

**Application of Technology in Islamic Boarding Schools in an Interpretive Approach**

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**Abstract**

The application of technology can have positive and negative impacts on an organization, including da'wah institutions in Lampung Province. Problems that arise include minimal access to technology, low quality human resources, difficulty accessing the internet network and lack of knowledge about technology. As a missionary, educational, social and religious institution, Islamic boarding schools must have a very effective role in applying technology internally and externally to the organization. Internal and external organizational factors will have an impact on the application of technology in Islamic boarding schools. As a da'wah institution that survives in the technological era, Islamic boarding schools should utilize technology as a medium in running their organization. The aim of this research is to reveal what factors influence the application of technology in Islamic boarding schools in Lampung Province. This research is a literature review of several studies regarding the impact of implementing technology in Islamic boarding schools. This research is qualitative research with an interpretive approach. The reason for choosing the method in this research is to understand the phenomenon being studied, namely the application of technology in Islamic boarding schools. The results of this research show that technology is able to change the development of Islamic boarding schools in Lampung as religious and social missionary institutions.

**Keywords** *Technology, Islamic, Boarding, School*

**Abstrak**

Penerapan teknologi dapat memberikan dampak positif dan negatif bagi suatu organisasi, termasuk lembaga dakwah di Provinsi Lampung. Permasalahan yang muncul antara lain minimnya akses terhadap teknologi, rendahnya kualitas sumber daya manusia, sulitnya mengakses jaringan internet dan kurangnya pengetahuan tentang teknologi. Sebagai lembaga dakwah, pendidikan, sosial dan keagamaan, pesantren harus mempunyai peran yang sangat efektif dalam menerapkan teknologi secara internal dan eksternal organisasi. Faktor internal dan eksternal organisasi akan memberikan dampak terhadap penerapan teknologi di pesantren. Sebagai lembaga dakwah yang bertahan di era teknologi, sudah seharusnya pesantren memanfaatkan teknologi sebagai media dalam menjalankan organisasinya. Tujuan dari penelitian ini adalah untuk mengungkap faktor-faktor apa saja yang mempengaruhi penerapan teknologi di pondok pesantren di Provinsi Lampung. Penelitian ini merupakan tinjauan literatur dari beberapa penelitian mengenai dampak penerapan teknologi di pesantren. Penelitian ini merupakan penelitian kualitatif dengan pendekatan interpretatif. Alasan pemilihan metode dalam penelitian ini adalah untuk memahami fenomena yang diteliti yaitu penerapan teknologi di pesantren. Hasil penelitian ini menunjukkan bahwa teknologi mampu mengubah perkembangan pesantren di Lampung sebagai lembaga dakwah keagamaan dan sosial.

**Keywords** *Technology, Islamic, Boarding, School*

## **A. Introduction**

Education in the Digital Era is an issue that is widely discussed, including in Indonesia. This era is referred to as education that is influenced by the industrial revolution 4.0, a characteristic of education that makes greater use of digital technology in the learning process (Surani, 2019). Judging from the changes that have occurred starting from the Era called the Industrial Revolution 1.0, to the 19-20th century, called the Era of the Industrial Revolution 2.0, it began to enter with the advent of electricity, where this discovery made the process very easy. Every year science and technology experiences rapid development and continues to develop, making civilization easier. Today's life cannot be avoided by technological progress, because scientific progress always follows it. Technological innovations have been created to provide benefits to human life. Technology offers many conveniences and new ways to carry out human activities. Humans have enjoyed many benefits from these innovations in the last ten years (Amir Piliang, 2013)(Al-Kansa et al., 2023). All access and convenience can be obtained anytime and anywhere as long as you are still connected to technology. The increasingly digital era, which is called the era of digitalization, is able to make it easier for people to connect with technology, even aging people are required to be able to master technology.

Education greatly influences a person's quality, therefore education is very important and is believed to be able to contribute to advancing a nation. In educational activities, several components are needed to determine the success or failure of the educational process in achieving certain goals. The most important component is the educator as someone who will transfer information to his students. Educators are expected to have more knowledge, have a sense of responsibility that is fully based on their duties, and be able to manage the class effectively and creatively (Mesran et al., 2024). Due to these demands, as a professional educator you must always improve your quality and open your mind according to developments. Educators can utilize components in the learning process to make the classroom atmosphere more interesting through the use of learning media. Education is a human need. Education always experiences changes and improvements following developments in all fields. Changes and improvements in the field of education include various components involved in it, including the implementation of education in the field (teacher competency and the quality of teaching staff), the quality of education, facilities and infrastructure, as well as student learning motivation both from within themselves and external influences (Julita & Dheni Purnasari, 2022). These

changes and improvements in the education sector aim to improve the quality of education in Indonesia for the better (Malalu, 2003).

The continuous development of technology throughout human history actually shows that there is always a process of change and development in media technology innovation. Communication and media technology has become the most important part in the development of human civilization. Advances in science and technology have provided new values while perhaps strengthening or eliminating society's old values. This includes behaving, acting and behaving between individuals, within families and in society. Everything has shifted. The main changes are also brought about by the influence of media technology on society, giving birth to new values, beliefs, habits and behavior as a culture (Hidayat, 2016). This is what is called cultural technology, where technology is created as a result of human culture and then technology fertilizes a new culture. The achievements of the latest science and technology show an increasing influence on the development of culture, which is now developing towards increasingly complex forms. Technological developments and their extraordinary effects - both negative and positive - can not only change a nation, but all of humanity and its environment. Apart from this gloomy picture, what is clear is that based on the history of civilization, science and technology are used as vehicles to reach an imaginary future, namely the imagination of a future society, which is then realized through the role of science and technology in it. Science and technology, therefore, play a major role in creating an imagined community through technological products (Amir Piliang, 2013).

Learning media has a very important and irreplaceable role in the educational process in schools. Its existence as an integral component makes it a crucial element for achieving learning goals effectively and efficiently. In a learning environment, media has an extraordinary ability to clarify material that may still be unclear or poorly understood by students. This allows students to more easily understand the concepts being taught. Apart from that, the advantages of learning media can also be seen in its ability to arouse interest, motivation and enthusiasm in the learning process. The use of interesting and interactive media can enliven the learning atmosphere and make students more enthusiastic in taking lessons (Arikarani & Amirudin, 2021). When students feel interested and enthusiastic, the learning process will be more enjoyable and effective. This can have a positive impact on achieving overall learning objectives. Integrating learning media at the beginning of teaching orientation brings extraordinary benefits in increasing learning efficiency and the effectiveness of delivering lesson material at that stage.

Media has become an inevitable tool in the learning process, playing a crucial role in helping teachers communicate messages from subject matter more clearly to students. Media can also reflect concepts that teachers may find difficult to express through certain words or sentences (Widiastuti, 2019). The use of learning media in the teaching and learning process can generate new interests and desires, generate motivation and stimulation of learning activities, and even have psychological influences on learning. The use of learning media at the teaching orientation stage will greatly help the effectiveness of the learning process and delivery of messages and lesson content at that time (Badan et al., 2002).

The role of new technology, including media, in all areas of human life, including education, shows that meaningful development and progress cannot occur without its integration into education. As the world adapts to complex circumstances, educational needs continue to shift from teaching and learning skills and information isolated to individual fields. To teach the skills necessary for students to try and solve complex challenges that arise in many fields (Ummah, 2019). There are various types of digital era technology that can be used in education, including: 1. E-learning: This technology allows students and teachers to access learning materials via digital platforms, such as websites, applications or e-books. 2. Mobile learning: This technology allows students and teachers to access learning materials via mobile devices, such as smartphones or tablets. 3. Virtual learning: This technology allows students and teachers to access learning materials through virtual environments, such as video conferencing or virtual reality. 4. Augmented reality: This technology allows students and teachers to access additional information in visual or audio form which can increase understanding and engagement in learning (Yunita et al., 2023).

These capabilities have been interpreted in various ways (e.g., Digital Literacy, Digital Competence, eLiteracy, e-Skills, eCompetence, Computer literacy, and Media literacy) in policy documents, in academic literature, and in teaching, learning, and certification practices. All these terms highlight the need to address technology in the digital era. (S. Noor, 2013). In this case, it is not only students who must have digital competence, but also teachers. Therefore, to balance students' digital competence which is factually at a competent level, teachers need to always upgrade their digital competence. Through an independent teaching platform specifically designed for teachers to learn from each other, the government, in this case the Ministry of Education and Culture, is making this digital technology issue a momentum to optimize the digitalization of education (Hakim & Yulia, 2024). Educational technology has factors that are interconnected in the learning process, including people, tools, procedures, ideas and

organizations/institutions. Several well-known figures such as Edward L. Thorndike became one of the educational technology developers where he succeeded in producing several learning laws, one of which is known as the "law of effect". This law argues that learning is considered successful if a student's response to a stimulus is immediately followed by a feeling of joy or satisfaction in the form of praise or a gift, which is known as reinforcement (Mufliva & Permana, 2024). Educational technology ensures that children can provide answers to questions given or carry out a task well so that a feeling of satisfaction and success emerges. The aim of educational technology is to increase the quality of human learning activities. In addition, the main goal of learning technology is to identify and solve learning problems. In addition, it helps increase efficiency in the learning process. This efficiency can be seen in (1) increasing the quality of learning or the level of mastery of students, (2) saving time used for learning to achieve goals, (3) increasing capacity without reducing the quality of learning, and (4) reducing costs without reducing the quality of learning students (Young, 2012). Education today cannot be separated from digital technology which is often used in the learning process.

Islamic boarding schools as traditional Islamic educational institutions are also inseparable from the positive impacts offered by technology. The use of Islamic boarding school technology can provide great benefits in improving the quality of education, expanding accessibility, and preparing Islamic boarding school students to face the challenges of the times. Anis Humaidi said "for many people, Islamic boarding schools are ideal educational institutions. "Many Muslims believe that the Islamic boarding school education system to date has not been able to match or even surpass it in educating children to know and understand Islamic teachings and have good morals" (Hutagalung et al., 2021). The use of Islamic boarding school technology has had a positive impact on several aspects of education, such as wider educational accessibility, diversification of learning resources, active involvement of students (santri), more efficient monitoring and evaluation, as well as teacher training and development. In each of these aspects, technology has opened up new opportunities and provided innovative solutions. Thus, in the era of globalization, it is very important to optimize information technology in the learning process, in order to further improve access and quality of Islamic boarding school education, so the application of Islamic boarding school information technology is important and a strategy to study in depth and comprehensively (Muslim, 2016).

Based on data from the Directorate General of Islamic Education, Ministry of Religion, the number of Islamic boarding schools in Lampung in 2023 will reach 621, but there is no definite data on this number as to whether these Islamic boarding schools receive attention and

training regarding the application of technology in the world of Islamic boarding school education. In fact, the application of technology in the world of Islamic boarding school education will improve the quality of education both in terms of religion, social, application of technology and other benefits. This is the background for researchers regarding the application of technology in Islamic boarding schools (Marsum & Syahrani, 2020). As a missionary institution that applies religion, education and social affairs, it is appropriate to use technology in the organization. By using technology, it is hoped that graduates will have the skills and application of digitalization which will make it easier to carry out their respective roles in society. For example, there are many preachers who use YouTube to give advice to the community. This is one application of technology in da'wah that makes it easier to provide benefits to anyone who listens (Muchasan et al., 2024). The application of technology to Islamic boarding schools will make it easier for Islamic boarding schools to compete with other educational institutions such as public schools.

There are several phenomena raised in this research, including that there is still no data on how much technology is used in Islamic boarding schools because to carry out development and collaboration information is needed from internal sources. So far, Islamic boarding schools have implemented what technology in carrying out education in their organizations. The use of technology will influence Islamic boarding school development plans in developing students to be able to use technology (Ningsih, 2024). Apart from that, the application of technology requires a large investment, because it requires investment. The financial management of Islamic boarding schools must adapt to needs. Don't let it be that in order to increase investment in the technology sector, education in Islamic boarding schools in other fields is abandoned to the detriment of the students. Investments made in Islamic boarding schools must also be adjusted to the vision and mission so that the policy direction and objectives are as they should be. Large investments must also be able to properly support the needs and improve the abilities of the students, with the hope that graduates from Islamic boarding schools will be able to contribute to society according to their fields of study. Based on this background, this research examines in more depth whether the application of technology in Islamic boarding schools has a significant impact on students and graduates (Abdul Sakti, 2023). This research reveals whether technology is able to influence and develop Islamic boarding schools to produce graduates who are able to compete and be useful in society.



## **B. Literature Review and Hypothesis Development**

### **Benefits of Technology for Islamic Boarding Schools**

Currently, access to technology has become one of society's needs. The network has reached even remote villages. In the field of education, technology has also begun to be used by Islamic boarding schools to support daily activities, although there are still many Islamic boarding schools that have not utilized technology (Wiyanto & Nurwahidin, 2022). In terms of the use of technology, the use of technology in Islamic boarding schools can be divided into three types, namely;

- a. Islamic boarding schools that make full use of technology to support Islamic boarding school activities both for administrative purposes and for teaching and learning purposes.
- b. Islamic boarding schools that make partial use of technology, namely only for administrative purposes, while students in general are not permitted to use technology for certain reasons. If students want to use technology, they must undergo a strict licensing process.
- c. Islamic boarding schools that do not provide technological facilities and do not utilize the internet at all in all operational activities, both administrative and for teaching and learning activities (Sahila et al., 2024).

Apart from that, the benefits arising from the presence of technology for education, especially Islamic boarding schools, include:

1. Speed up and simplify the transfer of science and technology.
2. The learning process is more interesting, through technology learning is not monotonous and boring because on the internet there are new things that are varied and innovative.
3. Encourage students to be more active in seeking knowledge and information.
4. Makes it easier to explain concepts. Learning methods in Islamic boarding schools, generally learning materials are always delivered through the lecture method. With the internet, ustad can convey concepts or material audiovisually. Lessons are more real and clear, making it easier for students to understand.
5. Learning is more conceptual and up-to-date (actual). The subjects that will be taught to students can be adjusted to actual conditions. In this way, the concepts taught can be adapted to current conditions.

6. Simplify and speed up education administration. The implementation of the educational process must be made more practical and faster. Ustad is not too busy with complicated administrative matters, so his concentration is more focused on the learning process in class. For example, in making teaching preparations, processing grades, and disseminating test or exam scores, you can use computer facilities (the internet). Thus, the internet can improve and streamline educational administration.
7. As an electronic library.
8. Speed up and simplify educational communication between ustaz and santri (Setiawan, 2012).

### **C. Research Method**

This type of research is library research. The research method uses a qualitative approach to analyze the development of Islamic boarding schools in the information technology era. Data was obtained through journals, scientific magazines, books and media. Data analysis through synthesis of research findings. This study of community independence uses qualitative interpretive, in order to explore various phenomena that can fully explain the objectives of this research. Qualitative research is an interpretive approach, which tries to gain insight into the meaning and certain behaviors experienced in certain social phenomena through the subjective experiences of participants (Palmer & Bolderstone, 2006:16). The interpretive approach is adopted from a practical orientation. In general, the interpretive approach is a social system that interprets behavior in detail by directly observing it. Interpretives see facts as something unique and have a special context and meaning as the essence in understanding social meaning. Interpretives see facts as fluid (not rigid) which are attached to a system of meaning in the interpretive approach. This paradigm emphasizes that science is not based on standard laws and procedures, each symptom or event may have a different meaning, science is inductive, running from the specific to the general and abstract. Science is idiographic, meaning that science reveals reality through symbols in descriptive form. The interpretive approach ultimately gave birth to a qualitative approach.

The interpretive approach departs from efforts to seek explanations about social or cultural events based on the perspectives and experiences of the people being studied. The interpretive approach is adopted from a practical orientation. In general, the interpretive approach is a social system that interprets behavior in detail by directly observing it (Iii, 2019).



The interpretive paradigm is a process that can interpret or provide meaning to various existing symbols. And this paradigm covers a wide range of philosophical and sociological thought which has the main characteristic of understanding and explaining the social world, especially from the perspective of people directly involved in social processes. The history of this school was initially rooted in the German idealist tradition, and was based on a realistic view of "spirit" or "idea" rather than based on perceptions of existing data.

#### **D. Discussion**

The increasingly rapid impact of technological developments in the world of education has brought major changes to schools and universities throughout the continent. The more we can master technology, the more we can keep up with developments with the times. However, technological developments do not always create things that can produce benefits. Sometimes it all depends on the audience who uses it. If likened to a knife, technology can be useful when used according to needs. However, it will boomerang when it is used for the wrong thing (Sakdiyah, 2010). The use of technology in Islamic boarding schools in an effective learning model is required by every educational institution, including Islamic boarding schools. Like it or not, technology needs to be a support to maximize learning. Take for example, if without technology, students need at least half an hour to search for one theme in three types of books, with the help of technology such as the Syamilah Santri Maktabah it only takes about five minutes. The role of technology in the learning process is also related to time efficiency. This encourages students to know many things without taking a long time.

Information and Communication Technology in Islamic boarding schools will provide many conveniences. Such as the flexibility of educational programs, Islamic preaching and scientific study materials that can be made more interesting and memorable. The integration of information and communication technology into education in Islamic boarding schools, as stated by Information Communication Technology (ICT) observer Budi Murtiyasa (2008), can improve the quality of education and ease of preaching in Islamic boarding schools. Apart from that, it will encourage the acceleration of computer literacy in Indonesian society (AL-MULTAZAM, 2024). Apart from having positive aspects, it also has negative aspects that influence a person's behavior. According to Marpaung (2018:62) the negative aspects are; 1) Decreased concentration when studying (when studying the child becomes unfocused, for example the child remembers the game as if he were a character in the game) 2) Lazy writing and reading (this is caused by the use of technology, for example when the child opens a video on the YouTube

application, children tend to just look at the picture without having to write down what they are looking for (Nurkhafifah, 2021).

## **E. Conclusion**

The existence of internet technology has now been utilized in educational circles, including Islamic boarding schools. Islamic boarding schools with a modern education pattern and Islamic boarding schools with a combination of modern and Salafi Islamic boarding schools. The Islamic boarding school educational environment is a religious environment that always prioritizes morals and morals based on the guidance of the Islamic religion. The existence of technology in the Islamic boarding school educational environment also still has two sides, namely the positive side and the negative side. The positive side of using technology in a healthy manner in the Islamic boarding school environment is empowering technology for the operational needs of the Islamic boarding school. These operational needs are to support the teaching and learning activities of Islamic boarding school students and support administrative activities for Islamic Boarding School managers, such as electronic data exchange via electronic mail, educational reference sources (digital libraries), means of disseminating information about Islamic Boarding Schools and means of da'wah/syiar digitally. On the other hand, the negative impact of the use of technology in Islamic boarding schools cannot be avoided. The negative impact is the access to pornographic sites which it is feared will damage the morale of the students. Apart from that, several entertainment facilities provided by the internet, namely online games and social networking sites, can also make students become addicted (addicted). The existence of these facilities causes students to become careless which can result in a decline in their learning achievement. There needs to be a system to maintain the usefulness of technology in Islamic boarding schools. Apart from that, teachers, ustad and staff must also be provided with training on the application of technology to facilitate learning for students.

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