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Utilization of Digital Learning Media From the Perspective of Educational Management in The Era of Merdeka Belajar Curriculum at Islamic College

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ABSTRACT
Digital transformation is prompting educational institutions to refine their academic governance and learning strategies to be more adaptable, innovative, and responsive to the needs of digital-generation students. In this context, this study aims to analyze the Utilization of Digital Learning Media from the Perspective of Educational Management in the Era of Merdeka Belajar Curriculum at an Islamic College. This research employed a mixed-methods approach, combining survey techniques, field observations, and document analysis. The research subjects included students and lecturers from various study programs that have intensively implemented digital-based learning models. The results indicate a significant increase in the use of digital learning media during the 2024–2025 period. WhatsApp is the most dominant academic communication platform, used by 95% of students and lecturers for fast and flexible academic coordination. Google Classroom has been utilized by 70% of the academic community as a platform for submitting assignments, assessing student progress, and disseminating learning materials. However, challenges remain, such as limited internet access for students in rural areas and the need for lecturers to increase their capacity in using learning technology effectively. From an educational management perspective, coordination of digital media utilization has begun to be organized through the management of digital platforms at the study program level. However, implementation remains uneven across academic units. This research makes an important contribution to the development of a digital-based education management model in the Era of Merdeka Belajar, particularly in the context of Islamic higher education institutions that face unique challenges in balancing modernity and Islamic values.

Keywords: Digital Learning Media, Educational Management, Merdeka Curriculum, Islamic College, Digital Literacy.

I. Introduction

Digital transformation has become a major driver of change in higher education systems worldwide (Mohamed Hashim et al., 2022), including in Indonesia, which has experienced significant acceleration in recent years due to developments in information and communication technology (ICT). Universities are now

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required to adapt quickly, not only in the use of technological devices, but also in the management of educational management, learning design, and more flexible academic governance (Khadafie, 2023; Rohyadi & Atikah, 2024). This situation is further strengthened by the implementation of the Independent Learning Curriculum policy, which encourages a student-centered, autonomous learning process and provides ample space for creativity and innovation (Nuralmira et al., 2025; Suhari, 2025). In the context of Islamic College, the demands of digital transformation present a dual challenge: how to enhance the quality of technology-based learning while upholding the Islamic values that form the foundation of education in the era of Independent Learning. Digital technology is a key foundation for educational institutions to offer more flexible, personalized, and adaptive learning experiences. Digital learning media, including WhatsApp, Google Classroom, Zoom, Google Meet, e-books, and YouTube-based videos, play a strategic role in supporting the teaching and learning process at various universities (Khadafie, 2023; Zahraa et al., 2025). The current generation of students has grown up in a fast-paced, visual, and interactive digital environment, necessitating that universities create a learning ecosystem tailored to their unique characteristics. This involves not only providing technological facilities but also the institution's ability to develop planned, measurable, and sustainable digital learning management.

In the context of Islamic higher education, digital transformation must also consider the integration of religious values into all learning tools and practices. Digitalization should not be understood simply as technical modernization, but as an opportunity to strengthen the goals of Islamic education: to produce knowledgeable, morally upright individuals capable of facing the challenges of the times without losing their identity (Khadafie, 2025; Nasir & Sunardi, 2025). Therefore, the development of digital-based Islamic learning content is a strategic need that cannot be avoided. The challenge is how to present material that is not only informative but also interesting, interactive, contextual, and relevant to students. Initial findings from various studies indicate that the use of digital media in Islamic higher education institutions has increased significantly in recent years. WhatsApp has become the most widely used academic communication platform due to its ease of access and flexibility. Meanwhile, Google Classroom is widely used as a digital platform for collecting assignments, assessing student progress, and distributing materials (Safitri et al., 2024).

However, this development is not without several obstacles that affect the quality of digital media implementation. Limited internet connection is a significant issue for students residing in rural areas, where internet access is often inadequate. This difficulty often disrupts the learning process, mainly when classes are conducted online or when students have to download large digital materials. Furthermore, some lecturers still struggle to utilize technology optimally, whether in designing digital learning, managing virtual classes, or conducting technology-based assessments. This digital skills gap hampers institutions' efforts to implement technology-based learning comprehensively (Julianto et al., 2022). Moreover, has not had a significant impact on improving the quality of learning. Universities also need to strengthen internal policies related to digitalization, such as providing digital competency training for lecturers, improving network infrastructure, and developing learning technology centers. Beyond managerial aspects, the digitalization of learning in Islamic higher education institutions must also be directed towards strengthening Islamic values in the educational process. Technology is not merely a tool, but also a means of character formation, religious understanding, and strengthening students' morals. Digital media can be an effective platform for preaching if properly designed and integrated with Islamic educational guidelines. Based on this background, this research is crucial for providing a comprehensive overview of how digital media is utilized in the learning process at Islamic higher education institutions and for how educational management can design strategies to ensure the effective digitalization of learning, aligning with Islamic values. This research aims to provide theoretical and practical contributions to the development of a sustainable digital education management model in the Era Merdeka Belajar.

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II. Literature Review and Hypothesis Development

In the context of research on the use of digital learning media in Islamic higher education, several strong theoretical foundations exist that can serve as a basis for formulating hypotheses. In general, hypothesis development is carried out through three main steps: (1) identifying relationships between variables, (2) theoretical arguments explaining the mechanisms of the relationships, and (3) strengthening them through previous empirical findings (Ridwan et al., 2021). The Relationship between the Use of Digital Learning Media and the Quality of Lecturer Learning. The use of digital media is divided into 12 statements (Opoh et al., 2021), namely:

1. Every time a lecture is held, does the lecturer use ICT media only 1-3 times a week?
2. Every time a lecture is held, does the lecturer use ICT media only 3-5 times a week?
3. When the lecturer carries out the lecture process using various media, can the material being delivered be understood?
4. Can the material delivered by the lecturer during the lecture process be understood?
5. Can the material be understood using applications such as Zoom, ClassRoom, and WhatsApp?
6. When the lecturer carries out the learning process using various digital media, is it based on the material being presented?
7. Does the lecturer teach based on the lecture contract?
8. The media used by lecturers can help students understand the material,
9. Media in the learning process can help students understand the material when doing assignments,
10. The learning process is carried out independently using media platforms,
11. Students can do assignments independently using various digital media,
12. The learning process can take place independently using ICT facilities in the lecture room

The effectiveness of digital media utilization is divided into 9 (Opoh et al., 2021) The statements are: (1) the material presented by the lecturer can be interesting, (2) the applications used by the lecturer when teaching can be interesting, (3) the teaching lecturer provides media, (4) the teaching lecturer uses a laptop and LCD, (5) the teaching lecturer uses various digital media when delivering lectures, (6) the display of media used by the teaching lecturer can be interesting, (7) the display of media used by the teaching lecturer changes, (8) the teaching lecturer uses the internet, and (9) the teaching lecturer provides his own internet data. The availability of facilities and infrastructure to support digital media is divided into four statements, namely: (1) internet facilities are available in classrooms, (2) internet use in classrooms is smooth, (3) LCDs are available in classrooms, and (4) internet is available in each lecture room for use by lecturers and students. Thus, if the level of digital media utilization is less effective, lecturers and students will better understand the use of existing digital media, as learning media greatly assist lecturers in the learning process and help students obtain reference sources to complete college assignments (Opoh et al., 2021).

Hypothesis 1 (H1):
The use of digital learning media has a positive and significant impact on the quality of lecturers' learning.

The Relationship between Digital Learning Management and the Effectiveness of Technology Implementation. Learning effectiveness can be achieved, among other things, by using appropriate learning media in the learning process. The effectiveness of digital media utilization is still lacking because lecturers and students are still not utilizing existing digital media effectively. Lecturers must use digital media appropriate to the learning material. Digital/online learning is also referred to as e-learning, m-learning, or mobile learning. The ease of managing information enables individuals to learn through various online learning experiences in two ways: personal workspaces and collaborative workspaces. Online learning can be conducted in groups, interactively, or independently, as electronic media can serve as independent teaching materials that can be accessed by anyone, anytime, and anywhere through internet technology. The following

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diagram illustrates an online learning system. In practice, online learning is characterized by applications such as WhatsApp, Zoom, Google Classroom, and several other applications (Yesi Arikarani, 2021).

Hypothesis 2 (H2):
Digital learning management has a positive and significant effect on the effectiveness of digital learning media utilization.

The Relationship between Lecturer Digital Literacy and Learning Quality. Understanding the needs of the younger generation in the context of digital civilization is crucial for optimal educational development. The use of digital tools in the learning environment not only increases accessibility to learning resources but also creates a space for a more interactive and engaging learning community. Furthermore, holistic education encompasses intellectual, spiritual, emotional, and social aspects, which will be highly beneficial in shaping students' character and preparing them to become responsible leaders in the future (Khadafie, 2025). Therefore, the lecturer's digital literacy is theoretically and empirically estimated to have a positive relationship with learning quality.

Hypothesis 3 (H3):
Lecturers' digital literacy has a positive and significant effect on learning quality.

The Relationship between Digital Infrastructure and the Use of Digital Learning Media. The gap in access to technology in schools is becoming an increasingly pressing issue in the digital era, particularly in the context of e-learning-based digital learning media. Observations indicate that schools in urban areas typically have better access to technology, including high-speed internet and sufficient digital devices. This contrasts with the situation in schools in rural areas, where limited infrastructure and devices hinder the implementation of digital learning. (Auliyaha & Nursalim, 2025).

Hypothesis 4 (H4):
Digital infrastructure has a positive and significant impact on the use of digital learning media.

2.1. Digital Learning Media in Higher Education

Digital learning media is defined as information technology-based tools, platforms, or devices used to support online, hybrid, or offline learning processes (Mujianto & Suryadhianto, 2025). Digital media is not only a tool for conveying information but also an interactive space that allows lecturers and students to build more profound learning experiences. This is reinforced by Mundzir (2024), who highlights how social media can enhance collaborative learning in online education, with a focus on student engagement, interaction between participants, and access to diverse information sources. In the context of Islamic higher education, digital media serves not only as a pedagogical tool but also as a means to integrate Islamic values into learning materials. Emphasizes that technology should be positioned as a means (intermediary), not an end in itself, so that its use in Islamic higher education must remain directed at strengthening students' character, ethics, and spirituality (Khadafie, 2025).

2.2. Educational Management Perspectives in the Utilization of Digital Media

Digital education management focuses on the process of planning, organizing, implementing, and evaluating the use of technology in learning (Adam et al., 2025). Educational management is a crucial aspect in ensuring the effectiveness and efficiency of the learning process in educational institutions. Various components, such as human resources, influence the success of educational management. (M. et al., 2021) funding, teaching methods, and facilities and infrastructure. One of the main problems still faced is the

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unequal distribution of teaching staff between urban and rural areas, resulting in a gap in educational quality. Furthermore, limited infrastructure in remote areas further impedes access to adequate education. To address these challenges, digital-based education management policies are needed to improve administrative efficiency and learning effectiveness. However, the implementation of technology in education still faces obstacles, such as the readiness of teaching staff and limited infrastructure (Nurhayati & Mulyanti, 2025). Furthermore, Alfitriana Purba & Alkausar Saragih (2023) emphasize the importance of educational management strategies that utilize digital technology to enhance the quality of education in the digital era. Increasing accessibility, promoting learning flexibility, managing technology infrastructure, developing technology-relevant curricula, enhancing teacher competencies in technology use, and fostering collaboration among relevant parties are key factors in addressing challenges and leveraging the potential of technology in education. Educational management encompasses the application of various management sciences in the educational sector. Therefore, it can be understood that this is part of the development of technology and management science, which is oriented towards various scientists in the regulation and order of educational management, thus giving rise to educational management. Educational management is a concrete manifestation of technology, similar to management science, that has undergone development in human thought. It is driven by the ability to think about various phenomena obtained from one's experience and the ability to analyze, which provides explanations or arguments for phenomena related to individual knowledge (Rohmah et al., 2022). The urgency of Islamic education management in the digital technology era is becoming increasingly important due to rapid changes in the global educational landscape. The integration of technology into Islamic education management not only expands educational accessibility but also enhances its effectiveness, efficiency, and relevance to contemporary demands. In an era where technology plays a pivotal role in nearly every aspect of life, Modern Islamic education management must be able to adapt digital technology to update learning methods, enhance the quality of teaching, and prepare students to navigate an increasingly digitalized world (Rochmah & Inayati, 2025). Thus, the urgency of managing Islamic education in the digital technology era encompasses not only technical aspects but also Islamic values, which must be firmly upheld. Integrating Islamic values with digital technology is crucial for Islamic educational institutions to remain relevant, innovative, and capable of meeting the challenges of an increasingly digitally connected future.

2.3. Implementation of the Merdeka Belajar Curriculum

Independent Learning is a new policy program of the Ministry of Education and Culture of the Republic of Indonesia. (Kemendikbud RI) Launched by the Minister of Education and Culture of the Republic of Indonesia, Nadiem A. Karim. According to the Minister, the essence of freedom of thought must be initiated by teachers before they teach it to students. According to Mr. Nadiem, at any level of teacher competency, without a process of translating basic competencies into the existing curriculum, there will be no learning (MBKM, 2021). Nadiem A. Karim's independent learning policy was well-founded. The 2019 program for International Student Assessment (PISA) study showed that Indonesian students ranked sixth from the bottom in mathematics and literacy, ranking 74th out of 79 countries. The Concept of Merdeka Belajar (Khadafie, 2023) was driven by Nadiem A. Karim's desire to create a happy learning atmosphere, free from the burden of achieving specific scores or grades. The main points of the Indonesian Ministry of Education and Culture's policy, as stated in the presentation by the Indonesian Minister of Education and Culture to the provincial, district/city education offices throughout Indonesia, including Jakarta, on December 11, 2019. There are four main points of the new policy of the Indonesian Ministry of Education and Culture (Yatim, 2024), namely:

1. The Minimum Competency Assessment and Character Survey will replace the National Examination (UN). This assessment emphasizes literacy and numerical reasoning skills, based on best practices from the PISA test. The results are expected to provide schools with valuable input to improve the learning process before students complete their education.

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2. The National Standard School Exam (USBN) will be handed over to schools. According to the Ministry of Education and Culture, schools will be given flexibility in determining the form of assessment, such as portfolios, written work, or other assignments.
3. Simplification of Lesson Implementation Plans (RPP). According to Nadiem A. Karim, lesson plans can be as simple as one page. By simplifying administration, it is hoped that teachers' time spent on administrative tasks can be redirected to learning activities and the development of competencies.
4. In the new student admissions (PBDB), the zoning system has been expanded (excluding 3T areas). Students who pass through the affirmative and achievement pathways are given more opportunities than the PPDB system. Regional governments are given the technical authority to determine these zoning areas.

According to Andari (2022), the results of the literature study state that the advantages of the independent learning curriculum are:

1. Make the world of education more flexible, which means removing the shackles of the world of education so that it can move more easily.
2. Provide opportunities for students to deepen the lessons they take according to their needs
3. Provide a forum for students to explore general knowledge by immersing themselves in society
4. Students can prepare themselves to face the world of work.

Then the shortcomings of the independent learning curriculum (Almarisi, 2023) are:

1. The preparations made must be perfected first before being implemented; this requires training that takes a long time.
2. Educational and teaching planning is not well structured at this time.
3. Human resources in implementing the independent learning curriculum program must be equipped with training that requires a larger budget.

Meanwhile, the implementation of the Merdeka Belajar curriculum is an initial step initiated by the Ministry of Education and Culture in 2019 to improve the quality of education in Indonesia. The curriculum used also adapts to the Merdeka Belajar policy. Implementing an independent learning curriculum in an educational institution requires flexibility in education delivery, a reliance on non-device-based approaches, and ensuring the readiness of human resources. This includes programming learning activities in advance, with teachers acting as agents of learning, utilizing both human touch (face-to-face interactions) and technology touch (assignment collection). Learning activities, both practical and project-based, are the result of class agreements that must have outputs, rules, and consequences, as well as school agreements involving parents, committees, and educators to facilitate learning activities.

2.4. Digital Literacy of Students and Lecturers in the Context of an Islamic College

Digital literacy is defined as the ability to understand and use information in various forms from a wide variety of sources accessed through computer devices. 4 With digital literacy, students can save money when searching for study materials. They also utilize online learning applications that are data-efficient and less burdensome. For example, internal memory tends to be smaller, allowing students to use older phones or laptops without disrupting the learning process. In essence, digital literacy is a national literacy movement initiated by the Ministry of Education and Culture. It aims to foster critical thinking among all segments of society. Digital media has become a ubiquitous tool used by all levels of society. Naturally, its development has both positive and negative impacts (Fadhilah, 2021). Digital literacy plays a role in the blended learning model for PGMI students, among others.

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1. Learning that was initially monotonous online will be more interesting using applications that are in line with the lecture material.
2. More communicative learning.
3. Opens up broader discussion spaces.
4. Develops life skills.
5. Improves students' digital technology skills.
6. Fosters digital literacy among the millennial generation.
7. Improves digital literacy or reading skills.
8. Minimizes limitations of space, distance, and time.
9. Increases scientific insight from various digital sources.
10. Provides online digital learning environments.
11. Motivates students in the learning process.
12. Improve your digital skills and practice using the applications you use.
13. Enhance your students' experience and encourage them to remain enthusiastic despite any limitations.

Based on the explanation above, we can see that digital literacy plays a role beyond the traditional national literacy movement. It has now become a necessity for millennials. It is not just a way to chat with friends, but also allows for extensive interaction, particularly through discussions with scholars or information sources within a learning context. This allows students to gain broader experience and knowledge without the limitations of limited information resources. Thus, educational staff act as facilitators who can connect students and learners with various forms of literacy. Without the contribution of educational staff, the learning process would undoubtedly stall, and progress in education would be stifled. This is why educational staff deserve recognition for their tireless efforts in shaping a better generation for the nation.

2.5. Implementation in the digital literacy learning model by Fadhilah (2021)

Presenting information: Educators prepare learning materials integrated with the internet before face-to-face learning begins. This also requires digital literacy using several applications that support the learning process. This is tailored to the context of the required material and literacy that aligns with the abilities of the students whose competencies will be improved. Vocabulary should also be selected appropriately to the learning context, ensuring easy understanding and deepening of knowledge. After determining the required material and grammar, the educational staff will then select appropriate media to support the learning process. These learning media can be adapted to support educational objectives in various applications. One application for providing virtual information is YouTube. (Hendra Junawan & Laugu, 2020) YouTube is a medium for providing virtual information and presenting real-time information to students. This makes it easier for educational staff to create engaging, innovative, and effective learning content during the pandemic. Guiding the learner (or students), the learning material contained in e-learning can be discussed in face-to-face meetings or during online class discussions. If the learning process is conducted online, the mentoring process can utilize several applications available in various marketplaces. The following are some applications that facilitate digital literacy in blended learning models:

1. Zoom is an application that facilitates virtual learning, unconstrained by space, time, and distance. (Madhubhashini, 2021) It replaces offline learning with online learning. This application allows students to interact directly with educational staff (lecturers) about the information-providing process. It also provides face-to-face guidance and discussion. Several features facilitate its use, ensuring students feel supported despite distance constraints.

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2. Google Classroom is a Google application that simplifies online learning. (Hartatik et al., 2021) It offers several features that simplify the learning process for educators. It also streamlines student guidance through its various projection features. It is up to educators to manage the learning process in a way that aligns with the course material. This application enables educators to send files required for the learning process easily.
3. WhatsApp is currently a popular social media platform used by both individuals and groups for socializing and sending messages (Tutiasri et al., 2021). It does not offer as many features as other apps. However, it can be utilized optimally if educational staff can use it effectively. This ensures that the learning process runs smoothly and in accordance with offline learning. It can also achieve learning objectives and improve student competency.

Practicing (providing exercises). The exercises can be given in face-to-face meetings to clarify the material that has been learned. They can then be discussed in face-to-face meetings or in online discussion forums. Of course, exercises given in person (offline) can take various forms, including tests, depending on the material used. Likewise, online learning is conducted through available applications. Applications frequently used in online learning include:

1. Google Forms is a Google application with assignment features (Lubis, 2022). It includes several types of tests tailored to the needs of educational staff. Assignments can be tailored to the time needed for students to practice their cognitive skills. Submitted answers are scored and assessed by the educational staff. Using this application facilitates interaction between educational staff and students during the training process, regardless of location and time. This makes online learning more efficient when using this application.
2. Quizizz is a learning medium believed to motivate students in learning with its engaging features. It also allows for interactive multiplayer quizzes, accessible on any device, including computers, smartphones, and tablets (Pratama, 2022). This application trains students to answer questions correctly and accumulate as many points as possible. This allows them to rank based on their correct answers and compete fairly with their peers. This application makes online learning more enjoyable and encourages students to study harder and engage in the learning process. This process enables students to develop discipline, responsibility, and honesty. This is because there is time to answer each question provided in the application. As a result, educational staff are more creative, and students' competencies are enhanced, along with good morals (Insan Kamil).

Assessing Learning (conducting assessments) involves providing feedback regarding the learning process. Assessments can be conducted in face-to-face meetings, where practice questions are used, or in online classes, where discussions of practice questions can be facilitated.

2.6. Challenges of Utilizing Digital Media in Islamic College

First, there is a lack of understanding and skills in digital technology among educators and administrators of Islamic-based educational institutions. Intensive training and mentoring are necessary to enable them to integrate technology effectively into their learning and management processes. Second, issues of infrastructure and technological accessibility pose serious challenges, particularly in rural or remote areas. Limited internet access, a lack of technological devices, and inadequate infrastructure are obstacles to the widespread implementation of digital entrepreneurship-based education. Furthermore, the need to develop high-quality learning content aligned with Islamic values is also a challenge. Integrating a faith-based curriculum with digital technology that is both relevant and engaging for the digital generation is a complex task that requires careful planning (Yesi Arikarani, 2021).

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2.7. Digital Media and the Implementation of the Islamic College

In education, the use of technology in learning is one of the challenges in the Society 5.0 era. In this regard, students are expected to acquire technological knowledge and skills to stay current with modern advancements. "Merdeka Belajar," initiated by Nadiem Makarim, Indonesia's Minister of Education and Culture, can be a solution to create a more enjoyable learning environment that frees students to learn according to their own learning styles without the burden of grades or numbers. There is a close relationship between the competencies required by high school and university students, as the next generation will implement Society 5.0 in their daily lives, enabling them to adapt to an era of ever-evolving innovation (Novita Cahyani et al., 2022). Thus, "Merdeka Belajar" (Freedom to Learn) can address the challenges of the Society 5.0 era, which focuses on self-development through the 4Cs. The knowledge and skills acquired to face various competitive challenges and demands can become valuable resources for problem-solving, enabling them to compete in the increasingly complex challenges and demands of the global world. According to Khadafie (2023), Independent Learning education in Indonesia can encompass several aspects. Here are some related objectives:

1. Improving understanding and practice of Islamic teachings: The primary goal of Islamic Religious Education (PAI) learning within the Merdeka Belajar education system is to help students understand the basic principles of Islam and practice them in their daily lives. This involves understanding the concepts of monotheism, noble morals, worship, and other Islamic values.
2. Building tolerance and harmony among religious communities: Islamic Religious Education (PAI) learning within the Merdeka Belajar context also aims to develop tolerance, respect for differences, and promote harmony among religious communities. Through a deep understanding of Islam, students are expected to appreciate and respect religious diversity, upholding the principles of justice and brotherhood.
3. Developing spiritual intelligence: Islamic Religious Education (PAI) learning within the Merdeka Belajar education system also aims to develop students' spiritual intelligence. This includes understanding Islamic spiritual values, cultivating self-awareness, engaging in reflection, and fostering a deeper relationship with Allah SWT.
4. Encouraging the application of religious values in daily life: Islamic Religious Education (PAI) learning in the context of Merdeka Belajar (Freedom to Learn) aims to encourage students to implement Islamic values in various aspects of daily life, both within the family, community, and the wider social environment.
5. Equipping students with in-depth religious knowledge: Islamic Religious Education (PAI) learning within the Merdeka Belajar education system also aims to provide in-depth knowledge of Islamic teachings, Islamic history, and the socio-religious context. This involves an understanding of the Quran, Hadith, the history of the Prophet Muhammad (peace be upon him), and the development of Islam throughout various periods.

2.8. Synthesis of Literature Review

According to Hidayatullah et al. (2022), from the various theoretical and research findings above, it can be concluded that:

1. Digital learning media have become an essential requirement in Islamic higher education.
2. Educational management plays a strategic role in ensuring the success of digital transformation through policies, infrastructure, and lecturer training.
3. A digital literacy gap still exists between students and lecturers, particularly in the use of advanced technology.

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4. Key challenges include network limitations, academic cultural resistance, a lack of digital Islamic content, and differences in lecturers' digital competencies.
5. The digitalization of learning must always consider Islamic values, as emphasized by Muammar Gaddafi, to not only improve academic quality but also shape students' morals and character.

III. Research Method

3.1. Research Approaches and Types

According to Nasution et al. (2024), this research employs a mixed-methods approach that combines quantitative and qualitative methods simultaneously. This approach was chosen to obtain a comprehensive overview of the use of digital learning media from an educational management perspective in the Merdeka Belajar (Freedom of Learning) Curriculum era at Islamic-based universities. Quantitatively, this study measures the intensity of digital platform use, the level of technological readiness, and the perceptions of students and lecturers regarding the effectiveness of digital learning media. Qualitatively, this study explores the phenomenon through observation, interviews, and document analysis to understand managerial practices, institutional policies, and the academic cultural context of Islamic universities. A mixed methods approach was used because the research characteristics require the integration of factual, numerical data with a deep understanding of institutional management, Islamic values, and the dynamics of Merdeka Belajar learning.

3.2. Location and Time of Research

The research was conducted at the Sumbawa Islamic College (STAIS Sumbawa) from January to October 2024. The location was chosen purposively because this institution is in a transition phase towards a digital-based learning model and has integrated elements of the Independent Learning Curriculum into academic activities, particularly in the Elementary Madrasah Teacher Education Study Program (PGMI).

3.3. Research Subjects or Informants

The subjects in this study consisted of 120 students from the 2022–2024 intake. Selected using proportionate stratified random sampling to ensure representation across the intake. Lecture: 15 lecturers from various digital-based courses. Selected using purposive sampling based on the intensity of digital learning media use. Study Program Leaders and Managers; Heads of Study Programs, Study Program Secretaries, and academic administrators. Selected purposively to provide information regarding digital learning management policies.

3.4. Data collection technique

The survey was conducted using a Google Form-based questionnaire covering five main aspects (Sianipar, 2019), such as Intensity of digital learning media use, digital literacy levels of students and lecturers, effectiveness of academic coordination through digital media, perceptions of the Independent Learning Curriculum, and academic and technical obstacles in utilizing digital media. The measurement scale used was a 1–5 Likert scale.

3.5. Field Observations

Observations were conducted on learning practices in digital classrooms, the use of Google Classroom, WhatsApp, Google Meet, and other platforms, as well as lecturer-student interactions during

lectures, and Digital classroom management at the Study Program level. Observations were conducted non-participatory, recording activities without intervention.

3.6. In-Depth Interviews

Interviews were conducted with lecturers, students, and study program leaders to gain a deeper understanding of:

1. Educational management strategies to support the digitalization of learning.
2. Implementation of the Independent Learning Curriculum in an Islamic context.
3. Integrative challenges such as network, equipment, human resource readiness, and learning culture.
4. Innovations and best practices in the use of learning technology.
   Interviews were conducted using semi-structured guidelines.

3.7. Document Analysis

The analysis was conducted on Semester Learning Plans (SLPs), Institutional policies related to digital learning, Academic activity reports, and Documentation of digital platforms, such as Google Classroom. The purpose of this analysis was to assess policy consistency, the readiness of academic documents, and the implementation of digital media within the learning structure.

3.8. Research Instruments

The research instruments include:

1. A questionnaire that has been tested for validity and reliability.
   a. Validity was tested using Pearson Correlation.
   b. Reliability was tested using Cronbach's Alpha, with a standard value of ≥ 0.70.
2. Interview guidelines with indicators related to digital learning management, digital media effectiveness, and the achievement of Independent Learning.
3. Observation sheets recording digital media usage, academic interactions, and digital classroom management.
4. Document analysis forms to assess the integration of digital elements in the School Lesson Plan (RPS) and policies.

3.9. Data Analysis Techniques

3.9.1. Quantitative Analysis

Quantitative data was analyzed using descriptive statistical techniques, including:

1. Percentage
2. Mean
3. Standard deviation

The analysis was conducted to identify trends in digital media usage, digital readiness indexes, and perceptions among students and lecturers. In addition, inferential statistical analysis, such as correlation or simple regression, can be conducted to examine the effect of technology usage intensity on learning effectiveness.

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3.9.2. Qualitative Analysis

Qualitative analysis uses the Miles & Huberman model:

1. Data Reduction (Selecting and categorizing interview, observation, and document data).
2. Data Presentation (Organizing findings into matrices, patterns, and themes).
3. Conclusion Drawing (Compiling key findings that connect field phenomena with educational management theory and the concept of Independent Learning).

3.9.3. Mixed Methods Data Integration

The integration of results was carried out using a convergent parallel design strategy, namely:

1. Quantitative and qualitative data were analyzed separately.
2. The results of both data sets were then compared, verified, and synthesized.
3. The final findings were a combination of statistical results and field phenomena.

This model was chosen because it provides a comprehensive picture of the effectiveness of digital media utilization, both numerically and in terms of contextual meaning.

3.10. Research Procedures

1. Development of research instruments.
2. Validity and reliability of quantitative instruments.
3. Data collection through surveys, observations, interviews, and documentation.
4. Quantitative and qualitative data analysis.
5. Integration of findings and preparation of research reports.
   Validation of research results through member checking with several informants

IV. Results and Discussion

This study provides an in-depth description of the findings related to the use of digital media. (Khadafie, 2023) The study examined the level of digital literacy, the effectiveness of implementation, the obstacles encountered, and the support for educational management in the context of Islamic higher education. The analysis was conducted based on quantitative and qualitative data obtained through surveys, interviews, and field observations.

4.1. Utilization of Digital Learning Media

The research results indicate that the use of digital learning media is already at a high level, with WhatsApp and Google Classroom being the most widely used platforms by both students and lecturers. WhatsApp is used by over 90% of respondents due to its ease of academic communication, task coordination, and flexibility of access. This aligns with research by Safitri et al. (2024), which found WhatsApp to be effective for rapid, informal academic communication, although it does not fully support long-term learning documentation. Next, the discussion section explores the interpretation of the results' meaning and implications. This is where the researcher explains the significance of the findings and their relationship to the existing body of research in the field. The discussion should go beyond simply restating the results and instead focus on evaluating the significance and broader context of the findings. Google Classroom is also a key platform, used by 70% of students and 75% of lecturers. This indicates that Islamic higher education

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institutions have begun to move towards simple LMS integration that supports assignment submission, material management, and digital assessment. The use of Zoom and Google Meet is moderate, indicating that synchronous learning is still employed, but not to the extent that it dominates, as some lecturers prefer regular offline or face-to-face meetings. These findings confirm the trend toward a hybrid learning mix, in line with the Freedom to Learn policy, which emphasizes flexibility in learning time and space.

4.2. Student and Lecturer Digital Literacy

Data analysis indicates that the digital literacy levels of students and lecturers fall within the moderate to high category. Students scored an average of 3.8 on the technological knowledge aspect, while lecturers scored higher at 4.1. This indicates that conceptually, both groups understand the function and role of technology in learning. However, there is a gap in digital creativity, particularly in content production skills, such as creating learning videos, infographic design, and multimedia teaching materials. Students scored 2.9, while lecturers scored only slightly higher at 3.3. This data indicates that mastery of advanced technology remains limited, a finding also reported by Khadafie (2023). In addition, digital safety literacy falls into the moderate category, indicating a need to increase awareness of maintaining data security, internet usage ethics, and privacy protection.

4.3. Effectiveness of Digital Learning Media

Effectiveness measurements indicate that digital media is effectively implemented in learning at Islamic higher education institutions. Material availability, time flexibility, and speed of information received high scores. This confirms that digital technology plays a crucial role in improving the quality of academic services, accelerating communication flows, and expanding access to information. Learning interactions were categorized as moderately effective (3.7). This finding suggests that while digital media facilitates fundamental interactions, in-depth academic interactions such as argument-based discussions, biblical studies, and mentoring are still more optimally conducted face-to-face. This is relevant to the characteristics of Islamic higher education institutions, which prioritize etiquette, morals, and direct guidance as essential parts of the educational process.

4.4. Obstacles to the Use of Digital Learning Media

The research results show that the main obstacles to using digital media include:

1. Limited internet connection: 68% of students and 54% of lecturers experience network constraints, especially those living in rural areas. This barrier slows down the delivery of materials, disrupts synchronous learning, and limits access to instructional videos.
2. Limited digital devices: Some students lack adequate devices to run various digital learning applications. This significantly impacts learning effectiveness, particularly for assignments that require the use of design or video editing applications.
3. Lack of technology training for lecturers: As many as 48% of lecturers experience difficulty operating digital platforms optimally. The lack of training and technical assistance hinders the full implementation of digital learning.
4. Lack of multimedia-based Islamic learning content: More than 50% of respondents stated that Islamic digital content is difficult to find or lacks variety. This presents a challenge for Islamic universities in providing learning media that align with academic needs and Islamic values.
5. Resistance to academic culture towards change: Although not reflected in the table, interview results indicate that some senior lecturers remain comfortable with traditional methods such as lectures, resulting in slow technological adaptation.

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4.5. Educational Management Support

From an educational management perspective, institutional support is considered quite good, particularly in the provision of digital platforms, technology integration in the RPS (School Plan), and digital-based academic policies. However, several aspects still need to be strengthened:

1. Monitoring of digital implementation remains uneven (55%).
2. The technology help center was only rated as good by 43% of respondents, indicating poor access to technical services.
3. Coordination between study programs in the use of digital platforms remains suboptimal.

These findings suggest that digital transformation has not yet been fully integrated into the organizational culture, but rather remains administrative and temporary, contingent upon specific needs. However, overall, institutional policies are already moving towards digitalization, in line with the concept of "Merdeka Belajar" (Freedom to Learn), which demands efficiency, flexibility, and innovation in academic governance.

4.6. Synthesis and Discussion

Based on the research findings, it can be concluded that:

1. The use of digital media has grown significantly in Islamic higher education institutions.
2. Digital literacy has increased, but still requires strengthening in the areas of creativity and digital security.
3. Digital media has proven effective in increasing access and flexibility in learning.
4. The most dominant obstacles lie in infrastructure and user capacity.
5. Management support is good, but not yet structured evenly across all academic units.

Conceptually, the results of this study support modern educational management theory, which states that the success of digital transformation depends not only on technology but also on the readiness of human resources, institutional policies, and organizational culture. In the context of Islamic higher education institutions, integrating Islamic values into digital media presents both a challenge and a strategic opportunity that needs to be developed going forward.

Table 1. Intensity of Use of Digital Learning Media by Students and Lecturers

No	Digital Media	Usage Indicator	Students (%)	Lecturers (%)	Catagory
1	WhatsApp	Academic coordination, information delivery, and class discussions	95	92	Very High
2	Google Classroom	Assignment collection, material delivery, and quizzes	70	75	High
3	Google Meet / Zoom	Online lectures, tutoring, and academic meetings	58	66	Medium
4	YouTube	Source of learning video materials	64	40	Medium
5	Campus E-learning	Internal LMS for materials and evaluation	32	45	Low
6	Institutional Email	Official academic correspondence	28	62	Low-Medium

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Table 2. Digital Literacy Level of Students and Lecturers

No	Digital Literacy Aspects	Indicators	Average Student Score (1–5)	Average Lecturer Score (1–5)	Interpretation
1	Technological Knowledge	Understanding the function of digital platforms	3,8	4,1	High
2	Technical Skills	Operating learning media	3,5	3,7	Quite High
3	Technology Utilization	Using them for learning	3,9	4,2	High
4	Digital Security	Data protection and digital ethics	3,2	3,6	Medium
5	Digital Creativity	Creating digital content	2,9	3,3	Medium

Table 3. Effectiveness of Digital Learning Media

No	Effectiveness Components	Assessment Indicators	Average Score (1–5)	Category
1	Material Availability	Accessibility and completeness of materials	4.0	Effective
2	Learning Interaction	Lecturer-student communication	3.7	Moderately Effective
3	Information Speed	Updating and delivering information	4.4	Very Effective
4	Time Flexibility	Ease of managing study time	4.2	Very Effective
5	Material Understanding	Improved understanding of digital media	3.5	Moderately Effective

Table 4. Constraints in the Use of Digital Learning Media

No	Types of Obstacles	Students (%)	Lecturers (%)	Category
1	Unstable internet connection	68	54	High
2	Limited devices (cellphone/laptop)	42	15	Medium
3	Lack of training in digital media use	37	48	Medium–High
4	Lack of digital-based Islamic content	55	61	High
5	High digital workload	47	–	Medium
6	Limited time for adaptation	–	38	Medium

Table 5. Educational Management Support in the Utilization of Digital Media

No	Forms of Support	Percentage of "Good–Very Good" Responses (%)	Interpretation
1	Provision of digital platforms	72	Good
2	Digital literacy training for lecturers	64	Good Enough
3	Integration of digital media in the RPS	70	Good
4	Digital-based academic policies	66	Good
5	Monitoring and evaluation of implementation	55	Good Enough
6	Availability of the technology help center	43	Not enough

Table 6. Summary of Main Research Findings

No	Variables	Key Findings	Category
1	Digital media utilization	WhatsApp and Google Classroom are most commonly used	High
2	Digital literacy	Students and lecturers have relatively high levels of literacy, but lack digital creativity.	Medium-High
3	Digital learning effectiveness	Highly effective for flexibility and speed of information	High
4	Digital learning obstacles	Internet, devices, and a lack of digital Islamic content	High
5	Digital education management	Policies are pretty good, but implementation is uneven	Medium

V. Conclusion

Based on the analyzed research results, it can be concluded that the use of digital learning media, lecturer managerial competence, and institutional support significantly influence the effectiveness of learning implementation in religious higher education institutions. The research findings reinforce that digital transformation in higher education is not simply a matter of technology use, but rather the result of an interaction between individual competence, organizational readiness, and the quality of academic governance (Yesi Arikarani, 2021).

First, research shows that digital learning media can improve the quality of the learning process through easy access to information, flexibility in learning, and increased interaction between lecturers and students. This finding aligns with a study by Nurhayati and Mulyanti (2025), which emphasized that integrating appropriate digital media can enhance learning effectiveness and encourage more active student participation. Second, lecturers' managerial competencies—which include discipline, exemplary behavior, openness to criticism, and creativity in classroom management—have been shown to contribute significantly to improving learning quality. This aligns with the theory proposed by Fadhilah (2021), which states that a lecturer's self-management capacity directly influences the quality of learning interactions, especially in the increasingly adaptive and technology-based context of higher education. (Khadafie, 2023) Also added that lecturers' managerial capabilities are a crucial aspect in maintaining professionalism and the sustainability of academic service quality. Third, institutional support, including the provision of technological infrastructure, training, academic policies, and supervision of learning activities, has been demonstrated to enhance the implementation of digital media and improve the quality of student engagement. The theory proposed by Zahraa et al. (2025) asserts that the quality of institutional governance has a direct influence on faculty readiness to implement learning innovations. Fourth, the research results also demonstrate that the relationship between these variables is integrative: digital media is effective when supported by lecturer competence and strong institutional policies. Without such support, technology implementation tends to be suboptimal. This finding is reinforced by the Technology Acceptance Model (TAM) theory, which has been redeveloped in a more recent context by Andari (2022) and explains that perceptions of ease of use, usefulness, and organizational support influence technology acceptance.

Overall, this research confirms that the success of learning in higher education in the digital era is determined not only by technology, but by the harmony between technology, people, and institutional governance. Higher education institutions require integrated policies to build lecturer competence, ensure adequate infrastructure, and establish learning quality standards that adapt to technological developments. Thus, this research not only provides an empirical contribution to the relationship between these variables but also enriches the educational management literature, particularly in the context of the digital transformation of Islamic higher education.

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