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Creating Smart Pesantren with Information and Communication Technology

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Abstrak

Kata Kunci:

Pesanten Cerdas;
Pesantren Modern;
TIK

Pertumbuhan Teknologi Informasi dan Komunikasi sangat pesat dan memberikan banyak manfaat positif bagi peningkatan kualitas pada lembaga pendidikan. Hal itu telah diketahui dan dirasakan oleh masyarakat. Namun anggapan masyarakat terhadap lembaga pendidikan pesantren dalam bidang teknologi sedikit berbeda, masih dianggap terbelakang oleh masyarakat umum. Oleh karenanya pesantren harus bisa beradaptasi dengan perkembangan teknologi, agar anggapan masyarakat tidak lagi negatif terhadap pesantren, selain itu agar lembaga pendidikan pesantren tidak tertinggal oleh lembaga pendidikan lainnya. Penelitian tentang TIK dan pesantren cerdas ini menggunakan metode kualitatif, data dideskripsikan dalam keadaan sewajarnya dan sebagaimana adanya. Data pustaka yang dikumpulkan berupa buku, jurnal, dan artikel kemudian dikaji dan ditulis sesuai yang dibutuhkan. Metode pengumpulan data juga dilakukan melalui pengamatan secara langsung di lapangan. Berdasarkan pengalaman dan pengamatan penulis, ternyata sudah banyak pesantren berbasis IT, dan pesantren yang menggunakan TIK dalam pembelajaran, sehingga proses kegiatan belajar mengajar di pesantren menjadi lebih mudah, modern, dan sesuai dengan perkembangan zaman. Diantara penggunaan TIK dalam kegiatan belajar mengajar di pesantren adalah audio *murottal* Al-Qur'an untuk mempermudah menghafal para santri dan kosa kata bahasa arab. Ini menunjukkan bahwa banyak pesantren-pesantren di negeri ini yang sudah menyesuaikan dengan kemajuan teknologi, sehingga tentunya akan menghasilkan output yang berkualitas yang siap menghadapi tantangan zaman.

Abstract

Keywords: Digital Wallet; Perception; Buying and Selling.

The growth of Information and Communication Technology is very rapid and provides many positive benefits for improving the quality of educational institutions. This has been known and felt by the community. However, the public's perception of Islamic boarding school educational institutions in the field of technology is slightly different, they are still considered backward by the general public. Therefore, Islamic boarding schools must be able to adapt to technological developments, so that the public's perception of Islamic boarding schools is no longer negative, and also so that Islamic boarding school educational institutions are not left behind by other educational institutions. This research on ICT and intelligent Islamic boarding schools uses qualitative methods, the data is described in its natural state and as it is. The library data collected is in the form of books, journals and articles and then reviewed and written down as needed. Data collection methods are also carried out through direct observation in the field. Based on the author's experience and observations, it turns out that there are many IT-based Islamic boarding schools, and Islamic boarding schools that use ICT in learning, so that the process of teaching and learning activities in Islamic boarding schools has become easier, modern, and in line with current developments. Among the uses of ICT in teaching and learning activities in Islamic boarding schools is audio murottal of the Koran to make it easier for students to memorize Arabic vocabulary and vocabulary. This shows that many Islamic boarding schools in this country have adapted to technological advances, so of course they will produce quality output that is ready to face the challenges of the times.

INTRODUCTION

In Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, it is stated that Islamic boarding schools are considered as a form of religious education. This underscores the importance of Islamic boarding schools as the oldest Islamic educational institutions in Indonesia, being a hope for the present and future ummah.

Pesantren is known by the general public as a place to le

arn religious knowledge only, ranging from the science of *aqidah*, *fiqh*, *akhklat*, *al-qur'an*, *hadith* and so on. They consider that pesantren are backward in technological problems, so many parents are hesitant and worried that if they put their children in pesantren, their children become technologically illiterate and backward in contemporary science.

The assumption of society and parents' concerns about such pesantren must be overcome, pesantren as printers *Da'i* and religious teachers should not

be blind to the development of Information and Communication Technology, because they will plunge into a heterogeneous society, not ruling out the possibility between *mad'u* (object of da'wah) there are those who are proficient and literate in technological development, so that if *Da'i* Or teachers who graduate from pesantren do not know anything at all about technology, it will be a negative value in the eyes of the *mad'u* (object of da'wah) that will affect the da'wah.

In addition, the entry of material about information technology into Islamic boarding schools will have another positive impact, namely they will be able to direct the community, especially the younger generation, to use technology wisely and intelligently, keep away deviations in internet use such as pornography, fraud, online gambling, copyright infringement, hoaxes etc.

According to Madjid, civil society can be easily realized if Islamic boarding schools are able to respond to the development of the modern world.(Muin, 2011)

The acceleration of information in this era is also one of the reasons why Islamic boarding schools should not be left behind in the development of information and communication technology, because in introducing the profile of pesantren to the community, information on the acceptance of new students, cottage activities, and "showing off" the achievements that have been achieved can be displayed

through the website, and other social media that can very quickly reach the community. Da'wah carried out will also be easier to reach the community, such as studies by broadcasting live (*Live Streaming*) which can be listened to at their respective homes, etc. Therefore, Islamic boarding schools that do not take advantage of ICT developments will certainly lose and can sink with other educational institutions.

In the last 10 years, IT boarding schools have begun to emerge, in addition to teaching religious sciences, IT boarding schools also teach students about technology, and it turns out that the response from the general public is quite good, many parents are flocking to send their children to IT boarding schools even though the cost is slightly more expensive. We need to appreciate and support it, as one of the steps to become a smart and literate pesantren about technological developments.

This paper will discuss a little about pesantren in the era of technological advancement, therefore, hopefully this paper can be an inspiration for caregivers or educators in Islamic boarding schools so as not to forget and underestimate ICT material in the Islamic boarding schools they care for.

RESEARCH METHODS

This research on ICT and smart pesantren uses qualitative methods, the data is described in reasonable

circumstances and as is. Literature data collected in the form of books, journals, and articles is then reviewed and written as needed. The data collection method is also carried out through direct observation in the field.

RESULTS AND DISCUSSION

A. Understanding ICT

The use of information and communication technology today has become an inseparable part of human life. The development of ICT has affected various aspects of human life, ranging from individuals to government agencies.

ICT stands for Information and Communication Technology, the three words each have their own definition.

a. Understanding Technology

In KBBI, it is stated that technology is the whole means of providing the goods necessary for the survival and comfort of human life. According to Fauziah & Hedwig Technology (*technology*) is knowledge of procedures for using types of technical devices, both hardware and computer software used by humans to solve problems so that the engineering equipment used can work effectively and efficiently. (Komalasari, 2020)

According to Kiki Kusumawati, Technology is the implementation of knowledge or other sciences that are systematically organized into practical activities. (Kusumawati, 2023)

b. Understanding Information Technology

Information is a notification; news or news about something. Information Technology (IT) is a term that refers to everything that helps humans in the process of making, storing, communicating, and/or disseminating information. The definition of IT involves the study of the design, implementation, development, support, or management of computer-based information systems, especially in the context of hardware and software use. (TEGUH SETIADI S.Kom, 2022)

According to *Information Technology Association of America* (ITAA) information technology is a design, development, implementation, study, support or management of computer-based information systems, especially computer hardware and software applications to change, store, protect, process, transmit, and obtain information securely. (Kurni et al., 2022)

c. Understanding Communication Technology

Communication is the sending and receiving of messages or news between two or more people so that the intended message can be understood. Communication technology is an electronic system used to communicate between individuals or groups. Communication technology facilitates communication between individuals and between groups that can be done without having to meet in person at the

same location. The form can be in the form of telephone, fax, radio, television, e-mail, web, and so on.

The development of Communication Technology is the application of human knowledge and skills in flowing information or messages to help solve problems between humans in order to achieve communication goals. The development of communication technology starts from advances in the field of computerization. The use of computers was initially limited to writing, creating graphics and images, and storing data, but has now evolved into a means of communication with global networks. With these technological advancements, interactions between people can cover layers of society around the world, opening up wider interaction opportunities. The implications of this technology are complex in human civilization, including in changing the way communication becomes more convergent.(Mohamad Sudi, 2019)

d. Understanding ICT (Information and Communication Technology).

Information and Communication Technology, a term that includes all technical devices for processing and transmitting information, is divided into two aspects: information technology, which includes all matters related to information processing and management, and communication technology, which includes the use of tools for data transfer between devices.

The two are interrelated, forming a broad concept in the activities of processing, manipulation, management and transfer of information. The term ICT emerged when computers and communication technologies were combined in the mid-20th century, which then underwent rapid development until the early 21st century.(Azizah Mutiara, 2020)

B. Understanding Islamic Boarding Schools

Pesantren, derived from the word "santri", refers to religious students. The term "santri" itself comes from the word "Catri" which refers to people who learn to recite. In accordance with Indonesian rules, the root word "santri" then begins with "Pe" and ends with "an", forming the word "Pesantrian". However, due to the presence of "sandhi" in Indonesian, where two sounds are combined to form a new sound, such as "he" becoming "e" and "ua" becoming "o", the word "pesantrian" changed to "pesantren", which refers to the place referred to by the root word "santri". Thus, pesantren are Islamic educational institutions where students learn to recite and deepen their knowledge of Islam.(Hashim, 2008)

The lodge in some form shows similarities to the lodging place known as Funduq in Arabic which means hotel. Therefore, it is possible that the word "cottage" comes from the word Funduq. Because of its association with Funduq, such institutions are often referred to as

Pondok Pesantren or Pondok Pesantren. In Java, this term is commonly used, while in Aceh it is called Dayah or Rangkang Maunasah, and in Madura it is called Penyanren.

In pesantren, the students in the learning process are guided by a teacher called kiai. This degree is an award for someone who has expertise, especially in the field of religious science. In Indonesia generally, and especially in Java, the teacher is called kiai, while in Sundanese-speaking areas it is called Ajengan, and in Madurese speaking areas it is called Nun or Bendara.

In Arabic, the term "kiai" is identified and referred to as Ulama, which is derived from the word 'alima which means to have knowledge. The word "Ulama" is the plural form of the word "Aalimun" which refers to individuals who have knowledge.

According to the description of Syech Ahmad Ajibah, the criteria for scholars consist of three things:

1. The 'Aalim, who inherited the knowledge and teachings of the Holy Prophet (peace be upon him), on condition of purity of intention.

2. The 'Aabid, who inherited the actions of the Prophet, including prayer, fasting, sacrifice, and struggle.

3. Yang 'Aarif, who inherited the knowledge and practice of the Holy Prophet (peace be upon him) and has a moral inheritance that suits his mind, such as kezuhudan, prudence, piety, hope for His pleasure, patience, wisdom, love for Allah and all that He loves, a deep understanding of God, and so on.

Pesantren is the oldest educational institution in Indonesia, emerged since the entry of Islam into Indonesia through Middle Eastern Muslim merchants, which at first was a house or place to teach the children of Middle Eastern merchants who married indigenous women, then the teaching activities were followed by the general public, so that the house became a center of Islamic religious learning, then continued to develop until now. The existence of pesantren in Indonesia has a considerable influence on the course of the history of the Indonesian nation, major and influential figures including the output of pesantren. Therefore, pesantren still continue to exist until modern times today and are in great demand by the Muslim community.

There are so many pesantren in Indonesia, the Ministry of Religious Affairs (Kemenag) released data on the number of pesantren in Indonesia, which is 36,600, with 3.4 million students, and teaching staff such as Kyai or ustadz as many as 370 thousand. The data does not include Islamic boarding schools that have not officially registered with the ministry.

The Ministry of Religion also mentions that an institution that calls itself a Pesantren, is only called a Pesantren if it fulfills the five pillars;

1. There is an element of Kyai or caregiver as a figure who accompanies and teaches the students.
2. Santri *mukim*, which are students who live in pesantren.

3. Dormitory, as a place for students to stay and privacy room.
4. Mosque / Musholla / Place of Worship specifically in pesantren which one of its functions as a *riyadhah room*.
5. Pesantren education, in this case is the Yellow Book or *Dirasat Islamiyyah*. (Ministry of Religion, n.d.)

Based on the statement above, the pesantren is a religious educational institution that requires students to live in the dormitory of the learning environment, study religious sciences in Arabic (Kitab Kuning), have learning support facilities such as mosques, and are directly supervised and fostered by kyai and ustadz.

C. The urgency of ICT for pesantren

The rapid development of technology is a challenge for pesantren to eliminate the presumption of backwardness of pesantren in the eyes of the community. Many people still assess and consider pesantren to be lagging behind in the problem of technological development, because what is very inherent and identical to pesantren is its traditionality. So inevitably pesantren must adapt to current technological developments, because if they do not keep up with developments, pesantren will lag far behind other educational institutions.

Nowadays everything is very sophisticated, very thick books and volumes can be collected in one hand, even libraries containing thousands of books can also be collected in one small object called a *smartphone* or tablet, which can be read anywhere. Teaching and learning activities that are usually carried out in class, can now be done at home using the zoom application, google meet etc. Shopping for daily necessities that used to use physical money, can now be done with electronic money. By way of transfer or paste the card. And various kinds of sophistication and other technological developments.

Pesantren if they do not adapt to these advances, they will definitely become backward, graduating *da'i-da'i* and teachers who are blind to technology, so that when they enter the community, they will be very visible backward in technological problems, which gives birth to negative views from the community towards pesantren and its alumni.

In addition, there is a presidential instruction Number 6 of 2001 which reads: The introduction of telematics technology and its applications is very important and must begin as early as possible, without discrimination and must be carried out at all levels and all kinds of education. The school curriculum and higher education curriculum are gradually adjusted starting from higher education and high school.

D. Utilization of ICT in Islamic Boarding Schools

Pesantren is an educational institution that is very dense with teaching and learning activities, as explained in the definition of pesantren, students or students who study in pesantren are required to stay overnight, and their daily activities are supervised directly by the kyai and the ustadz. Generally, pesantren activities begin at 03 am, they are awakened to perform *qiyamul lail* (tahajud prayers) until 04 o'clock, while waiting for dawn time is usually filled with reading the Qur'an or adding new memorization, then continued with morning prayers, after which it is filled with *mufrodat* memorization activities (Arabic vocabulary) until 06 o'clock, after that school preparation students until 07 o'clock. From 07 to 14 o'clock they study, then *qoiluulah* (nap) until asr time, after ashar there is halaqoh al-Qur'an until before maghrib, learning activities continue after isha', the students *worship* (repeat) the lessons they learned that day and prepare lessons for tomorrow.

In today's modern pesantren, the activities of these students cannot be separated from technology and the use of IT, some examples are as follows;

a. Memorization of the Qur'an

Among the activities of students in pesantren is memorizing the Qur'an, in memorizing the Qur'an can involve technology, such as listening to *the*

murottal audio of the Qur'an. Because among the methods of memorization is by listening. By often listening to *the* Qur'an murottal it will be very easy to memorize, this has been proven. Children who are daily listened to the *murottal audio* of Surat An-Naba' every day, for example, for 1 week he will be able to memorize at least 1 page.

Listening to the *audio murottal* of the Qur'an can also be a substitute or support of *Talaqqi* (learning to recite the Qur'an directly in front of the teacher), because the way of learning the Qur'an practiced by the Prophet and his companions then the scholars after him until now is by *talaqqi* with the teacher. The Prophet learned the Qur'an from Jibril directly, then the companions learned the Qur'an from the Prophet also directly, then the *tabi'in* learned from the companions also directly, and so on until now. This in the age of technological progress can be helped by listening to *the murottal* audio of the Qur'an.

b. Arabic vocabulary and conversation

Among the things that are required in the pesantren environment is to communicate in Arabic, and that has become a characteristic of pesantren. Pesantren generally have very strict regulations related to this issue, even there are usually special penalties for students who violate using Indonesian or regional languages.

Learning and improving students' proficiency in Arabic can be supported by utilizing technology, namely by

watching Islamic cartoons or films in Arabic, or lectures by Middle Eastern scholars, such content on YouTube is already very much, so it is very easy for Islamic boarding school managers to get it.

At LIPIA (Institute of Islamic and Arabic Education) Jakarta, one of the *I'dad Lughowi* (Language Preparation) programs uses this method to hone the skills and proficiency of its students in Arabic. This turned out to be very efficient, so they could apply *ta'bir* (expressions) in accordance with Arabic rules, besides that students could also communicate in Arabic with *lahjah* (dialect) like Arabs. LIPIA alumni who are administrators of Islamic boarding schools will usually apply this method to their students, because they feel for themselves how it affects them.

To improve the quality of Arabic, caregivers and managers of Islamic boarding schools need to create a language laboratory to run the above program. A laboratory can contain a computer, headset, or speakers, or if cost is limited, it can be with a projector, computer and speakers, so that it can be seen and listened to together.

E. Benefits of ICT for students

Islamic boarding schools that use ICT in their pesantren environment will provide benefits for students, including:

- a. Make it easier for students to learn

As mentioned above, ICT is very helpful for students in memorizing the

Qur'an and learning Arabic, besides that it also makes it easier for them to find information related to the knowledge they learn in pesantren.

- b. Giving students the ability to innovate in da'wah

Pesantren that equip ICT science students, of course, the pesantren will produce quality human resources, who are literate in technological advances, so that when they later preach and plunge into society, they have the ability and innovative ideas in preaching their knowledge.

Skills in the field of ICT will be very useful in da'wah and teaching, such as;

- Live broadcast the recitations held in mosques, so that Muslims who are in distant places can listen to them.
- Making useful pieces of recitation videos, this is usually more interesting for the general public, because there are those who are reluctant if they have to listen and listen to long videos.
- Translating the lectures of Middle Eastern scholars into Indonesian or regional languages. It will be even more widespread if translated into English, so that Muslims around the world can feel the benefits.
- Create a website to write useful articles, so that they can be accessed by Muslims in need.
- Fill social media with da'wah content. As we see today, social media is used by people who are far from religion to spread

prosperity and disobedience, so pesantren alumni who have ICT skills can fight it by multiplying positive content on social media.

- c. Facilitate the process of muamalah santri in pesantren

Technological advances utilized by pesantren will make it easier for students and guardians to meet with pesantren management, one of which is *muamalah maaliyyah* (money transactions). In this age of technological advancement, some

physical financial transactions have begun to decrease and be replaced with electronic money. Guardians can pay their children's monthly fees via transfer with *smartphones*, and do not have to bother coming to the pesantren.

Even some Islamic boarding schools have implemented electronic money for all muamalah in pesantren, so the students no longer carry pocket money in the form of physical money, but in the form of cards, so every transaction is enough to attach their cards that already contain balances.

CONCLUSION

The growth of Information and Communication Technology is very rapid and provides many positive benefits for improving the quality of educational institutions. Pesantren educational institutions that are quite old can also adjust to the growth of this technology, many modern pesantren that utilize ICT in their learning activities. The adaptation made by pesantren to the development and advancement of technology can erase the bad assumption of the community that pesantren are very backward in the field of technology. In addition, pesantren that utilize ICT in their

learning activities will deliver pesantren to become superior and intelligent boarding schools that are able to answer the challenges of the times.

Islamic boarding schools that teach their students ICT will also graduate *quality da'i-da'i*, this is very useful for the Muslim community, considering that technology can also be used for deviant things such as pornography, fraud, hoaxes, copyright infringement and so on, students who are equipped with religious knowledge and ICT skills will be able to direct the community, especially the younger generation, to be wise and smart in utilizing technological sophistication. So that the younger generation will survive the misuse of ICT.

BIBLIOGRAPHY

- Azizah Mutiara, V. (2020). Teknologi Informasi Komunikasi dan Perkembangannya. *Teknologi Informasi Komunikasi Dan Perkembangannya, 1*(Perkembangan pada TIK).
- Hasyim, A. W. (2008). *No Title*. Lembaga Penerbitan Pascasarjana Universitas “45” Bekasi.
- Komalasari, R. (2020). Manfaat Teknologi Informasi dan Komunikasi di Masa Pandemi Covid 19. *TEMATIK, 7*(1). <https://doi.org/10.38204/tematik.v7i1.369>
- Kurni, H., Juniarsyah, D., Minghfah, F., Putrisia, B., Nur, M. R., Zulkarnaen, A. A., Salim, D., Lase, O., Amir, L., Aldi, T. M., & Waluyo, I. G. (2022). Pemanfaatan Teknologi Informasi dan Komunikasi (TIK) untuk Pembelajaran di Pondok Pesantren Darunnasyr Pondok Jati Utara Jurang Mangu Barat. *Praxis: Jurnal Pengabdian Kepada Masyarakat, 2*(4).
- Kusumawati, K. (2023). PEMANFAATAN TEKNOLOGI INFORMASI DALAM PENDIDIKAN. *JURNAL LIMITS, 5*(1). <https://doi.org/10.59134/jlmt.v5i1.311>
- Mohamad Sudi. (2019). IMPLIKASI PERKEMBANGAN TEKNOLOGI KOMUNIKASI TERHADAP PERADABAN DAN KOMUNIKASI ANTAR MANUSIA. *Gema Kampus IISIP YAPIS Biak, 13*(2). <https://doi.org/10.52049/gemakampus.v13i2.68>
- Muin, A. (2011). *Pemanfaatan_Teknologi_Informasi_di_Pesantren.pdf* (p. 31). *No Title*. (n.d.). kemenag.go.id
- TEGUH SETIADI S.Kom, .M.Kom. (2022). Teknologi Informasi, Tujuan Dan Fungsi Teknologi Informasi Menurut Para Pakar. In *Universitas STEKOM*.