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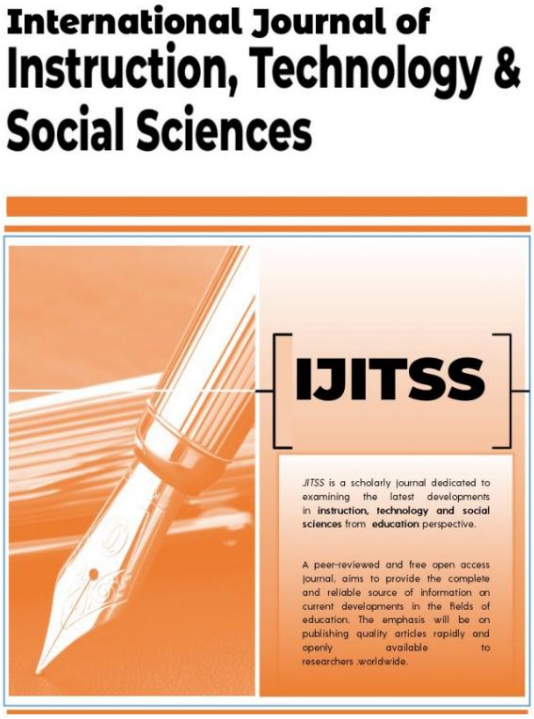

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Management of Digital-Based Educational Institutions in Indonesia

Gusti[1]

[1]*School of Education and Modern Languages*
Universiti Utara Malaysia, Sintok, Malaysia.
Gustiananda199@gmail.com

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Gusti

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Abstract

This study aims to describe the management of digital-based educational institutions in Indonesia. The research approach uses SLR on 120 articles, then becomes 60 articles, is filtered into 25 articles, and from 25 articles 6 articles are taken as the main data source. The method in the literature review uses three databases, namely Scopus, Google Scholar, and Eric because they are relevant to the field of education. Then the inclusion and exclusion criteria, filtering, eligibility, data extraction and analysis are carried out. The results of the study show: (1) Discussions related to the management of digital-based educational institutions by current researchers focus more on aspects of archiving, digital literacy skills, educational infrastructure, learning processes, management of educational institutions, and marketing of educational institutions; (2) So far, there has been minimal management of digital-based educational institutions in Indonesia which occurs due to several factors discussed. Indonesia focuses more on digital learning and assessment.

Introduction

Education is an important activity carried out by governments in various countries in the world because through the education process, quality human resources can be produced for the development of a country. In this era of globalization, the development of the education sector has increased, as well as being a challenge for developing countries to improve the quality of education that is relevant to technological developments. Theoretical facts show that the use of technological facilities does not directly have a high impact on improving the quality of educational outcomes, but rather depends on the subject and type of use of the technology (Fernández-gutiérrez et al., 2020). As an alternative to improving quality, it is to improve policies related to education so that they are relevant to the needs of the times. The problem is that so far, education policies have often been revised but have not shown an increase in quality significant. Therefore, it is necessary to evaluate the regulations, curriculum, and governance of educational institutions to address the problem of low quality education. The purpose of evaluating educational policies is to obtain a picture of the material changes that are in accordance with the needs of society. As stated by previous researchers, the results of the evaluation can contribute to improving the education situation in developing countries and around the world (Madani, 2019).

In European countries, such as Finland and Hungary, the governance of educational institutions that were previously carried out by the government has been changed to governance by companies or private parties whose goal is to improve performance, but this has resulted in strict control and regulation of academic staff (Zsatku & Kovats, 2022). European countries have been trying to change the field of education for more than 20 years by reconstructing higher education not only focusing on graduate competencies but also thinking about the potential impact of graduates on a democratic society, these changes are useful in using the learning process design approach (Norhailawati et al., 2019).

Referring to the concept of education in the 4.0 era, every educational process must place students as subjects of education, there is integration between materials and subjects so that they are interrelated and synergistic in achieving goals, and there is integration of processes with the needs of society and the world of work so that

educational output can be useful in real terms in society (Tan et al., 2018). The needs of society in the modern era are to obtain human resources who are skilled in using technology, have broad insights and good character. They tend to be familiar with technology, communicate and interact digitally (Foo & Prihadi, 2021). The Indonesian government has attempted to fulfill this concept by revising the 2013 curriculum into an independent curriculum that makes students the subject with a learning approach managed by schools/madrasas (Astuti et al., 2024). The achievement of educational quality is attempted by improving the quality of the learning process according to student character, and regional cultural background are very appropriate to be applied (Armstrong, 2021).

Field facts show that many problems have been identified in the world of education in the era of globalization, technology and communication. The results of research in Hungary show that there is inequality in terms of education and human resources in UNESCO member countries along with increasing globalization (Polon, 2022). Therefore, educational institutions can adapt to changing times, increasing technological and communication developments. One solution offered is to manage digital-based educational institutions so that they are in accordance with the needs of millennial society.

The results of a systematic review study of previous literature show that there is still minimal research that examines the management of educational institutions digitally. Through searching and filtering from several recent studies, there are several studies that can represent the adequacy of the data to be studied.

Table 1 Systematic Review Conducted in the Period 2020-2024

Autors	Research purposes
Diez et al (2020)	to assess 14 educational centers implementing one of two different quality systems: EFQM (European Foundation Quality Management) and el Proyecto de Calidad Integrado (PCI)—the Integrated Quality Project—promoted by the Horreum Foundation
Benavides et al (2020)	to find out the trends in writing digital-based educational marketing articles, trends in articles with the highest number of citations, and mapping in searching for scientific publication trends using the Google Schooler database
Churiyaha et al (2022)	to conduct a comprehensive bibliometric analysis of the literature on mobile learning in vocational high schools
Vasylenko et al (2022)	clarification of promising vectors in the implementation of digital infrastructure in the management of archival institutions of Ukraine in the aspect of implementing the state policy of digitalization
Pratiwi dan Waluyo (2023)	explains students' independence in learning using digital technologies, such as Google Form, Quizizz, Quizlet, Kahoot, and Socrative, and the efficacy of these tools in online English classes
Armando Picon (2024)	to determine the importance of creating an institutional digital repository, to determine the purpose and content or types of materials, and to indicate the benefits and difficulties that will arise from developing a repository

Churiyaha et al, analyzed a comprehensive bibliometric analysis of literature related to mobile learning in vocational schools (Churiyaha et al., 2022). Other researchers have also studied the use of digital technology in learning, including reviewing aspects of student independence in learning using Google Form, Quizizz, Quizlet, Kahoot, and Socrative (Martin et al., 2020; Pratiwi & Waluyo, 2023). The educational and learning experience using the integration of these technologies into teacher teaching innovation and creativity (Kumi-Yeboah et al., 2020). Several researchers have studied digital archiving management, such as repositories (Armando Picón, 2024; Milenkiewicz, 2024). This study aims to describe the management of digital-based educational institutions in Indonesia. So far, the management of educational institutions has often been discussed, there is a lot of literature that examines it from various aspects. However, research related to the management of educational institutions

digitally is still minimal. Therefore, researchers are interested in conducting further research. In this study, the problem is discussed through a systematic literature review (SLR) to answer the questions (1) How do current findings discuss the management of educational institutions digitally? What are the main findings of current research on this topic?

Research Method

Prisma

Prisma is a report of a systematic review of literature and meta-analysis presented which functions as an instruction for writing the literature reviewed as a whole. Researchers use prisms because they are easier to display and more specific in presenting articles as sources studied so that they are easier to understand. Prisma in this study is used structured to conduct SLR, manage, and process 60 articles that have been found.

Database

This study uses three databases, namely Scopus, Google Scholar, and ERIC as methods in the literature review. The reason for using Scopus is because it has the advantage of presenting millions of international and regional articles from various publishers carefully and reliably. Google Scholar indexes more articles than Scopus in various fields, including education, educational management, language, and other fields, not only articles, but also theses, dissertations, and books. In addition, researchers use ERIC to review more relevant research in the field of education.

Time Frame

The time frame used as a limitation of the articles reviewed is the last five years, starting from 2020 to 2024. During this time period, the digital world is more widely discussed, used, and developed, including in the field of education. In addition, researchers want there to be novelty in this study. Therefore, the time span chosen in selecting this article is the most appropriate in that year.

SLR Process

In this research, the review of selected articles was carried out through the following stages:

1. Identify

Researchers identified the articles needed using keywords in the Scopus, Google Scholar, and Eric data bases. From this search relevant articles were retrieved.

Table 2 Search String

Data Base	Search Line
Scopus	Management of digital-based educational institutions, digital learning
Google Scholar	Management of digital-based educational institutions, digital learning, digital learning technology, digital technology
ERIC	Management of digital-based educational institutions, digital learning, digital technology, management of digital educational institutions

The screening in this study was carried out manually using the scopus.com, google scholar, and ERIC databases. The search was carried out by reviewing articles based on the title and keywords, namely: management of digital-based educational institutions, digital learning, digital learning technology, digital technology, and management of digital educational institutions. The search was carried out using English.

2. Screening

Article screening was carried out to obtain relevant primary sources and avoid duplicate articles. Screening was carried out by emphasizing the inclusion criteria, namely English-language articles in the period 2020 to 2024, meaning that other than these criteria, no articles will be taken. According to the field, only educational and social articles were taken, not taking articles in other fields.

Table 3 Inclusion & Exclusion Criteria

Kriteria	Penyertaan	Pengecualian
Bahasa	Bahasa Inggris	Tidak ada bahasa Inggris
Jenis Publikasi	Artikel Jurnal international dan lokal	Makalah, Bab, & Buku
Bidang Kajian	Pendidikan dan sosial	Selain bidang pendidikan dan sosial
Lokasi Kajian	Indonesia	Selain Indonesia
Tahun Terbit	2020 – 2024	Selain tahun 2020-2024

3. Eligibility

This study conducted 60 articles, eligibility was determined based on the main theme and sub-themes that were relevant to the problem being studied. Articles were reviewed from three aspects, namely title, abstract, and content according to the inclusion criteria, so that 25 articles met the requirements, 35 articles were not used.

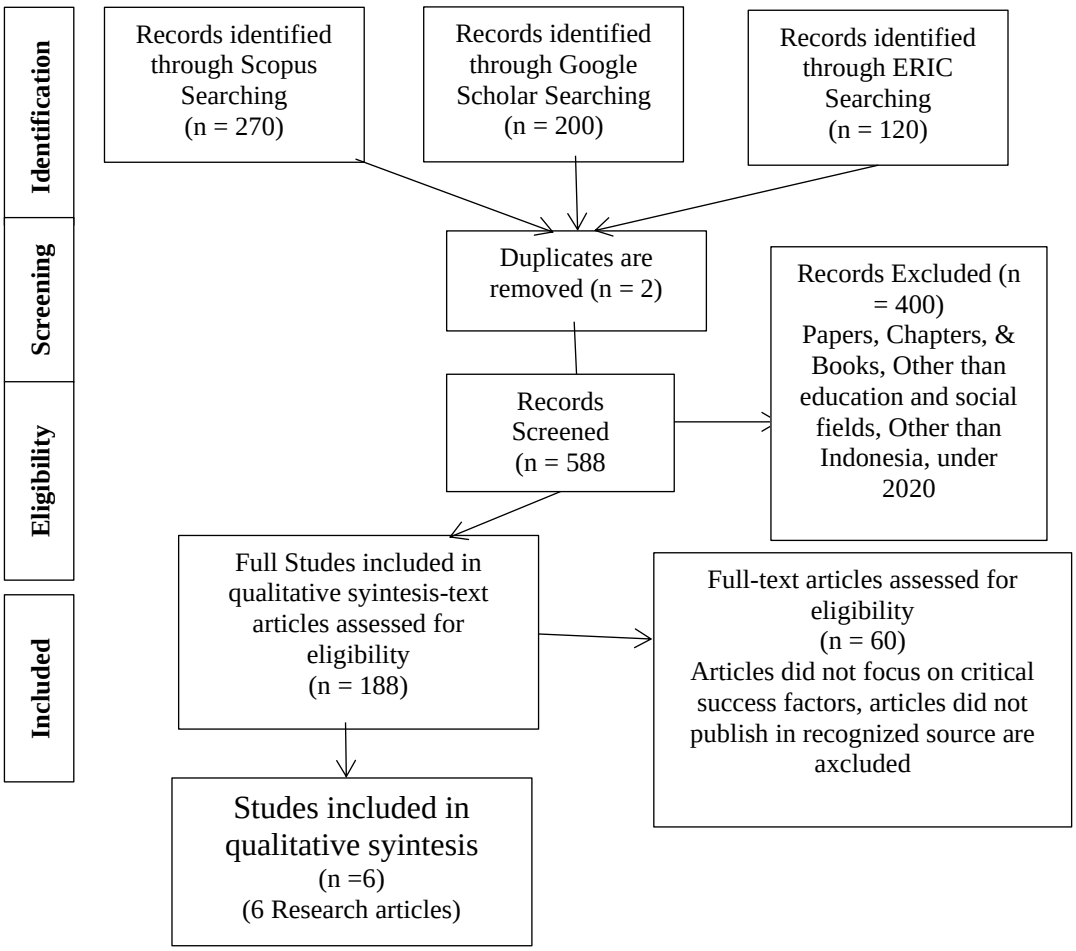

Figure 1. Screening Model for Research (Adopted from Moher et al, 2009)

Data Extraction & Analysis

This study uses an SLR approach that involves all types of research, both qualitative, quantitative, development, and mix methods. Therefore, researchers analyzed the data using thematic analysis to develop relevant themes and sub-themes, with the first stage selecting and determining 25 articles in the field of education, second selecting themes and sub-themes from articles carefully and thoroughly, third coding the articles according to their discussion, fourth selecting 6 main articles, and fifth drawing conclusions.

There are four stages of literature review using this prism, namely identification, screening, eligibility, and inclusion. The review was carried out on articles obtained through the Scopus database, there were 270, Google Scholar 200, and ERIC 120, so that the total number of articles was 590 articles. It was found that there were 2 duplicate articles so that the number of articles reviewed was 588 articles. From the total articles, screening was then carried out on excluded sources, including papers, chapters, & books, in addition to the fields of education and social, in addition to Indonesia, under 2020 there were 400 articles, and complete studies included in the qualitative synthesis text articles that were assessed for their eligibility were 188 articles. Screening was carried out again on articles that did not focus on the determining factors of success, articles that were not published in recognized sources were not included in the assessment, so that there were 60 articles. Furthermore, from the screening of these 60, only articles included in the qualitative synthesis were taken, totaling 6 articles.

Results

General Research Results & Contextual Information of Reviewed Studies

The results obtained in a review of 25 articles discussing the management of digital-based educational institutions were found to answer the question, How do recent findings discuss the management of institutions? digital education? Of the 25 articles found, there were 7 articles that were relevant to the main theme.

Table 4 Themes and Sub Themes

Referensi	Sub Tema
Diez et al (2020)	Management of Digital Institutions Factors influencing the management of educational institutions
Benavides et al (2020)	Management of Digital Institutions Management of digital infrastructure for learning
Machundanyi et al (2021)	Digital education tools Application of digital literacy skills for students
Churiyaha et al (2022)	Digital education tools Digital learning process management
Vasylenko et al (2022)	Management of Digital Institutions Archives management using digital technology
Bai & Jiang (2024)	Digital-based educational institution marketingOnline learning services, digital learning assessment

The study discusses the mechanism of modernization and archiving of data using digital technology in managing educational institutions in Ukraine as a new breakthrough in utilizing technology by collaborating with stakeholders. This study concludes that digital infrastructure management is a new paradigm for improving data archiving systems in educational institutions (Vasylenko et al., 2022).

Other researchers discuss that digital management of educational institutions can be carried out in various aspects, depending on the institution's resources and applicable policies. Digital-based management of educational institutions can be carried out in aspects of teaching methodology, digital literacy and skills, digital learning resources, digital learning administration processes, infrastructure, and physical facilities for digital learning such as laboratories and digital libraries as alternatives to be developed digitally in managing educational institutions (Castro Benavides et al., 2020).

Furthermore, the management of educational institutions focuses on aspects of digital literacy and management of digital learning processes that provide interesting content for students (Meirbekov et al., 2022; Mucundanyi & Woodley, 2021), as well as digital learning assessment (Bai & Jiang, 2024; Yulizar & Siswanto, 2023). The management of educational institutions in terms of the digital learning process has been studied more than the management of education administratively in Indonesia, including learning assessments and comparisons of face-to-face and online teaching and learning processes based on digital technology which were studied after the 2019 Covid pandemic were discussed more in Indonesia, and the management of educational institutions is more focused on digital teaching and learning activities as a legacy of learning habits in 2019, which began in 2020 (Malikah, 2023).

Key Findings

The main findings from the latest research on the topic of managing digital-based educational institutions in Indonesia are found through 6 main articles.

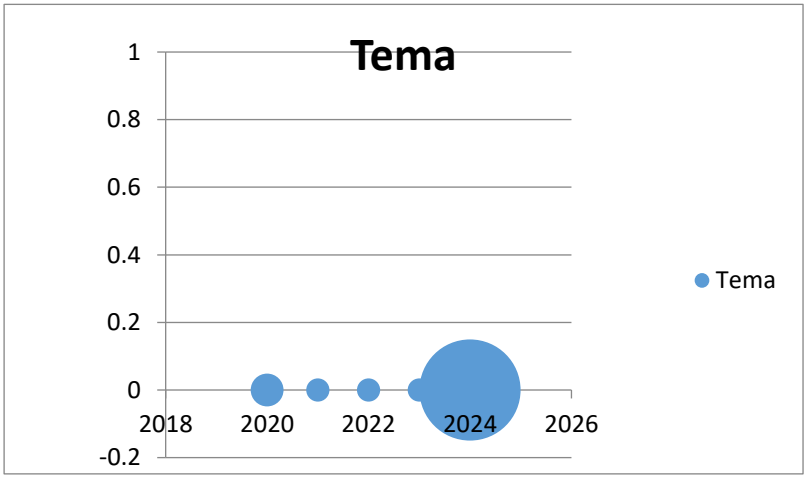

Figure 2. Distribution and Management Themes of Digital Education Institutions 2020-2024

Table 5 Distribution and Themes for Management of Digital Education Institutions 2020-2024

Tahun	Tema	%
2020	FFPLPD, PID	8%
2021	PKLD	4%
2022	MPPD	4%
2023	PLPD	4 %
2024	PPD	76%

Information:

1. FFPLD (Factors for Managing Digital Education Institutions

2. PID (Digital Education Infrastructure Management)

3. PKLD (Digital Literacy Skills Management)

4. MPPD (Digital Education Marketing Management)

5. PLPD (Digital Educational Institution Management)

6. PPD (Digital Learning Assessment).

Discussion

In general, there is quite a lot of research discussing digital technology in the period 2020 to 2024, but research examining the management of digital-based educational institutions has proven to be minimal, especially in the territory of Indonesia. From the screening of 60 articles found through the Scopus, Google Scholar and ERIC data bases, there were 25 articles in general, and 6 main articles that were relevant, but not necessarily in the Indonesian region, except for learning assessment and the use of cellphones as learning resources (Ismail et al. al., 2022).

The main themes discussed in previous research are adequate but in terms of the quantity of educational institutions they are still lacking. Likewise with scientific research related to this problem. The main themes studied are as follows:

1. Digital archiving management

2. Digital infrastructure management

3. Management of the digital learning process

4. Management of digital literacy skills

5. Factors in the management of educational institutions

6. Marketing of digital educational institutions

7. Digital learning assessment.

Researchers are of the opinion that the management of digital-based educational institutions in Indonesia is still lacking. The education unit management does not want to adapt to digital technology, which is an obstacle in management. The causal factor was discovered because many educational human resources in Indonesia still stick with the manual culture, the old culture that has been implemented, while in other countries such as Saudi Arabia, digital use has been planned as a solution to face the challenges of the times (Islam & Khan, 2024). Therefore, courage, creativity and innovation are needed from the workforce. Education that is skilled and proficient in the digital world as a solution, for example working together as a work team (Soboleva & Karavaev, 2020).

Conclusion

Based on the results of the literature review and discussion, it can be concluded as follows: (1) In general, studies on the management of digital-based educational institutions can be carried out from six aspects, namely archiving, digital literacy skills, educational infrastructure, learning processes, management of educational institutions, and marketing of educational institutions; (2) The management of digital-based educational institutions in Indonesia is still minimal due to unprepared human resources and persisting with the old work culture. However, Indonesia has tried to keep up with the times by focusing on digital learning and assessment activities. The expected implication is that researchers in Indonesia will study more about the problem of managing digital educational institutions, especially the management of human resources for educational staff and educators who have not yet been discovered. Educational resources in Indonesia to improve digital skills even higher.

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Author Information

Gusti
Universiti Utara Malaysia,
06010 Sintok,
Kedah, Malaysia
Gustiananda199@gmail.com