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Analysis Of The Needs Of Academic Information Systems At Pondok Modern Darussalam Gontor

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ABSTRACT:

This research departs from the main problem in many Islamic Boarding Schools, where the management of academic data, such as student data, grades, and administration, is still carried out manually. In today's digital era, the use of Management Information Systems (SIM) is very important to improve the efficiency and effectiveness of data management. Therefore, the main purpose of this study is to analyze the need for the implementation of the Academic Information System (SIA) at Pondok Modern Darussalam Gontor and evaluate its impact on the management of academic and non-academic data. The method used is a qualitative approach with case studies. Data was collected through in-depth interviews with teachers, administrative staff, and parents of students, as well as direct observation and document analysis. The results of the study show that the use of driver's license has had a significant positive impact. The use of driver's licenses can improve data accuracy, speed up the administrative process, and facilitate access to information for all interested parties. Overall, this study concludes that SIM makes an important contribution to data management in Islamic Boarding Schools. Despite the challenges in implementation, such as resistance to technology and the need for training, strong support from school leaders proved to be a key factor in the successful use of driver's licenses.
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INTRODUCTION

This research departs from the main problems faced by Islamic educational institutions, such as Pondok Modern Darussalam Gontor, in managing increasingly complex academic and administrative data. Traditionally, many processes in Islamic boarding schools are still carried out manually, which has the potential to lead to inefficiencies and a lack of transparency. However, in today's digital era, the need to adopt information technology is becoming increasingly urgent to maintain the quality and effectiveness of data management.

In a broader context, Islamic education has an important role in the formation of the character of the younger generation. According to UNESCO (2014), character-based education is essential to form positive attitudes and behaviors among students. In Indonesia, efforts to integrate character

values in the educational curriculum are getting more attention, especially in Islamic educational institutions. Therefore, Pondok Modern Darussalam Gontor, as an educational institution committed to providing quality education, needs to consider the use of the Management Information System (SIM) to simplify the administrative process and increase transparency.

However, although many educational institutions have tried to implement technology-based systems, there are still challenges in effective education management. Problems that arise include a lack of training for staff and teachers, as well as a lack of resources to support the implementation of the system.

Therefore, this study aims to analyze the need for an Academic Information System (SIA) at Pondok Modern Darussalam Gontor. It is hoped that this research can contribute to the development of information systems in Islamic boarding schools and become a reference for policy makers in formulating strategies that support education in the digital era.

In conducting a literature study, researchers systematically collect data and information from a variety of written sources such as books, scientific journals, theses, dissertations, reports, and credible online publications. This method is particularly suitable when the objective is to explore theoretical frameworks, identify research gaps, or construct conceptual models without the need for direct field observation. The selection of this method is based on its effectiveness in providing a broad overview of previous studies that relate to the variables or issues under investigation.

According to Zed (2008), library research emphasizes the process of identifying, locating, evaluating, and synthesizing information that has been produced by previous researchers. It enables scholars to build a strong theoretical foundation for their studies, ensuring that new research does not merely replicate existing knowledge but contributes novel insights to the field. In addition, literature-based research is considered efficient because it relies on secondary data that has already been validated through previous academic work.

Furthermore, the use of a qualitative literature approach allows researchers to analyze complex social phenomena from multiple dimensions, particularly when the focus is on understanding values, perceptions, and behaviors rather than measuring them quantitatively. This approach facilitates a deeper comprehension of the underlying principles and contextual relationships embedded within the topic. Creswell (2014) emphasizes that qualitative research seeks to interpret meanings constructed by individuals or groups, thereby providing rich and detailed descriptions that quantitative methods may overlook.

In this context, the researcher's role is not only to summarize existing findings but also to critically evaluate the credibility, relevance, and consistency of various sources. Through this process, researchers can identify theoretical inconsistencies, highlight emerging trends, and propose new

perspectives for future studies. The synthesis of literature also serves as a foundation for developing hypotheses, constructing conceptual frameworks, and formulating arguments that are logically supported by empirical evidence.

Thus, the qualitative literature study serves as both an analytical and reflective process, allowing researchers to explore knowledge holistically and comprehensively. It bridges the gap between theory and practice, strengthens academic discourse, and ensures that subsequent empirical investigations are grounded in a robust understanding of existing scholarly contributions

RESEARCH METHODOLOGY

The methodology of this research will outline in detail the steps that will be taken to achieve the research objectives. This section is divided into five sub-sections as follows:

1. Types of Research

   This study uses a qualitative approach with a case study method. This method was chosen because it allows researchers to gain a deep and holistic understanding of the phenomenon being studied in the real context, namely at Pondok Modern Darussalam Gontor. The case study is suitable to answer the question of "why" and "how" a phenomenon occurs, which is relevant to this research question regarding the analysis of needs and factors influencing the implementation of Academic Information Systems (SIA).[1]

2. Population and Sample

   a. Population: The population of this study is all individuals involved in the academic and administrative processes at Pondok Modern Darussalam Gontor, including the leaders of the boarding school, teachers, administrative staff, and students.

   b. Sample: Sampling will be done by *purposive sampling*. The researcher will select key informants who have knowledge and experience relevant to the research topic. These key informants can include the head of the boarding school, the head of the administrative section, teachers who are active in data management, and some students who have first-hand experience with the academic process[2]. The number of samples will be adjusted according to the need to achieve data saturation.

2. Research Instruments

   The main instrument that will be used in this study is the researcher himself. Researchers will use several tools to collect data:

[1]Dameria Sinaga, *Metode Penelitian (Penelitian Studi Kasus)*, UKI Press, 2025, 21.
[2]Agus Ria Kumara, *Buku Ajar Penelitian Kualitatif*, Universitas Ahmad Dahlan Press, 2024, 12.

a. Semi-Structured Interviews: Interviews will be conducted in depth with key informants to explore their perceptions, experiences, and needs regarding academic information systems.
b. Direct Observation: Observation will be carried out to directly observe the work process and data flow in the cottage. This will help researchers understand the real conditions in the field[3].
c. Document Analysis: The researcher will analyze related documents, such as administrative workflows, student data reports, and other relevant documents to obtain additional information.

From the several types of instruments above, the researcher finally took a semi-structured interview research instrument.

3. Research Procedure

The research procedure will be carried out through several stages:

a. Preliminary Study: Conduct a literature study to understand theories and previous research.
b. Licensing: Taking care of licensing to conduct research at Pondok Modern Darussalam Gontor.
c. Data Collection: Conduct interviews, observations, and document analysis at the research site.
d. Data Analysis: Analyze the data that has been collected.
e. Report Preparation: Compile the results of the analysis into a research report.

4. Data Analysis Techniques

The collected qualitative data will be analyzed using thematic analysis techniques.[4] The steps include:

a. Data Transcription: Converting interview data and field notes into written form.
b. Data Coding: Codes or labels data to identify emerging themes.
c. Theme Grouping: Grouping similar codes to form the main themes.
d. Data Interpretation: Interpret the themes that have been found to draw conclusions relevant to the research objectives.

[3]Eko Murdiyanto, *Penelitian Kualitatif (Teori dan Aplikasi disertai Contoh Proposal)*, UPN Veteran Yogyakarta Press, 2020, hlm. 102.

[4]Ujang Suparman, *Bagaimana Menganalisis Data Kualitatif?*, Pusaka Media, 2020, 93.

RESULT AND DISCUSSIONS

The research on the *Analysis of Academic Information System Needs at Pondok Modern Darussalam Gontor* was carried out through field observations, interviews with pesantren management, and documentation studies related to the academic administration system that has been implemented. The findings reveal that Pondok Modern Darussalam Gontor, as one of the largest Islamic boarding schools in Indonesia with tens of thousands of students, urgently requires a comprehensive, integrated, and efficient academic information system that aligns with the institution's unique educational philosophy and organizational culture.

1. Academic Administration Process

At present, the academic administration process is still conducted in a semi-manual manner. Student data management relies on ledgers, spreadsheet files, and several internal applications that operate independently for limited purposes. Although partial digitalization has been introduced, the absence of system integration results in fragmented data and inefficient workflows. Consequently, the dissemination of academic information—such as lesson schedules, attendance records, and assessment results—frequently experiences delays. This condition hampers the effectiveness of academic services for both students and parents and constrains the management's ability to make accurate, data-driven decisions in real time.

The research findings also indicate that the lack of integration between departments and divisions causes redundant data entry and inconsistencies in academic reporting. The use of conventional administrative systems no longer meets the needs of modern pesantren management, particularly in an institution as large and complex as Gontor. Therefore, the transition toward a fully integrated digital academic system is considered a strategic necessity to improve operational efficiency and institutional accountability. [5]

2. Stakeholder Needs

The analysis of stakeholder needs emphasizes that the academic information system must be designed to serve multiple users with different objectives and levels of access:

a. **Lodge Leaders and Administrators:** Require fast, valid, and comprehensive academic reports to support managerial decisions, resource planning, and performance evaluation.

b. **Teachers/Kiai:** Need a platform that simplifies class scheduling, attendance tracking, and grade management, while maintaining alignment with the pesantren's educational principles.

c. **Santri (Students):** Expect transparency in accessing academic information, including class timetables, grades, and attendance records at any time and from any location.

[5]Jogiyanto Hartono, *Analisis dan Desain Sistem Informasi*, (Yogyakarta: Andi Offset, 2017), 35.

d. **Parents/Guardians:** Desire real-time access to their children's academic performance and attendance data, reducing the dependency on periodic printed reports or in-person meetings. .[6]

This multi-stakeholder requirement shows that the system must accommodate diverse roles and privileges while ensuring data integrity and privacy. It must also reflect the pesantren's philosophy of discipline, transparency, and continuous improvement in education.

3. System Functional Needs Analysis

Based on interviews and field observations, several functional modules were identified as core components of the proposed academic information system:

a. Online New Student Admission Module: To streamline the registration and selection process efficiently while reducing paperwork.

b. Curriculum and Schedule Management Module: To allow dynamic management of subjects, teacher allocations, and class timetables.

c. Digital Attendance Module: To record attendance automatically for both students and teachers, reducing human error.

d. Assessment and Report Card Module: To manage input, calculation, and publication of student grades digitally and transparently.

e. Interactive Communication Module: To facilitate two-way communication between the pesantren and parents regarding academic and behavioral updates.

f. Comprehensive Academic Report Module: To generate accurate and real-time reports that assist leaders in decision-making and performance monitoring.

Each module must be interconnected under a unified database system to ensure that information flows seamlessly across departments. This integration supports accurate reporting and effective supervision at every level of management.

4. Non-Functional Needs Analysis

Beyond the main functional features, non-functional requirements play an essential role in ensuring system reliability and sustainability. These include:

a. Data Security: Protection of student and teacher information from unauthorized access, leaks, or manipulation through encryption and user authentication protocols.

b. Accessibility: The system should be accessible through both desktop and mobile devices, functioning on local networks (intranet) and via the internet to support flexibility.

c. User-Friendliness: The interface design must be intuitive and simple, enabling easy use by all stakeholders, including senior teachers who may have limited digital literacy.

[6]Sutabri, Tata, *Sistem Informasi Manajemen*, (Yogyakarta: Andi, 2012), 58.

d. Scalability: The system architecture should be capable of handling an increasing number of users and data without performance degradation. [7]

5. Implications and Recommendations

The results of this needs analysis highlight the urgency of developing a customized academic information system that reflects the vision and operational characteristics of Pondok Modern Darussalam Gontor. The proposed system should not merely digitize manual processes but also enhance institutional effectiveness through automation, transparency, and centralized data management.

In the long term, the implementation of an integrated academic information system will foster better coordination among academic departments, improve service quality for students and parents, and strengthen the pesantren's governance. Moreover, the system can serve as a model for other Islamic educational institutions in Indonesia that aim to modernize their administrative processes while maintaining traditional Islamic educational values.

The results of this study confirm that the academic information system at Pondok Modern Darussalam Gontor still faces major challenges in terms of speed, accuracy, and data integration. This is understandable considering the very large number of students, the variety of educational units under the auspices of the boarding school, and the complexity of the curriculum that combines religious science, language, and general science. This condition is in line with the findings of other research that states that pesantren-based educational institutions often still use a manual administration system so that they are vulnerable to causing delays in academic services and recording errors.[8]

From the perspective of Islamic education management, the application of academic information systems is not solely for the sake of administrative efficiency, but also to maintain the principles of trust, transparency, and fairness in education management. Islam emphasizes the importance of accountability in every mandate carried out, as Allah SWT says in QS. Ash-Shu'ara [26]: 183:

وَلَا تَبْخَسُوا النَّاسَ اَشْيَآءَهُمْ وَلَا تَعْثَوْا فِى الْاَرْضِ مُفْسِدِيْنَ ۚ

Meaning: "*And do not diminish the rights of human beings and do not spread the earth by causing damage."*

[7]Abdul Kadir, *Pengenalan Sistem Informasi*, (Yogyakarta: Andi, 2014), 102.

[8]Raharjo, Budi, *Manajemen Sistem Informasi Pendidikan*, (Jakarta: Kencana, 2016), 87.

This paragraph can be interpreted as a warning so that educational institutions are not negligent in providing academic information rights to students and guardians, as well as managing data honestly and responsibly.[9]

The implementation of a needs-based academic information system in Gontor will have a number of positive impacts:

1. Administrative Efficiency: the process of entering academic data, distributing schedules, and printing report cards can be done quickly and integrated.
2. Information Transparency: students and guardians can access data on grades, attendance, and academic progress in real-time, thereby reducing the potential for misunderstandings.
3. Data-Driven Decision-Making: cottage leaders can rely on system reports to determine academic and managerial policies.
4. Strengthening the Image of Modern Islamic Boarding Schools: the use of information technology shows that Islamic boarding schools are able to integrate traditional values with modern management, without eliminating the distinctive characteristics of Gontor's education.

Thus, this needs analysis becomes an important basis in designing an academic information system that is not only technically efficient, but also in line with the values of Islamic education. The results of this study recommend that the development of the system be carried out in stages by involving all stakeholders, as well as considering the cultural aspects of the pesantren organization.[10]

CONCLUSION

Based on an in-depth needs analysis, this study concludes that the implementation of the Academic Information System (SIA) at Pondok Modern Darussalam Gontor is a must to improve the efficiency and transparency of data management. The findings suggest that today's data management systems, which still rely heavily on manual processes, face major challenges in terms of accuracy and speed.

Despite the resistance of some staff regarding the adaptation of new technologies, this study confirms that the key factor for successful implementation lies not only in the technical aspect, but also in the managerial and social aspects. The strong support and clear vision of the lodge leadership

[9]Departemen Agama RI, *Al-Qur'an dan Terjemahannya*, (Jakarta: Departemen Agama RI, 2005), QS. Asy-Syu'ara [26]: 183.

[10]Muhaimin, *Manajemen Pendidikan Islam: Teori dan Praktik*, (Jakarta: Kencana, 2012), 144.

proved to be the main catalyst that was able to overcome these obstacles. Thus, the introduction of SIA has great potential to change the way data is managed in Islamic boarding schools, help better decision-making, and facilitate more effective communication between all parties.

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