

IMPLEMENTATION OF INFORMATION TECHNOLOGY (IT) AT THE IMPACT OF THE COVID-19 PANDEMI IN THE ISLAMIC BOARDING SCHOOL (SURVEY)

Syauqie Muhammad Marier^{1*}, Pipit Febriana Dewi¹, Fadmi Rina¹ dan Dewi Lestari¹

¹ Jurusan Informatika, Fakultas Teknologi Informasi, Universitas Nahdlatul Ulama Yogyakarta

Jl. Lowanu no.47, Umbulharjo, Yogyakarta.

*Email: *syauqie.mm@unu-jogja.ac.id

Abstrak

Islamic boarding schools are the original Indonesian Islamic education institution with traditional culture. The existence of a Covid-19 pandemic resulted in school learning policies and boarding schools using the online method. It is conducted to break the chain of spread of the Covid-19 virus. It has an impact on various activities in Islamic boarding schools and on the need to use information technology (IT). Research was used for an initial mapping of the implementation of IT in Islamic boarding schools. The study aimed to determine to what extent IT adoption was in the Islamic boarding school in the Special Region of Yogyakarta. The method used is a survey with descriptive analysis. The survey was carried out on the board of Islamic boarding schools. The questionnaire contained the identification of the types of Islamic boarding schools and four variables related to IT implementation in Islamic boarding schools. The four variables are application information/ information systems used by Islamic boarding schools, from where Islamic boarding schools obtain information systems, existing system integration, and Android-based applications. The results obtained were that 88.9% of the 58 Islamic boarding schools already had an information system. Islamic boarding schools have a diverse information system, such as the new student admission, boarding school information systems, school information systems, monitoring systems, financial systems, and administrative systems. There are 44.2% of the system which has integrated data and functionality and 59.5% systems based on Android. The average Islamic boarding school that applies to IT is a boarding school with some students (santri) of more than 400, and the category is a modern salafiah Islamic boarding school. The challenges facing Islamic boarding schools in IT implementation are the lack of human resources, infrastructure limitations, and the lack of socialization of information systems in the guardian of students.

Kata kunci: Implementation of IT for Islamic boarding schools, Islamic boarding school information systems, constraints of the boarding school system

1. INTRODUCTION

The increase in positive cases has a very wide impact in various fields. One of them is the necessity of using information technology in distance learning activities. Islamic boarding schools are still known as the original Indonesian Islamic education institution with a traditional culture (Yunus, 2019). Therefore, it becomes a challenge for Islamic boarding schools in distance learning (Basid and Saimroh, 2020). The challenge is in the form of limitations of santri's Internet access at home (Arifudin, 2020), differences in the learning environment felt by santri around at home and in boarding school, and the lack of a learning companion (syafrin; muslimah, 2021).

These conditions force Islamic boarding schools to adapt using technology in several owned educational facilities (Prasetia and Fahmi, 2020). Educational facilities in Islamic boarding schools vary according to their categories, which are traditional, modern, and combination boarding schools (Usman, 2013). For example, the traditional Islamic boarding school is a boarding school whose education is focused on diniyah/ yellow book (kitab kuning) education or special Qur'an education. Modern Islamic boarding schools are Islamic boarding schools that have public schools, such as elementary schools to universities. The combination of Islamic soarding School is a boarding school with public schools and diniyah education/ yellow book (kitab kuning).

Until now, there have been no surveys showing to what extent the use of IT is used in Islamic boarding schools. Therefore, this research was conducted to determine the extent of the adoption of IT implementations in Islamic boarding schools in the Special Region of Yogyakarta.

There are studies related to the use of technology in Islamic boarding schools during the Covid-19 pandemic. Literature search uses keywords "sistem informasi pondok pesantren". The grouping of literature using a table with four columns, category, research of literature, applications, and year of publications as Table 1.

Table 1. Liteatures

Category	Research	Applications	Year
Implementation e-learning	(Arifudin, 2020)	Whatsapp, google meet, classroom, zoom, and e-learing	2020
	(Wasyik and Hamid, 2020)	Whatsapp video call	2020
	(Aziz, Supiana and Zakiah, 2021)	Zoom, google classroom, e-learning	2021
System development	(Wicaksono, 2021)	Digital library information system	2021
	(Jafrudin and Putra, 2020)	Dormitory information system	2020
	(Aminuddin, 2020)	TPA/TPQ monitoring system	2020
	(Marier and Dewi, 2021; Muriyatmoko, Pradhana and Adnan, 2021)	Tahfidz Quran monitoring system	2021
	(Bismi <i>et al.</i> , 2020)	Student admission system	2020
	(Dewi <i>et al.</i> , 2021)	Dashboard monitoring Fee tuition system	2021
	(Ubbaidillah and Evayani, 2020)	Fee tuition recording system	2020
	(Suharni and Kartika Sari, 2019)	Fee tuition system	2019
	(Firmansyah and Udi, 2018)	Academic system	2018
	(Burrahman, 2017)	Academic system, website	2017

Research (Arifudin, 2020) on the implementation of IT in online learning activities at the Kalimukti An Nashuha Islamic Boarding School, which was applied in MAN 5 Cirebon, runs less effectively. This is because 80% of the students come from Islamic boarding schools. Research (Wasyik and Hamid, 2020) said that on the implementation of e-learning in the Qur'an understanding, at the Entrepreneur Tahfidz Studio, Krian Sidoarjo using the WhatsApp Call video run well. Research of (Aziz, Supiana and Zakiah, 2021), regarding the implementation of online school policies in the modern Islamic boarding school, IHAQI Bandung states that teaching and learning activities that use Zoom, Google Classroom, and e-learning applications can work effectively.

Research related to system development, (Wicaksono, 2021) develop digital library information system at boarding school vocational high school. Dormitory information system and website developed by (Burrahman, 2017; Jafrudin and Putra, 2020) was developed to make it easier for students to access information about the boarding school/dormitory. Fee tuition information system developed by (Firmansyah and Udi, 2018; Suharni and Kartika Sari, 2019; Ubbaidillah and Evayani, 2020). Research by (Ubbaidillah and Evayani, 2020) designed a fee tuition information system at the Modern Islamic Boarding School TGK Chiek Oemar Diyan. Suharni implements it in Islamic boarding schools in the city of Madiun (Suharni and Kartika Sari, 2019) and Firmansyah and Udi implements it in Islamic boarding school Al-Habib Sholeh Kabupaten Kubu Raya. The system is a solution to the problem of manual recording using the ledger in a computerized system.

Research (Aminuddin, 2020) developed a TPA/ Q monitoring system in Sleman to control learning activities in TPA/ Q. Similar research (Marier and Dewi, 2021) and (Muriyatmoko, Pradhana and Adnan, 2021) developed a monitoring system for Tahfidz Quran in Islamic boarding schools to monitor the Quran santri in the Pandemic Covid-19 period. Research (Bismi *et al.*, 2020) introduced a new student admission system in a modern web-based Islamic boarding school, making it easier for registrants without having to go to the location of the Islamic boarding school.

From previous research, it was found that the use of IT in Islamic boarding schools was implemented based on the needs of each Islamic boarding school, one of which was due to the COVID-19 pandemic. In previous research, no one has conducted a survey to what extent the use of IT in Islamic boarding schools has been. Therefore, as we have mentioned on the background of

the malasah, this paper aims to survey the use of IT in Islamic boarding schools. From the results of previous studies, the author makes a reference in making a survey at Islamic boarding schools in Yogyakarta.

2. RESEARCH METHOD

The study used a survey approach method with quantitative descriptive analysis, describing the collected data without intending to draw a general or generalization conclusion (Sudaryono, Guritno and Rahardja, 2011). The aim is to obtain objective information on the adoption of information technology in Islamic boarding schools. The respondent in this study was the board of Islamic boarding schools. The questionnaire was distributed through the PONTREN Coordinator (Islamic Boarding School) in various Ministry of Religion regencies in Yogyakarta Special Region Province through the WhatsApp group and the Islamic boarding school network. Data collection was carried out for one and a half months, July to mid-August 2021. Fifty-eight Islamic boarding schools responded to the questionnaires distributed through the WhatsApp group.

The questionnaire contained the identification of the types of Islamic boarding schools and four variables related to IT implementation in Islamic boarding schools. The four variables are application information/ information systems used by Islamic boarding schools, from where Islamic boarding schools obtain information systems, existing system integration, and Android-based applications. Additionally, analysis of the obstacles to IT implementation faced by Islamic boarding schools.

3. RESULT AND DISCUSSION

3.1. Profile of Islamic Boarding School Categories

The research begins by finding out the category of Islamic boarding school that answers the survey. It aims to find out the characteristics of the Islamic boarding school that is the respondent. According to the Ministry of Religion website, the data statistics of Islamic boarding schools in the Special Region of Yogyakarta Province amounted to 319. The number of Islamic boarding schools that responded to the questionnaires is up to 58 Islamic boarding schools, or 18% of the total number of Islamic boarding schools. The categories of Islamic boarding schools that were asked were traditional classical salaf Islamic boarding schools, modern Islamic boarding schools, modern Salafi Islamic boarding schools, takhossus boarding schools, Salafi boarding schools, and others.

The results of identifying the boarding schools as in Figure 1 showed that the Islamic boarding school in Salafiah modern was the Islamic boarding schools that answered the most questionnaires, which was 55.6%. Modern Islamic boarding schools were 18.5%, a traditional classical salaf of 13%, a special boarding school of 9.3%, a Salafi boarding school of 7.4%, and more 3.7%.

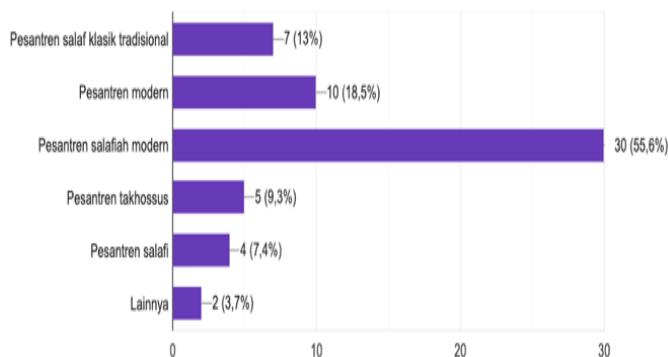


Fig.1. Profile of islamic boarding school categories

More research is needed to determine why the response to Islamic boarding schools is very small. The author assumed that the lack of an Islamic boarding school's response was due to several possibilities. Many Islamic boarding schools did not implement IT, so they did not respond to the questionnaire; there is no obligation to complete the questionnaire, so the information provided is lost, or there are obstacles such as the lack of active management in the WhatsApp group so that the message is stacked.

Forty-eight Islamic boarding schools that answered the questionnaire are Islamic boarding schools with 400 santri. The remaining ten is a boarding school with several santri as many as 600 - 2000 santri. The respondents were then identified on their categories. The author categorizes Islamic boarding schools into six types. They are traditional classical salaf, modern salafiah, modern, takhossoss (specifically), Salafi, and others.

From the data, Islamic boarding schools with modern salafiah types and modern categories are the most respondents. It is very reasonable if we refer to a website reference (*7 Jenis pesantren dan karakteristiknya*, 2020). It says that modern Islamic boarding schools have the latest curriculum and system. We can understand the latest system that modern Islamic boarding schools have updated applications or business processes. The next thing can be the following research question: Is IT implementation also influenced by the number of students?

3.2. Information System Used

Next, we asked whether there was already an information system used by the respondents. If the information system already exists, what percentage are still using the system. What are the information systems owned by Islamic boarding schools? Various information systems obtained in this study are the Islamic boarding school information system (60.4%), school information systems (39.6%), new student admission systems (67.9%), santri administration system (41.5%), financial system (32.1%), academic system (30.2%), monitoring system (35.8%), and others (28.3%). Table 2 shows information related to information systems/applications owned by Islamic boarding schools.

Table 2. Information System Used

Do Islamic boarding schools have an information system?	
Yes	88,9%
No	11,1%
Is the information system still in use?	
Yes	94,3%
No	5,7%
What information systems do Islamic boarding schools have?	
New student admission systems	67,9%
Islamic boarding school information system	60,4%
Administration system	41,5%
School information system	39,6%
Monitoring system	35,8%
Finance system	32,1%
Academic System	30,2%
Others	28,3%

Some respondents answered others because the system owner did not enter the list of responses to the survey question. The system is an employee licensing system, the teacher's data collection system, cooperative system, and laundry system. The first variable asked is the availability of information systems from Islamic boarding schools. According to the survey, the

number of Islamic boarding schools that have an information system is 88.9%, but only 94.3% of their information systems are still used. Almost all Islamic boarding schools have more than one information system. When referring to the category of Islamic boarding schools that answered the questionnaire, that modern boarding schools were the most respondents who answered, it is not surprising that 88.9% of Islamic boarding schools have information systems.

The four systems can solve the problem of "keeping the distance" between Islamic boarding schools and students, namely connecting the two without having to interact directly. With these systems, it could help the government's policy at that time, to limit direct interaction due to the COVID-19 pandemic. In addition to using information systems, some Islamic boarding schools also use social networks / microblogging to process and convey information. The media are WhatsApp Group, Blog, YouTube, Instagram, Facebook, Line, and email.

3.3. How Islamic Boarding Schools Get an Information System

Islamic boarding schools obtain various information systems/applications in various ways. Either by buying so on vendors/ IT companies, getting grants, making your own or downloading free applications from the Internet. Figure 2 shows the percentage of information systems on how the Islamic boarding school gets it. Developing your information system is the most common answer. Make your information systems interpret Islamic boarding schools to pay programmers outside the boarding school to create a custom system as desired by the boarding school.

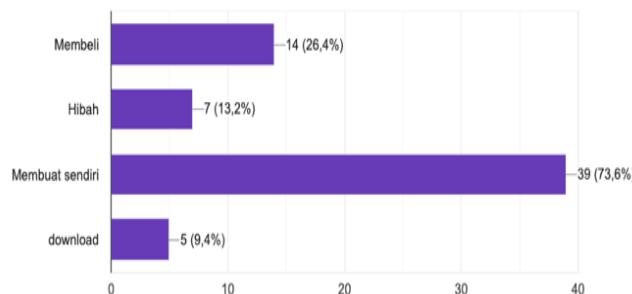
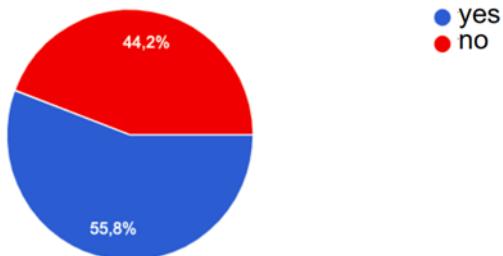


Fig.2. How Islamic Boarding Schools Get an Information System

The four answers to this question are to buy a ready-made system, download the system, build your own system, and get a grant. Buying a ready-made system means buying a system bundle on a buying and selling website or from a vendor. Download system is a free system that is obtained from people who share the source code on their personal websites. make their own system, namely the cottage asking programmers or web developers to develop a system according to the needs of the Islamic boarding school. while the grant is to get a system from the ministry of religion. The various categories of Islamic boarding schools, of course, the business process of each boarding school is different. Developing their own system by asking programmers to make a system based on the pesantren's business process is more efficient than downloading or getting a grant. Cases found when downloading for free or receiving grants were that Islamic boarding schools were forced to follow the flow of the system, thereby changing some of the habits of existing business processes.

3.4. Whether Between Systems has been Integrated

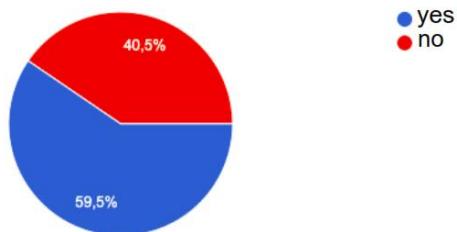
The next question is whether the variety of owned systems has been synchronized. Figure 3 presents results related to system integration in Islamic boarding schools. 55.8% of respondents answered that the system they had was already integrated. Another 44.2% have systems that are not yet integrated.

**Fig.3. Whether Between Systems has been Integrated**

As many as 55.8% of Islamic boarding schools that have an information system confirm that the existing systems have been integrated. Meanwhile, 44.2% of Islamic boarding schools have information systems, which are not yet integrated between systems. Not all systems are integrated because there are various ways to get the system. The obstacles faced by Islamic boarding schools are human resources, the lack of network availability, and infrastructure. It is necessary to standardize policy improvements, data management, and human resources to support integration.

3.5. the Available Information System Based on Android?

Many Android mobile phones is a consideration of Islamic boarding schools in searching for existing information. According to the survey (Figure 4), 59.5% of Islamic boarding schools have an Android-based system. A total of 40.5% of the system is not yet based on Android.

**Fig.4. Is the Available Information System Based on Android**

Although many Islamic boarding schools have an information/ application system, there are still many obstacles found or obstacles in its implementation. Most obstacles are: HR Limitations in Operating Systems/ System Maintenance, all HRs are familiar with IT, infrastructure that does not support much, such as the need for additional servers and the speed of the internet network and, due to the absence of outgoing socialization (to the guardian of the santri), so many santri guardians do not maximize information system facilities.

4. CONCLUSIONS

Islamic boarding schools with modern salafiah types and modern categories are the most respondents because they have the latest curriculum and system. Developing their own system by asking programmers to make a system based on the pesantren's business process is more efficient than downloading or getting a grant. This study needs further research to enrich the data related to IT implementation in Islamic boarding schools. In addition, analysis and mapping data must be done on the system in Islamic boarding schools for system integration. Because only some respondents have an integrated method, Islamic boarding school need to pay attention to and find solutions related to the obstacles experienced. It is aimed at being an integral part of the Islamic boarding school.

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