefore, pesantren need to find ways to preserve this tradition while also integrating technology to enhance the effectiveness of learning without changing its essence.

To remain relevant in the modern era, pesantren need to adopt several strategic changes. One of the important changes is the digitalization of learning. By utilizing technology, such as learning applications or e-libraries, pesantren can expand students' access to learning resources without having to abandon traditional methods [16][17]. The study of the yellow book can be accessed in digital format equipped with translation features and interactive explanations, making it easier for students to understand. In addition, the pesantren can also introduce new skills to the students, such as digital literacy, technology-based entrepreneurship, or even basic programming. These skills will add value to the students, enabling them not only to become experts in religious

studies but also to compete in the modern job market. These changes must be implemented gradually and tailored to the capacity of each pesantren to avoid resistance from both internal and external parties. By preserving the traditional values that characterize them and adapting to the changes of the times, pesantren can continue to be excellent educational institutions. This transformation will not only ensure the sustainability of the pesantren but also produce a generation of santri ready to face global challenges without losing their identity as Muslims.

RESEARCH METHOD

The methodology of this research uses a descriptive qualitative approach with a case study method to deeply explore how Pondok Pesantren Ar Royyan adapts itself in the era of technological disruption. The qualitative approach allows researchers to delve into detailed and in-depth information, while the case study provides an opportunity to understand the specific context of the pesantren. The research location is focused on Pondok Pesantren Ar Royyan, with research subjects involving the pesantren leaders, teachers, students, and the surrounding community who provide insights into the changes occurring. Data collection techniques were carried out through direct observation to see the conditions on the ground, in-depth interviews to obtain perspectives from various parties, and documentation used to support the research findings. In data analysis, the researcher uses thematic analysis to identify and categorize the patterns of adaptation strategies implemented by the pesantren in facing technological challenges, thereby forming conclusions that depict the adaptation process undertaken.

RESULTS AND DISCUSSION

Pondok Pesantren Ar Royyan faces various challenges in adapting to technological developments, one of which is the limitation of technological infrastructure. Many pesantren, especially those located in rural areas, often do not have adequate access to high-speed internet and modern technological devices. This becomes a significant obstacle when pesantren want to adopt digital learning, such as e-learning or the use of technology-based applications in the teaching and learning process. In addition, the lack of ability among pesantren administrators to manage technology-based systems also poses a challenge that needs to be addressed [18]. In the utilization of administrative applications or online learning platforms in pesantren, it is still not optimal due to limited human resources. Another challenge is cultural resistance, especially from the internal parties of the pesantren, such as teachers, senior students, or even the surrounding community [19]. The long-standing tradition rooted in the pesantren education system often raises concerns that the application of technology may shift the traditional values that characterize pesantren education. Some parties may feel that the use of digital devices, such as gadgets and the internet, can reduce the focus of students on religious

learning. Another concern is the potential influx of content that does not align with Islamic values, which is believed to affect the morals and ethics of the students [20].

In addition to technological and cultural barriers, management challenges are also a concern at Pondok Pesantren Ar Royyan. In the process of technology adaptation, the pesantren management often faces difficulties in formulating effective strategic planning. The lack of training to enhance the capacity of teachers and administrative staff causes the technology implementation process to not run optimally. In addition, budget constraints for technology investment also pose a significant challenge. Pesantren often have to choose between maintaining daily operations or allocating funds for technological upgrades. To address these challenges, Pondok Pesantren Ar Royyan implemented an integrated strategic approach. This includes the development of technology infrastructure that meets the needs of the pesantren, such as the provision of basic digital devices and improved internet access. Pondok Pesantren Ar Royyan has taken strategic steps by building a Vocational Training Center (BLK) focused on developing digital competencies. According to the foundation's chairman, the pesantren was able to establish this BLK by submitting a funding proposal to the local government. This vocational training center (BLK) is one of the important initiatives supported by the government as an effort to enhance the capacity of students in facing the modern technological era. This development aims to provide technology-based training to the students so that they possess skills relevant to the current job market, such as digital literacy, graphic design, data management, and other technological skills.

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overall plan. This progress includes the completion of the main building structure, the installation of basic infrastructure such as electrical networks, and the initial installation of a sufficient internet network system. Although it is not yet fully completed, the Islamic boarding school has begun preparing a digital training curriculum that will be implemented once the facilities are fully constructed. This curriculum is designed to encompass various aspects of technology that are not only practically relevant but also in line with the Islamic values upheld by the pesantren. With the establishment of the BLK, Pondok Pesantren Ar Royyan has a great opportunity to enhance the quality of education for its students, especially in terms of digital skills. The students who previously relied solely on traditional learning will now have access to more modern and applicative technology-based training. The skills they learn, such as basic programming, social media management, and sharia-based digital marketing, can open up new opportunities for them to enter the workforce or even create independent job opportunities. In addition, the presence of the BLK can also attract the interest of the surrounding community to participate in the training, so the impact is not only felt by the students but also by the community around the pesantren. The construction of this BLK is expected to be a starting point for Pondok Pesantren Ar Royyan in addressing the challenges of the digital era. With the completion of the construction, this pesantren will not only become a place for religious learning but also a center for skill development relevant to the times. Through the BLK, the pesantren can produce a generation of students who are technologically competent, morally resilient, and able to compete in the modern job market without losing their Islamic identity. Sustained support from the government, society, and other parties is greatly needed for this initiative to succeed.

Pondok Pesantren Ar Royyan also took concrete steps by sending one of its media division employees to participate in a digital skills development training program at the Balai Besar Pelatihan Vokasi dan Produktivitas (BBPVP) Bandung. This training program lasts for two months and is designed to provide in-depth understanding and practical skills in managing digital media and information technology. This step is part of the pesantren's strategy to improve the quality of human resources capable of utilizing technology productively in supporting the pesantren's vision and mission. The training at BBPVP Bandung provides material focused on mastering the latest technology, such as graphic design, digital content management, creative video production, and social media optimization. Training participants are taught how to utilize digital tools and applications to create content that is informative, engaging, and in line with the Islamic values upheld by the pesantren. In addition, this training also includes the management of digital platforms such as websites and pesantren applications, so that employees who participate in the training can support the modernization of the pesantren's communication and promotion systems.

The dispatch of employees to participate in this training is expected to have a significant impact on the progress of Pondok Pesantren Ar Royyan, particularly in the aspects of media and technology management. After completing the training, the

employee can become a pioneer in developing the pesantren's media division by applying the knowledge they have gained. For example, he can develop digital-based educational content that can be accessed by students and the general public, as well as improve the quality of information conveyed through the official pesantren channels. Participation in this training also opens up opportunities for pesantren to develop other digital-based programs, such as online learning platforms, digital entrepreneurship training for students, or even applications that support daily pesantren activities. Thus, the pesantren not only adapts to the changing times but also competes with other, more modern educational institutions. With this training, Pondok Pesantren Ar Royyan demonstrates its commitment to transforming in the digital era without neglecting Islamic values. Investment in human resource development like this is an important step in creating a modern, inclusive pesantren that can meet the needs of society in the technological era. Continuous support from various parties will greatly assist the pesantren in realizing this vision.

One of the strategic steps taken by Pondok Pesantren Ar Royyan in facing the challenges of digital disruption is the development of the Siakad application to monitor the progress of the students. This application is designed so that parents can easily access information related to the graphs of their children's competency development, covering academic, religious, and other skills. This step not only enhances transparency in the educational process at the pesantren but also strengthens communication between the pesantren and the parents. This application is equipped with various features designed to meet the needs of parents and pesantren administrators. One of its main features is a report on the students' progress in the form of easy-to-understand graphs, which includes aspects of academic grades, Quran memorization, and participation in pesantren activities. In addition, this application also provides a notification feature to remind guardians about exam schedules, important events, or other pesantren activities. With this feature, parents can be more actively involved in supporting their child's educational development.

Another equally important feature is the communication forum between parents and teachers. Through this forum, parents can provide feedback, ask questions, or directly discuss their child's development with the teacher. This creates a closer relationship between the pesantren and the parents, thereby supporting the creation of a collaborative educational environment. The implementation of this application provides many benefits, both for parents and for the pesantren. For parents, this application provides convenience in monitoring their children's development without having to visit the pesantren directly, especially for those who live out of town. Information presented in real-time allows them to immediately know which aspects need more attention, such as improving memorization or academic achievements.

For the pesantren, this application becomes an effective tool for managing student data in a structured manner. With a digital system, data management becomes more efficient compared to a manual system. In addition, the transparency offered by this

application can increase the trust of parents towards the pesantren, which in turn can strengthen the image of the pesantren as a modern educational institution that is responsive to the needs of the times. However, the development and implementation of this application are not without challenges. One of them is ensuring that all parties, including parents and teachers, have adequate digital literacy to use this application. In addition, the pesantren also needs to ensure that the data stored in the application is safe from the threat of leaks or misuse. Therefore, special training for application users and investment in data security systems are required. Through this innovative step, Pondok Pesantren Ar Royyan demonstrates its commitment to adapting to the digital era without forgetting Islamic values. This web-based application serves as evidence that technology can be utilized to enhance the quality of education in Islamic boarding schools, bridge the relationship between parents and the schools, and produce students who excel both academically and morally. With continuous support, this application is expected to become a model for other pesantren in utilizing technology to meet the challenges of the disruption era.

In facing the challenges of digital disruption, Pondok Pesantren Ar Royyan utilizes technology as a means to bridge communication with parents, especially those who live far from the pesantren. One of the strategic steps taken is to hold parenting studies online through the Zoom platform. This activity not only serves as a learning forum for parents regarding Islamic parenting but also becomes an effective medium to strengthen the relationship between the pesantren and parents spread across various regions. This parenting study is designed to provide insights to parents on how to educate their children according to Islamic values, both at home and in supporting education at the pesantren. The study material covers various topics, such as the importance of good communication with children, strategies for supporting Quran memorization at home, and ways to face the challenges of technology in educating children. By participating in this study, parents receive practical guidance that they can apply in their daily lives.

In addition to providing knowledge, this study also offers a space for parents to discuss and share experiences with other participants. This creates a community that supports each other in educating a generation that is not only intellectually smart but also morally upright. For parents who live far away, this activity becomes an effective solution to remain involved in their children's development despite the distance. In addition to parenting studies, this activity is utilized as a means of two-way communication between the pesantren and the parents. Through the question-and-answer session, parents can convey various questions or complaints regarding their children's development at the pesantren. The pesantren authorities can also provide the latest information regarding ongoing programs, the development of the students, or future activities planned by the pesantren. Thus, transparency in the management of the pesantren can be maintained, and the trust of the parents towards the pesantren can be further increased. The use of Zoom as the main medium in this activity provides flexibility for participants to attend the study from anywhere, as long as they have internet access. This is very helpful for

parents who have limited time or difficulty coming directly to the pesantren. In addition, this activity can reach more parents compared to face-to-face meetings. The pesantren can also record the study sessions to share with parents who could not attend, so the material can be accessed at any time.

Although this activity brings many benefits, there are several challenges faced, such as limited internet access for parents in remote areas or technical difficulties in using the Zoom platform. To address this, the pesantren needs to provide simple technical guidance before the study sessions and offer alternative options, such as sharing study recordings in video or audio format. Parenting studies through Zoom are an innovative step by Pondok Pesantren Ar Royyan in addressing the challenges of the digital era while also building closer relationships with parents. This activity not only helps parents improve the quality of parenting but also creates synergy between home and pesantren in educating students. By wisely utilizing technology, the pesantren can demonstrate that education based on Islamic values remains relevant and progressive amidst digital disruption. In facing the challenges of digital disruption, Pondok Pesantren Ar Royyan has adopted a strategy of optimizing social media as a means to promote pesantren activities and raise funds for development. Social media platforms such as Facebook, WhatsApp, Instagram, and YouTube are maximally utilized to expand the reach of the pesantren's messages to the community, whether to inform about educational programs, spread Islamic values, or build solidarity networks to support the sustainability of the pesantren.

Pondok Pesantren Ar Royyan also optimizes social media platforms by designing engaging and relevant content for various audiences. Facebook and Instagram are used to share documentation of student activities, such as religious lectures, competitions, or tahfidz programs, with the aim of inspiring the wider community about the benefits of pesantren-based education. In addition, YouTube is utilized to upload lecture videos, Islamic podcasts, and recordings of studies held by the pesantren, so that the pesantren's da'wah can reach a wider audience digitally. WhatsApp, on the other hand, serves as a direct communication channel with parents and donors. WhatsApp groups are used to convey important information, such as the schedule of pesantren activities or the progress of construction projects. With this approach, the pesantren successfully created closer and more personal interactions with stakeholders. In addition to outreach, social media is also used as a means of fundraising for the construction of the pesantren. The pesantren utilizes these platforms to convey information about development needs, such as the renovation of student dormitories, the procurement of learning facilities, or the construction of mosques. The content created often features visualizations of ongoing projects, testimonials from students, and transparent reports on fund usage, thereby building trust and support from the community.

Instagram and Facebook play an important role in spreading donation campaigns, with features such as stories, live streaming, or highlights. Meanwhile, YouTube provides space to upload more detailed documentation videos, such as the construction journey

and its impact on the students. On the other hand, WhatsApp is used for direct communication with potential donors, which facilitates the coordination and fundraising process. This strategy brings significant benefits to Pondok Pesantren Ar Royyan. Propagation through social media helps the pesantren increase its visibility among the community, making it more recognized as an educational institution that is not only committed to Islamic values but also adaptive to technological developments. On the other hand, fundraising through social media expands the opportunities for financial support from the community, including those who previously had no direct connection with the pesantren. However, optimizing social media also faces challenges, such as the need for consistency in creating engaging and high-quality content, as well as ensuring that the messages conveyed align with the values of the pesantren. To address this, Pondok Pesantren Ar Royyan involves a competent media team in creating creative content and managing digital platforms. Training and preparation are continuously conducted so that the pesantren media team can keep up with the latest digital trends without neglecting the essence of Islamic preaching. The optimization of social media by Pondok Pesantren Ar Royyan is a real example of how pesantren can adapt to the era of digital disruption without losing their identity. With this strategy, the pesantren not only succeeded in widely disseminating Islamic values but also created a strong supporting ecosystem for the sustainability of its programs. This step shows that technology can be a very effective tool to support the mission of Islamic education and da'wah in the modern era.

In supporting the optimization of social media, Pondok Pesantren Ar Royyan also utilizes Artificial Intelligence (AI) technology to enhance the efficiency and quality of digital content creation. The use of AI enables the pesantren to produce more engaging, relevant, and audience-preferred content, thereby strengthening their da'wah and fundraising campaigns more effectively. AI is used in the process of visual design and multimedia content editing, such as photos and videos, that are uploaded to social media. With the help of AI-based platforms like Canva or Adobe Sensei, the pesantren's media team can quickly produce professional graphic designs without requiring high-level design expertise. AI also assists in video editing, such as automating clip cutting, music alignment, or color adjustment, making the videos uploaded on YouTube or Instagram more attractive and high-quality. AI is also utilized to analyze interaction data on social media. By using AI-based analytical tools, the pesantren can understand audience preferences, such as the types of content that receive the most attention, the best times to post, and the demographics of the most active audience. This information helps the pesantren in designing more effective content strategies, so that the messages of da'wah and donation campaigns can reach more people accurately.

In addition, AI is used to automate the creation and scheduling of content on various social media platforms. With the help of tools like Hootsuite or Buffer equipped with AI features, pesantren can schedule content uploads at optimal times without having to do it manually. In fact, AI chatbots are used on platforms like WhatsApp or

Messenger to automatically answer basic questions from parents or potential donors, providing quick and efficient responses without requiring direct interaction from the pesantren team. AI technology also allows pesantren to create more personalized content for diverse audiences. For example, AI algorithms can help create different content for each social media platform, adjusting the communication style and format to suit the characteristics of each platform. This more personalized and relevant content helps pesantren build stronger relationships with parents, students, and the general public.

The use of AI is certainly not without challenges, such as the need for training for the media team to understand how AI-based tools work and to ensure that the use of this technology remains in line with Islamic values. However, with proper management, AI has great potential to support da'wah and the management of pesantren in the digital era. By utilizing AI, Pondok Pesantren Ar Royyan not only optimizes content creation on social media but also demonstrates how modern technology can be used to support the mission of Islamic education and da'wah. This step positions the pesantren as a progressive and adaptive educational institution, while also strengthening its position amidst the challenges of the digital disruption era. This technological integration serves as a concrete example that pesantren can remain relevant and innovative without abandoning the Islamic values that form the foundation of its establishment. The results of the synergy of AI usage can be seen in the following table of Ar Royyan's social media followers:
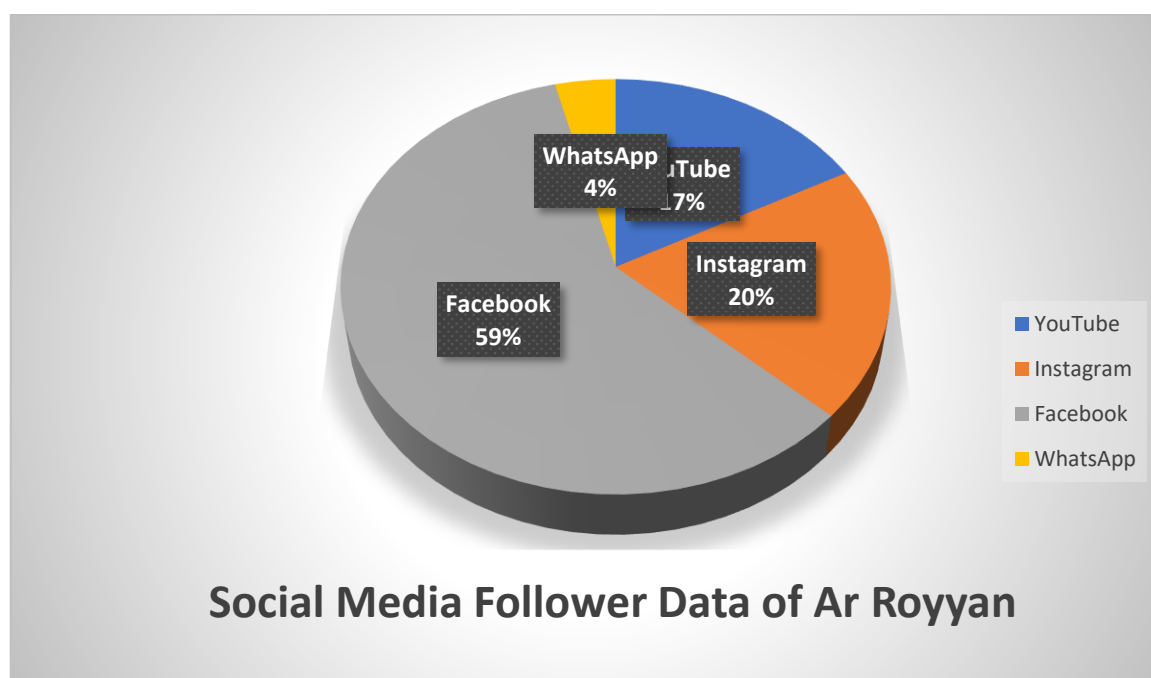
Figure 1. Social Media Followers.

Pondok Pesantren Ar Royyan has demonstrated its adaptability to the digital era by optimizing various social media platforms for preaching and fundraising. Based on the data, Facebook is the platform with the most followers, totaling 4,997 people or 59% of

the total followers across all platforms. This reflects that Facebook remains the most effective social media for reaching a wide audience. Instagram, with 1,665 followers or 20%, also plays an important role, especially in sharing engaging visual content and increasing the involvement of the younger generation. On the YouTube platform, the pesantren has 1,440 followers or 17%, which provides a great opportunity to spread educational and preaching video content to a wider audience. WhatsApp, although it has a smaller number of followers, namely 329 people or 4%, remains an important and personal communication medium, especially for direct interaction with parents and potential donors.

This success is inseparable from the synergy between social media optimization strategies and the utilization of Artificial Intelligence (AI) technology. With the help of AI, the pesantren is able to analyze follower interaction patterns, determine the most popular types of content, and automate the scheduling of posts at the right times for each platform. This approach allows the pesantren to maximize the potential of each platform and effectively reach a wider audience. The integration of AI with social media not only enhances efficiency but also strengthens the digital outreach of pesantren amidst the challenges of the technological disruption era.

CONCLUSION

Fundamental Finding : Pondok Pesantren Ar Royyan has demonstrated its ability to adapt to the digital disruption era through innovative and effective strategies. By leveraging social media platforms like Facebook, Instagram, YouTube, and WhatsApp, alongside integrating Artificial Intelligence for content creation and analysis, the pesantren has successfully enhanced outreach and engagement while maintaining its Islamic educational mission. **Implication :** The integration of technology at Pondok Pesantren Ar Royyan highlights the potential for other Islamic educational institutions to adopt similar approaches, enabling them to navigate technological disruptions while strengthening their core missions. These strategies also suggest broader implications for creating inclusive, digitally empowered educational ecosystems that balance tradition and innovation. **Limitation :** Despite these advancements, the reliance on digital tools and infrastructure may pose challenges, particularly in areas with limited technological access or expertise. Additionally, maintaining the balance between modernization and preserving traditional Islamic values requires continuous evaluation and adjustment to ensure alignment with the pesantren's core principles. **Future Research :** Future research should explore the long-term impacts of digital integration on pesantren education and community engagement. Investigations into the scalability of these strategies across diverse pesantren settings and regions, particularly in areas with minimal technological resources, would provide valuable insights for broader implementation.

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