Annual International Conference on Islamic Education (AICIED)
P-ISSN 3032-2146, E-ISSN 3032-260X
Volume 3, January - December 2025
https://prosiding.iainponorogo.ac.id/index.php/aicied

The Role of Ngabar Digital Application in Supporting the Digitalization of Administration and Learning in Islamic Boarding Schools

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ARTICLE INFO

Keywords:
Ngabar Digital Application; Digitization; Administration; Learning; Islamic Boarding School

ABSTRACT

The advent of digitalization in the current era has brought progress to the world of Islamic boarding school education. This is evidenced by the Ngabar Digital Android-based application, which represents progress in the digitalization of administration and learning in Islamic boarding schools. This application plays an important role in supporting digital transformation by providing an integrated platform that facilitates the management of administrative data and the online learning process. This study aims to examine the implementation of the Ngabar Digital Application in Islamic boarding schools, assess its impact on accelerating administration, improving teaching and learning activities, and the adaptation of students and teachers to technology. The research method uses a qualitative research approach that will explore information through data collection techniques such as observation, interviews, and documentation. The research subjects are the financial administration managers and the teaching management section of the Wali Songo Ngabar Islamic boarding school. This application is considered to be very helpful for digitalization in the Islamic boarding school environment, especially for the guardians of students to view financial management and student learning outcomes online.

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INTRODUCTION

Islamic boarding schools are the oldest educational institutions with distinctive characteristics in Indonesia. They are also institutions that have legitimacy and have been ingrained in Indonesian life for hundreds of years. Islamic boarding schools are educational institutions that have survived from the beginning to the present day. They play an active role in creating cadres of scholars, spreading Islam, and transferring knowledge [1]Pesantren are Islamic educational institutions with a boarding school or dormitory-style education system, with a kiai as the central figure and a mosque as the center of activities, where santri receive guidance in Islamic teachings from a kiai. [2] Pesantren are places of religious education with a clear social basis, because their existence is integrated into the community. Therefore, Islamic boarding schools should have roles and functions that are in line with changes in the situation and conditions of society.[3] The function of Islamic boarding schools as formal educational institutions is to provide education (madrasah, public schools, universities) in formal education, namely teaching religious education through the fields of Fiqh, Hadith, Tafsir, Tauhid, and Tasawuf. However, over time, Islamic boarding schools have also been able to provide a balance between science and technology for their students. M. Arifin points out that the goal of Islamic boarding schools is to guide students to have an Islamic personality and religious knowledge and to apply that knowledge in the surrounding community. Thus, Islamic boarding schools can be defined as educational institutions that provide a comprehensive education, both religious and general.[4] This is also explained in Law No. 20 of 2003, which describes Islamic boarding schools as the realization of an ideal.

Given the current situation, Islamic boarding schools are also present as educational institutions that cannot be separated from the digital world. This poses a challenge for every Islamic boarding school to continue to compete with the times. Not only are there demands from the guardians of the students, but this has also become a driving force for Islamic boarding schools to use digital technology in the development of education in the

[1] Abdul Muhid, The Role of Islamic Boarding Schools in the Digital Age, Vol. 7, No. 2, At-Thzib, 2019, 63.
[2] Akhmad Rizkon, The influence of the islah mubasyir method on the discipline of Islamic boarding school students, Indonesian Islamic Education Journal, Vol. 4, No. 1, October 2019. 24.
[3] Dian Popi et al. Religious and independent character education in Islamic boarding schools, Journal of Social Education, vol. 28, no. 1, June 2019.
[4] Atsmarina Awanis, Pesantren Education System, Islamic and Social Education Management, Vol. 2, No. 2, 2018. 64-65.

current era. Digitalization itself presents an opportunity for pesantren education to develop and change in various aspects, including education, learning, and administration in the field of financial management. This use has a positive impact on Islamic boarding schools because it provides easier access to financial transactions. This development is a sign that money as a commodity is no longer tangible (intangible money). This is not only felt by large companies, but the world of Islamic boarding schools has also begun to use sophisticated information technology to record and maintain data. The finances of Islamic boarding schools and the learning process. [5]In addition, technology itself has a positive impact on students' knowledge, skills, and interests. [6]With its updates, technology can maintain and strengthen the administration of Islamic boarding schools, finances, and even financial management, as well as monitor student attendance and facilitate the recording of student data.

As Islamic educational institutions, Islamic boarding schools have begun to realize the need for technology to support the learning process and management of the boarding school. Technology currently plays a significant role in expanding information, as well as innovation in Islamic boarding schools and the efficiency of their internal systems. The application of technology in Islamic boarding schools has a positive impact on digital learning, more efficient data management, access to online educational resources, and communication between internal and external parties. The application of technology itself helps expand Islamic boarding school education through real-time learning platforms. Not only does it contribute to the development of the education sector, but technology also strengthens the administration of Islamic boarding schools, financial management, attendance tracking, and student data recording. By introducing technology into the boarding school system, it has a significant impact in supporting the education system, operations, and preparing students to compete with the demands of the times.

The Wali Songo Ngabar Islamic boarding school is one of the boarding schools that uses the current digital development system, namely by utilizing developments in the administrative system and reporting educational results using digital technology as a form

[5] Hasan Baharun, Virtual Account Santri: Pesantren's Efforts in Providing Excellent Service Oriented Towards Satisfaction, Islamic Economics: Journal of Islamic Economics, Vol. 10, No. 1 January-June 2019. 2.
[6]Ali Muchasan, Utilization of Technology in Islamic Boarding Schools (Impact and Solutions in the Context of Education), Inovatif: Journal of Education, Religion & Culture, Vol. 10, No. 1 February, 2024. 26.

of educational development for Islamic boarding schools. The management of administration and reporting of educational results aims to improve the efficiency, effectiveness, and productivity of the system. With the development of digital technology, a digital platform or website has been developed to improve administration and reporting of educational results. However, not everyone can access this website. This indicates the need for innovation in the form of an application that is easy to access. The Ngabar Digital Application is an improvement on the Smartpayment application released in 2019 with a cashless shopping system in 2020. The Ngabar Digital Application features a financial module with functions such as bill checking, bill payment, children's allowance history, bill payment history, total financial history, and SPP transaction history. The application also includes notifications about individual news for students or boarding school students.

This application is also continuously developed by adding modules or features related to academic and non-academic systems that are integrated through the Pesantren Administration Information System (SIAP). This digital platform or website is a form of improving the quality of education, both academic and non-academic or extracurricular. The application, platform, or digital web has functions related to the management of students, teachers, alumni, and learning activities, lesson schedules, academic or extracurricular grades, violations, permissions, student achievements, new student registrations, and the printing of academic reports and academic support reports.

This application or platform is expected to provide easier access for guardians or students to monitor remotely in real time. This will minimize payment delays and make it easier for students to save money without cash (cashless). Each student will have their own virtual account (VA), and for transactions, students will have a smart card or ATM-like card equipped with a chip so that information can be stored electronically. This system also prevents students from losing money or academic documents such as report cards, as everything is stored in a secure system.

This application is a form of support that allows Islamic boarding schools to adapt more quickly to the era of the 4.0 industrial revolution. This application was developed directly by PT Inovasi Cipta Teknologi (ICT), and payments for the virtual account (VA) system itself are made directly through Bank Muamalat.[7] The research aims to examine

[7] Heru Saiful Anwar, Digitalization of Islamic Boarding School Education through a Cashless Payment System Using Ngabar Smart Payment at the Wali Songo Ngabar Islamic Boarding School, MA'ALIM: Journal of Islamic Education, Vol. 4, No. 1 June 2023.46.

the implementation of the Ngabar Digitaal Application in Islamic boarding schools, assess its impact on accelerating administration, improving teaching and learning activities, and the adaptation of students and teachers to the use of the Islamic Boarding School Administration Information System (SIAP) and the Ngabar Digital Application at the Wali Songo Ngabar Islamic Boarding School.

RESEARCH METHOD

Based on the presentation of research data regarding the implementation or use of the Ngabar Digital Application in Islamic boarding schools and the use of the Islamic Boarding School Administration Information System (SIAP) in supporting the digitization of administration and learning in Islamic boarding schools, the researcher categorized this as qualitative research. Arikunto explains that qualitative research is conducted to collect information about a phenomenon in the form of actual conditions at the time the research is conducted. Therefore, it is hoped that qualitative research can reveal the phenomenon being studied in depth. [8]

This study uses a field research approach, where data collection is carried out through observation, interviews, and documentation. [9]This is done by conducting a grand tour question, narrowing down (focusing), and selecting. The researchers collected data from September to November 2025, using data collection techniques such as observation, interviews, and documentation, and combined the data analysis into a conclusion.[10] At this stage, researchers will conduct observations and interviews regarding the implementation or use of the Ngabar Digital Application. At the Wali Songo Ngabar Islamic boarding school

RESULT AND DISCUSSION

Pesantren education is a unique community environment with a positive value system and its own characteristics that still uphold traditional values, as well as an education system that is different from formal schools. Pesantren educational institutions

[8] Suharsimi Arikunto, Research Procedures: A Practical Approach (Jakarta: PT Rineka Cipta, 2019).
[9] Sugiyono, Educational Research Methods: Quantitative, Qualitative, and R&D Approaches, (Bandung: Alfabeta, 2015) 203.
[10] Mr. Yuwono, "Analysis of the Difficulties Faced by Mathematics Education Students in Preparing the Background of Their Thesis Research," Journal of Educational Technology and Innovation Research 4 no. 2 (2021): 255-66.

themselves have components such as Kiai, Ustadz and Utadzah, santri, and dormitory administrators. [11]Then, in keeping up with the modernization of the times or the importance of an educational institution, they carry out modernization changes and provide scientific flexibility and integrate Islamic values in a contextual understanding that is suitable for the era of modernization. At this time, it is possible that Muslims are required to face and provide solutions to the challenges of the present, as well as participate in providing progress of the nation. In this era of digitalization and dynamic change, educational institutions such as Islamic boarding schools need to continue to modernize themselves in order to remain relevant in the current context, face the challenges of educational transformation, and increase the role of Islamic boarding schools in society. Digitalization can be defined as the process of converting analog information media into digital media. It can be concluded that digitization is the process of converting printed forms into electronic forms through transfer or scanning in order to create an electronic page in accordance with computer storage, retrieval, and transmission capacities. [12]It should be emphasized that digitization is a form of transition from conventional data to digital forms that are processed through computer media.

ADMINISTRATION AND LEARNING IN ISLAMIC BOARDING SCHOOLS CONCLUSION

Sudarwan Danim & Yunan Danim explain that administration is a collaborative process that requires two or more people to effectively utilize resources. In a narrow sense, administration is defined as written activities that include data recording, correspondence, and documentation so that it can be easily accessed. Learning administration itself is also continuous with educational administration, which includes teaching, planning, organizing, directing, and available resources, which are among the objectives of education. The scope of learning administration, which includes planning, implementation, evaluation, and supervision, is part of school administration. [13]Thus, learning administration itself is the planning or program of learning activities, consisting

[11] Devita Tri Yulianti et al., Development of healthcare digitization at Sumber Mitra Bandar Lampung primary clinics: Journal of Technology and Information Systems (JTSI), Vol. 2, No. 2, June 2021, 3.
[12] Abdul Muid, et al., Opportunities and challenges of Islamic boarding school education in the era of digitalization (case study at Al-Islah Bungah Gresik Islamic boarding school), Modeling: Journal of PGMI study program, Vol. 11, No. 1 March 2024. 519.
[13] Chesia Chaerany, Literature review on the effect of learning administration completeness on teacher performance in madrasas, Journal of Education and Covenment Wiyata, Vol. 2, No. 4, 2024, 390.

of the learning schedule, the curriculum used, the workforce consisting of teachers and students, and the media or tools (facilities and infrastructure). Administration in the learning process itself consists of stages of compiling administrative programs in the form of annual programs (PROTA) and developing them into semester programs (PROMES), syllabi, and standards or criteria for minimum completion and assessment criteria. With the current research criteria, many still use hard copies or paper-based report cards. Based on observations, The Wali Songo Islamic boarding school has made progress in supporting academics in the form of applications used as digital technology tools and improvements in information and communication to enhance educational services in the form of digital report cards that can be accessed online.

According to Number 14 of 2019 concerning the implementation of independent learning, it consists of (learning activities, objectives, and final assessment). Then, in the implementation of learning activities using basic competencies as a reference in the creation of administration,[14] the scope of administration itself consists of curriculum administration, educational personnel administration, student administration, principles and facilities and infrastructure, financial management, office management or file management, as well as units used as educational support tools, administration in the form of special services, school environment security, and administration between relations between the community and the school, the results of working meetings, conducting socialization to support the quality of education. [15]As for the learning system in Islamic boarding schools, according to M Ridlwan Nasir, there are five types of Islamic boarding schools, including: Salafi (classical) Islamic boarding schools with a sorogan and classical (madrasah) education system, semi-developed Islamic boarding schools: have a combined system of sorogan and classical (madrasah) systems, with private schools taking 90% of the religious curriculum and 10% of the general curriculum. Semi-developed Islamic boarding schools have a varied system of 70% religion and 30% general education, with the addition of the diniyah system. modern Islamic boarding schools have a combined education system between public schools plus diniyah (kitab kuning) and higher education equipped with takhasus (using Arabic and English), and

[14] Irman Sumantri, Development of Islamic Education Learning Administration, Education: Journal of Community Service, Vol. 2, No. 2, August 2021.
[15] Muhammad Nur Kurniawan, Education Administrator in Improving the Quality of Educational Institution Management, Tarbiyatul Ilmu: Journal of Educational Studies, Vol. 2, No. 12 October 2025, 580.

finally, modern Islamic boarding schools with a complete system that has skills in the fields of banking, fisheries, engineering, and agriculture while still maintaining Islamic boarding school values and keeping up with the times.

Looking at the differences in the education and learning systems in each Islamic boarding school, broadly speaking, Islamic boarding schools are divided into Salafi and modern boarding schools. [16]The existence of modern Islamic boarding schools is characteristic of the Darussalam Modern Islamic Boarding School, Gontor, Ponorogo, which was founded in 1926 by Imam Zarkasi, combining traditional systems with modern practices. The Wali Songo Ngabar Islamic boarding school is a modern boarding school that has an education system that applies a learning system with a combination of modern curricula. In the learning process, it still takes general scientific fields such as Mathematics, Science, Social Studies, Physics, Indonesian Language, Civics, English, and other general materials, in Arabic materials such as the subjects of insya', shorof, khot, (Arabic calligraphy), mutolaah, mahfudzot, Islamic history, and nahwu. Finally, the Dirasah Islamiyah learning system includes Tajwid and the Quran, tauhid, tafsif, mustolah hadith, fiqh (kitab bulgumarom), faraid, and Islamic history. English language learning is also provided, covering grammar, dictation, vocabulary, reading, and comprehension. Modern boarding schools are also equipped with facilities and infrastructure such as computer labs, science and social studies labs, and health services in the form of UKS or clinics. They also have cooperatives within the dormitories. Modern Islamic boarding schools have an independent financial administration system that does not rely on external parties or The government's development of modern Islamic boarding schools has focused more on the management system within them.

Based on the findings of research on student administration and assessment at the Wali Songo Islamic boarding school, it is divided into two categories, namely formal schooling every morning with assessment results based on mid-term and end-of-semester 1 & 2 exams, and non-formal (extracurricular) assessment based on non-formal activities participated in after school in the afternoon. The assessment results are directly managed by the student care department. The office administration system or storage of student data, ranging from student data, teacher data, and formal and non-formal education

[16] Nurhadi Yasin, Dynamics of the Development of Salaf and Modern Islamic Boarding Schools, Murabby: Journal of Islamic Education, Vol. 2, No. 2, 2019, 134.

assessments, can be accessed through a digital application system managed directly by the teaching department.

Academic development and non-academic activities (extracurricular activities) of students are also a form of communication with parents that the boarding school has established through digitalization. Not only for students, but this application also provides features tailored to the needs of educators. This way, the application monitors all student activities. The development of this application is also ongoing, not only for use in the administrative system, but improvements to the management system or educational administration are also one of the things that need to be considered.

To provide support to educators in the form of academic or extracurricular assessments, these can be viewed online. One of the features of the application used to support the education and learning system at the Wali Songo Ngabar Islamic Boarding School is called SIAP. This application has the function of managing administrative data on students, teachers, alumni, learning activities, lesson schedules, academic grades, academic or extracurricular support grades, violations, permissions, student achievements, new student registrations, academic report cards, and report card printing as academic support. The application also helps parents monitor their children's activities through the portal or menu provided in the system. The application system is accessible via the web and can be easily accessed through laptops, smartphones, or computers. Subsequently, the application has evolved into the Ngabar Digital Application.

SANTRI APPLICATION (NGABAR DIGITAL APPLICATION)

The Santri Application is one of the contributions of Islamic boarding schools in transforming manual systems into digital ones. This is expected to provide easier access to administrative systems and learning outcome reporting in Islamic boarding schools. The presence of this application is proof that Islamic boarding schools have participated in providing innovation in the administrative system and reporting of learning outcomes, equipped with features that are used as the needs of the Islamic boarding school administrative system, financial management of Islamic boarding schools, and also business units that use digital access for reporting. The first application released by the Wali Songo Ngabar Islamic Boarding School is Smartpayment, which was launched in 2019 and developed and designed directly by PT Inovasi Cipta Teknologi (ICT). This

application is used to digitize financial administration and has features such as viewing bills, paying bills, viewing student allowance history, viewing bill payment history and total financial history, viewing tuition fee transaction history, and notifications about individual students or students. To make it easier for students to make cashless transactions while in the dormitory, they will be given a Virtual Account (VA) number, which functions similarly to a personal online bank account. This number will be stored on a card that can be used when shopping at the boarding school's business units.

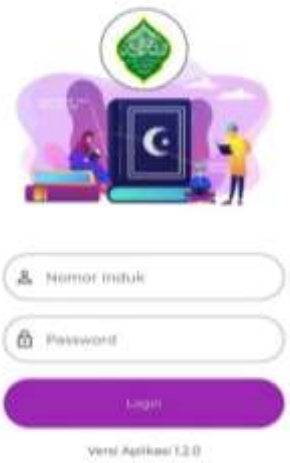
The use of this application makes it easy for guardians of Islamic boarding school students to log in without fear of losing their accounts, as can happen with website services, and to control their financial administration effectively. In line with research on "digitalization of payment systems in Indonesia," digitalization of payment systems has had a positive impact, facilitating transactions and reducing the risk of losing cash. Furthermore, 70% of respondents said that digital payment systems are very helpful in reaching more customers, especially the younger generation.[17] Then, in another study conducted at the Darussalam Islamic boarding school in Blokagung, Bayuwangi, it facilitated the monitoring of the financial activities of all students and made it easier to accumulate data and ensure transparency in the boarding school's financial system.[18]

This application was then improved to become the Ngabar Digital Application in 2024, with improvements made to the access system to make it easier for parents to understand, with clearer features. This application is expected to be a solution for parents to see the condition of their sons and daughters in real time. By monitoring the finances of the students every day, this also serves as a form of communication with the guardians of the students, which is built by the Wali Songo Ngabar Islamic boarding school through the era of digitalization. Not only for the students, but this application also provides features tailored to the needs of educators.

The development of this application also continues to be carried out in the administrative system while still paying attention to improvements in the management system or educational administration. This application also helps guardians of students to view the activities carried out by students through the portal or menu provided in the

[17] Rimanda Delvina et al., Digitalization of Payment Systems in Indonesia: Latest Applied Economics Journal, Vol. 6, No. 1 January 2025. 43.
[18] Nur Mu'Alina et al., Transformation of Cashless Payment Systems as an Effort to Digitize Financing Management at the Darussalam Islamic Boarding School in Blokagung, Banyuwangi: Proceedings ICEMI, Vol. 2, No. 1, 2024.

system. This application is available through Google Playstore and the web and can be easily accessed via laptop, mobile phone, or computer. This is intended to provide convenience to guardians of students without losing the main page of the application and to provide deeper access to view the financial expenditures of students.



gambar 1 tampilan awal aplikasi

gambar 2 fitur-fitur aplikasi

During the research, the researchers also tried the application. The results of the observations showed that this application is different from other applications because it provides easy access to information regarding administration and reporting of learning outcomes that are tailored to the needs of administrative staff, educators, and especially for the guardians of students.[19]

From the results of interviews with the administration, it was stated that "This application is intended for guardians of students to make it easier to monitor students' finances at any time and independently, so that they can cut bills independently. However, the disadvantage of this application is that if the internet network system is disconnected or the center is also disconnected, it will not be possible to access the Ngabar Digital Application." [20]

This application also has an easy login system from other applications that are

[19] Hasil Observasi, 29/10/2025.
[20] Interview Results, Ustadzah Annida Azka Putri Salsabila, female administration section of the Wali Songo Ngabar Islamic Boarding School, October 30, 2025.

already available in the Android system without worrying about leaving the application page. It is also easier to monitor students' finances and minimize money loss for students. Each student's data in this application is also equipped with security in the form of different access codes for each account. However, this application also has its own challenges and shortcomings in terms of usage, as it still requires an internet connection to access the system. With its shortcomings and advantages, this proves that Islamic boarding schools are able to face the challenges of the times and actively participate in sustainable development, also known as the Sustainable Development Goals (SDGs). [21]This application is expected to be a solution to create a more advanced learning and education process in the pesantren environment, because the creation of good administration and reporting will create a better image for pesantren among the community.

IMPACT OF USING THE SANTRI APPLICATION (NGABAR DIGITAL APPLICATION)

The Ngabar Digital application has had a positive impact on financial administration because its billing feature and detailed financial expenditure reports allow parents to view their children's spending in real time and easily deduct money from their bills without having to visit the boarding school. This application has had a positive impact because it allows parents to stay in touch with their children despite the distance. The application can also be accessed through Google Playstore, which can be downloaded via mobile phones, providing convenience for guardians who cannot access it through the web. Not only does the financial system of the application have the same impact on the education system, but it also has a positive impact on teachers and guardians of students. The SIAP application features make it easy to register new students, view lesson schedules and classes, and view report cards online, minimizing data loss and data leaks for students.

The use of this application also proves that Islamic boarding schools are also following the digitalization trend that is currently taking place. This was also expressed by Fatimah and Suib, who said that the implementation of digital payments provides

[21] Aminatul Fattachil Izza, Utilization of Pesantren Digitalization Through Administration Systems and Education Reporting Based on the Santri APP Application, Tarlim, Journal of Islamic Education, Vol. 8, No. 1 2025, 95.

considerable benefits for those involved, such as the guardians of the students. This application can also replace the students' savings books, and it is easier for guardians to send money directly to the students. The use of this application is also considered to make it easier for guardians to view outstanding payments and deduct bills directly. Students can also access the application through the computer screens provided in the boarding school by the administration department.. [22] This application also makes it easier for the administration to check payment management and send notifications directly to student accounts without fear of errors. This also helps guardians remember to pay tuition and extracurricular fees. The creation of this application also saves time and energy and makes financial reporting stronger and more efficient.

CONCLUSION

The results of this study show that the Wali Songo Ngabar Islamic Boarding School has successfully overcome current educational challenges by implementing changes in administrative management of learning and finances from a manual system to a digital one. This application has also had a positive impact in supporting the education and learning system at the Wali Songo Ngabar Islamic Boarding School. Not only that, the presence of a digital financial administration application that can be accessed via Android makes it easier for parents to monitor their children's financial expenditures and make payments independently. From the two services, namely the SIAP Application, which contains education and learning services, and the Ngabar Digital Application, which is a form of administrative service, it is hoped that this application will continue to develop systems that are not yet available, such as a student and teacher attendance system that can be input in real time via finger pin, as well as combining the Ngabar Digital Library and the SIAP application as sources to support the improvement of the education and learning system at the Wali Songo Ngabar Islamic Boarding School.

[22] Priysanta, Digital-based education financing management at Islamic boarding schools in Klaten, Education Management, Vol. 19, No. 1, 2024. 115.

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