Strengthening Institutional Governance Through Information Systems: Managing Digital Media in Islamic Boarding Schools

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Abstract

Information system implementation has become an essential component of digital transformation in Islamic boarding school education, particularly in strengthening institutional governance and communication. This study aims to analyze how information systems and digital media management contribute to governance practices within an Islamic boarding school environment. Employing a qualitative descriptive approach, the research gathers data through direct observation, semi-structured interviews with administrators and media teams, and analysis of institutional documents and digital platforms. The findings indicate that the media division plays a strategic role in managing institutional communication, disseminating information, and documenting activities through platforms such as Instagram, Facebook, YouTube, and WhatsApp Groups, supported by the use of EMIS for educational administration. Nevertheless, implementation is constrained by unstable internet connectivity, electricity interruptions, and limited human resources in content production, including graphic design and video editing.To address these issues, the institution conducts quarterly evaluations, applies structured verification procedures for information dissemination, and develops long-term strategies such as establishing media training classes and designing integrated systems for attendance, payment, and permission processes. The implications of this study highlight the need for capacity-building in digital literacy, technological infrastructure improvement, and the formulation of standardized information governance policies to enhance institutional effectiveness. The novelty of this research lies in its comprehensive, process-oriented model that integrates administrative systems, digital media workflows, and verification-based governance—an approach that fills a gap in previous studies that focused only on system development or communication outcomes. This study concludes that well-managed information systems significantly improve transparency, accountability, and institutional governance, thereby supporting the sustainable digital transformation of Islamic boarding schools.
Keywords: Information Systems, Digital Transformation, Islamic Boarding School, Digital Media

INTRODUCTION

The rapid advancement of information technology in the digital era has significantly influenced various sectors, including Islamic boarding school education. As institutions that play a strategic role in shaping students' character and intellectual development, Islamic boarding schools are increasingly required to adopt technological innovations to maintain relevance amid ongoing modernization. Digitalization is no longer limited to technical needs; it has become an essential component for improving educational services, institutional governance, and communication effectiveness between schools and their stakeholders. Responding to these demands, several Islamic boarding schools have begun implementing structured and sustainable information systems as part of their digital transformation efforts.

Although digital initiatives in Islamic educational institutions have been widely discussed, existing studies reveal notable research gaps. Firdaus et al. (2023) focused on developing web-based management information systems but did not examine long-term implementation or user engagement. Aini and Sumiyati (2025) discussed digitalization planning conceptually without evaluating its effectiveness in practice. Zahro et al. (2025) highlighted challenges faced by boarding schools in adopting technology but did not offer a comprehensive solution model. Other studies, such as Sari et al. (2025), emphasized digital communication for Islamic value dissemination rather than strengthening internal information systems, while Megawaty et al. (2021) examined administrative information systems with a narrow focus on student data management. These studies indicate the absence of an integrated and process-oriented perspective on how Islamic boarding schools manage digital transformation holistically.

In this context, the management of institutional information and digital media within Islamic boarding schools presents an important area of investigation. Media divisions commonly function as central units responsible for managing official communication, documenting activities, and safeguarding institutional credibility through verified and well-regulated information dissemination. Digital platforms such as Instagram, Facebook, YouTube, and WhatsApp Groups increasingly serve as channels for expanding public outreach, improving communication flows, and promoting transparency for students, parents, alumni, and the

broader community. Additionally, administrative applications such as EMIS are gradually being adopted to support data management and educational administration.

Despite these developments, several challenges hinder the effective implementation of information systems in Islamic boarding schools. Limited internet access, unstable electricity supply, and insufficient human resources in graphic design, video editing, and content management remain critical constraints. These obstacles result in additional workloads for media teams, which often rely on self-taught students and external support from alumni. Furthermore, the absence of standardized information governance procedures can affect the accuracy, consistency, and accountability of published information.

To address these issues, some institutions have begun to conduct periodic evaluations, strengthen verification procedures, and develop long-term strategies such as media training programs and integrated digital systems for attendance, payment, and permission processing. These initiatives reflect a growing institutional commitment to building a professional, accountable, and technologically adaptive information management ecosystem that aligns with public transparency requirements, including those outlined in the Public Information Disclosure Act.

Given these conditions, a deeper investigation is needed to understand how Islamic boarding schools manage information systems, navigate implementation challenges, and construct sustainable digital transformation strategies without compromising their traditional values. Therefore, this study aims to analyze the implementation of information systems and digital media management within an Islamic boarding school environment, identify key challenges and institutional responses, and propose a comprehensive model that strengthens governance, communication, and technological adaptation. This study contributes novel insights by integrating administrative information systems, digital media workflows, and verification-based governance into a single analytical framework, thereby filling existing gaps in the literature and offering a holistic perspective on digital transformation in Islamic boarding schools.

METHOD

This study employed a qualitative approach using an intensive case study design to examine the implementation of information systems within an Islamic boarding school setting,

particularly in relation to digital media management and the use of administrative applications such as EMIS. The qualitative method was chosen for its ability to explore complex phenomena within Islamic educational institutions, as noted by Creswell (2014), including technical issues such as unstable internet connectivity, limited human resources, and the evaluation of existing standard operating procedures (W, 2014). The research participants consisted of school administrators, members of the media division which includes students and alumni students, and parents, while the research focus covered information systems involving various digital platforms such as Instagram, Facebook, YouTube, WhatsApp, and the EMIS application along with its implementation challenges.

Data were collected through semi-structured interviews, participant observations of media division activities, and a review of institutional documents. Interviews were conducted via WhatsApp after contacting informants to schedule sessions, explain the purpose of the study, and obtain ethical consent. The interview guide contained open-ended questions related to system implementation, technological constraints, and verification procedures, delivered through text messages or voice notes (Puspita, 2021).

Data validity was ensured through triangulation of interview findings, observations of the school's digital platforms, and analysis of documents such as SOPs and evaluation reports. Furthermore, the study applied Lincoln and Guba's (1985) trustworthiness criteria, including credibility through sufficient virtual engagement and purposive sampling to capture relevant perspectives. The reliability of the findings was strengthened through audit trails and digital record-keeping, which helped minimize potential bias associated with online qualitative interviews, in line with the recommendations of Stahl and King (2020).

RESULT

The information system within the Islamic boarding school

The information system within the Islamic boarding school is supported by a media division that plays a crucial role in facilitating the dissemination of information and documenting institutional activities. Its primary responsibilities include publishing all activities of the boarding school, ranging from daily routines to major events. In addition, this division manages documentation in the form of written reports (blogs), photographs, and videos as part

of the school's official archives. Serving as a bridge between the institution and the multimedia sphere, the media division ensures that every piece of information is delivered accurately, systematically, and in accordance with the communication norms upheld by the boarding school.
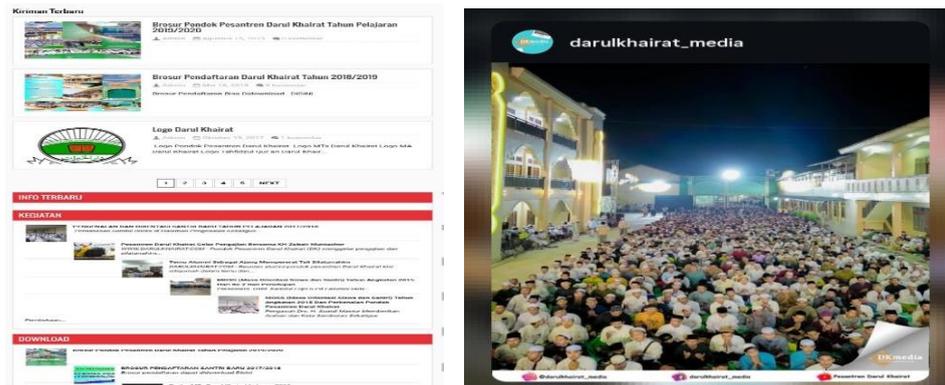

Figure 1. Information System of the Islamic Boarding School

In carrying out its functions, the media division manages a variety of digital platforms that serve as tools for communication and publication. These platforms include Instagram, Facebook, YouTube, and WhatsApp Groups, which are utilized to convey information to students, parents, alumni, and the wider community.
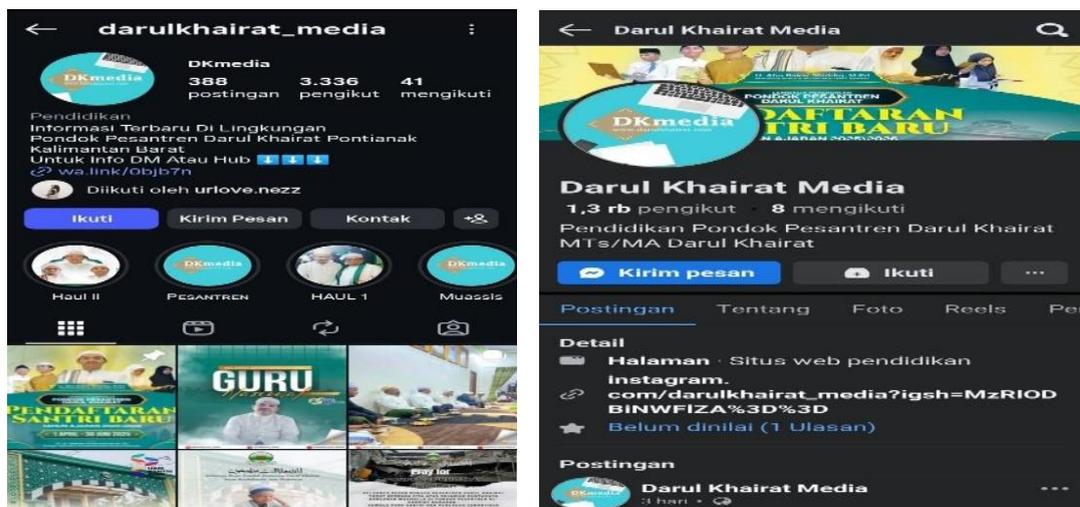

Figure 2. Digital Platforms of the Islamic Boarding School

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The use of these social media platforms is intended to expand access to information so that it can reach various segments of the community and provide up-to-date updates on student activities. In addition, the media division collaborates with school administrators to ensure that every piece of information disseminated has undergone a verification process and aligns with institutional policies.
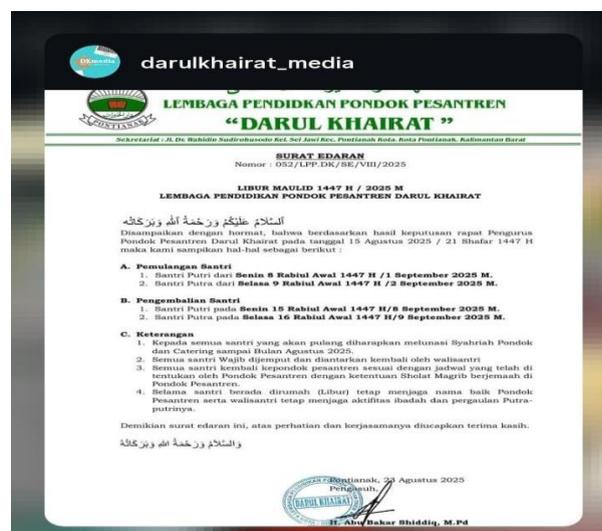

Figure 3. Information Dissemination Through Digital Platforms

Technology Implementation, Challenges, and the Development of Information Systems

The Islamic boarding school has adopted technological tools through the use of the EMIS application, which is updated regularly every semester to manage student data and educational administration. Nevertheless, the implementation of the information system has not reached optimal effectiveness, as the institution continues to face several obstacles. These include unstable internet connectivity, disruptions in the electricity supply that hinder information distribution, and a shortage of human resources skilled in graphic design, video editing, and content management. These limitations place a heavier burden on the media team, which has largely relied on self-taught students and the assistance of alumni with relevant expertise.

To enhance effectiveness, the school periodically disseminates important information with approval from the leadership and administrators. Activity publications and feedback

collection from parents and the community serve as the primary methods for evaluating the distribution of information. The media team uses this feedback to improve the clarity, accuracy, and timeliness of published content. Furthermore, the school conducts an evaluation meeting every three months, during which all issues including those related to media operations are discussed and analyzed to ensure that the information distribution process aligns with institutional goals.

Table 1. Challenges and Development Strategies in the Information System

Aspect	Current Challenges	Development Strategies
Infrastructure	Unstable internet connection; frequent electricity disruptions	Improve bandwidth capacity; install backup power sources
Human Resources	Limited skills in graphic design, video editing, and content management	Media training classes; professional development programs
Digital Platforms	Inconsistent information flow and verification processes	Standardized publication workflow; stronger approval mechanisms
Administration (EMIS)	System updates not fully optimized; reliance on manual support	Continuous training on EMIS; integration with other digital administrative tools
Stakeholder Communication	Parents and community not fully engaged with digital systems	Feedback-based evaluation; broader outreach through digital platforms
Institutional Integration	Fragmented systems for attendance, payments, and permissions	Develop an integrated mobile-access system for seamless administrative processes

Looking ahead, the school plans to advance its information system by establishing media training classes aimed at equipping students with skills in design, journalism, video editing, and digital content management. Additionally, the institution has initiated collaboration with external parties to develop a more integrated information system. This includes attendance tracking, monthly payment management, and permission requests, all accessible via mobile devices for both administrators and parents. To support these plans, the school requires more experienced human resources, improved media equipment, and specialized training for information management staff. These measures must be refined through deeper dialogue with institutional leaders to ensure that the information system becomes increasingly modern, effective, and sustainable.

DISCUSS
Digital Media Governance and Information System Operations in Islamic Boarding School Environments

The management of information within the Islamic boarding school is centered on the media division, which functions as the primary unit responsible for institutional communication and documentation. In line with the understanding that information systems provide various organizational data, ranging from individual profiles to institutional performance records (Kasmiati, 2018), the media team documents and publishes all school activities from daily routines to large-scale events involving prominent religious figures. All collected materials, including photographs, videos, and written reports, are carefully processed prior to publication and must receive approval from institutional administrators to ensure the accuracy of information and its compliance with internal communication policies. This practice reflects the broader definition of information systems as an integrated combination of hardware, software, and human resources that work together to process and disseminate organizational data (Setiawan & Sulaksono, 2019). Consequently, the media division manages official digital communication platforms such as Instagram, Facebook, YouTube, and WhatsApp Groups to distribute information to students, parents, alumni, and the wider public. When necessary, they also issue formal written notices for matters requiring official documentation.

The role of management information systems (MIS) in this context becomes essential, since MIS is designed to organize and process data in ways that support organizational activities (Hariyanto, 2016). In managing digital media, MIS assists in optimizing interactions through features such as content scheduling, user engagement tracking, and performance analytics. A well-designed MIS should balance costs and benefits by reducing operational burdens and enhancing productivity, while simultaneously providing valuable information for decision-making (Rusdiana, 2014). Within the boarding school, several core MIS components are used, beginning with hardware such as smartphones and tablets for digital content management, and computers that support student examinations tools that have been in use since before 2010 and continue to be upgraded for greater efficiency. Human resources constitute another crucial component, as internal and external media teams such as

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Darulkhairat Media and the alumni-based Masdar Media are responsible for content development and publication, with internal communication facilitated through WhatsApp Groups.

Telecommunication infrastructure further supports the system through Wi-Fi networks that enable real-time data exchange across devices, allowing flexible internet access throughout laboratories, administrative offices, dormitories, and teachers' areas. An additional major responsibility of the media division is archiving institutional data. To prevent data loss or damage, files are stored in multiple locations, including cloud-based platforms such as Google Drive and Terabox, which ensure secure long-term accessibility. All information dissemination processes are guided by established standard operating procedures (SOPs) that require verification and administrative approval before publication, ensuring accuracy and preventing misinformation.

However, several challenges persist, including unstable internet connectivity, limited digital expertise among media staff, and difficulties experienced by some parents in accessing digital information factors that create obstacles in maintaining smooth communication flows. To address these concerns, the institution conducts quarterly evaluations during which the media team discusses operational challenges, receives feedback, and identifies necessary improvements. These regular assessments strengthen the quality and reliability of communication practices, ensuring that information management remains effective, trustworthy, and aligned with the institution's broader goals and community expectations.

Governance of Digital Media and Information Dissemination in Islamic Boarding Schools

The media division of the Islamic boarding school serves as the central unit responsible for managing information and bridging institutional activities with the wider community (Laudon & Laudon, 2016). Through digital platforms such as Instagram, Facebook, YouTube, and WhatsApp Groups, student activities are regularly disseminated to parents, alumni, and the public, ensuring that information remains accurate and up to date. The team also produces documentation in the form of photographs, videos, and written reports as part of the school's official archival system (Davenport, 1998). All publication processes

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follow internal standard operating procedures that require careful verification and approval from the school's leadership to maintain authenticity and reliability in line with public transparency principles (Pressman & Wildavsky, 1984).

On the technical side, the institution has implemented technology through the use of the EMIS application for student data management and educational administration, which is updated each semester (UNESCO, 2014). Despite this progress, the information system still faces challenges, such as unstable internet connectivity, occasional power outages, and limited human resources in graphic design and video editing. These constraints require the media team to work more intensively, as many members are self-taught and often rely on the support of digitally skilled alumni. To address these limitations, the school conducts quarterly evaluations to review operational obstacles and identify strategies for improvement. The institution also plans to establish media training classes to strengthen students' competencies in design, journalism, and digital content production (Rogers, 2003). Additionally, partnerships are being developed to build a more integrated information system, including digital attendance, payment, and permission services accessible to both administrators and parents via mobile devices. The successful implementation of these initiatives requires enhanced media facilities, skilled personnel, and specialized training to ensure that the system is modern, effective, and sustainable. Collectively, these efforts demonstrate the school's commitment to improving information services and meeting the needs of its community more effectively.

Standard Operating Procedures (SOPs) represent structured instructions used to complete tasks safely and in compliance with operational and regulatory requirements (Kenneth A. Friedman, 2016). As defined by the Quality Assurance Agency, SOPs constitute formal agreements containing rules, policies, and technical specifications intended to ensure consistent outcomes aligned with institutional objectives (Badan Penjaminan Mutu, 2019). Within the boarding school, SOPs for information dissemination include verification and authentication processes similar to those employed by the Pejabat Pengelola Informasi dan Dokumentasi (PPID). These procedures require inter-unit collaboration to ensure the accuracy and accountability of information. Additionally, the verification system adopts participatory and conditional principles, adjusting information based on the capacity of its recipients while ensuring efficiency and adherence to legal standards. This approach not only guarantees the

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public's right to accurate information but also protects the institution from risks associated with misinformation (Alpiansyah, 2021).

The tiered SOP implementation helps maintain consistency, reduce errors, and support routine assessments of information dissemination practices. In the context of Islamic boarding schools, this enhances the effectiveness of communication and reinforces the delivery of Islamic educational values by ensuring that information shared with students and parents is accurate and aligned with institutional goals. At the same time, the mechanism strengthens public trust, consistent with legal frameworks designed to prevent the spread of misleading or harmful information (Hasihola & Mediawati, 2023). The principles outlined in the Public Information Disclosure Act No. 14 of 2008 emphasize the public's right to accurate and honest information while requiring institutions to uphold transparency, except for classified or sensitive data that may compromise safety or privacy (Surami, n.d.). The boarding school's requirement for approval from administrators and the extended institutional family before disseminating information demonstrates compliance with these principles. This multi-layered verification process ensures that only validated and non-misleading information reaches the public, thereby protecting the institution's credibility and maintaining community trust.

CONCLUSION

This study demonstrates that the implementation of information systems in the Islamic boarding school has significantly improved the management of digital communication, documentation, and administrative processes. The media division plays a central role in coordinating information dissemination through platforms such as Instagram, Facebook, YouTube, and WhatsApp Groups, while the EMIS application supports the administration of student data. The research findings indicate that verification procedures, structured publication workflows, and routine evaluations help maintain accuracy, transparency, and institutional credibility. Nevertheless, challenges involving unstable internet connectivity, limited electricity reliability, and insufficient human resources in multimedia production continue to hinder optimal implementation.

The findings carry important implications for the digital transformation of Islamic boarding schools. Strengthening digital literacy among media personnel, investing in adequate technological infrastructure, and formalizing information governance procedures are critical

steps for enhancing institutional performance. The school's long-term initiatives—such as establishing media training classes, expanding digital services for attendance and payment management, and integrating administrative systems suggest a promising direction toward a more modern and sustainable information environment. These efforts not only support communication efficiency but also reinforce public trust and alignment with national principles of information transparency and accountability.

Despite its contributions, the study is constrained by several limitations. The reliance on self-reported data through interviews and online communication may introduce subjective bias, and the findings are based on a single institutional context, limiting broader generalization. Additionally, the rapid evolution of digital technologies means that system effectiveness may shift over time, requiring ongoing evaluation. Future research could expand the scope by comparing multiple Islamic boarding schools, incorporating quantitative performance metrics, or examining user experience among diverse stakeholders to develop a more comprehensive understanding of information system implementation in Islamic educational settings.

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