Transformation of Digital Archives Management: Case Study of Dynamic Archives Information System Implementation at SMA Negeri 2 Sidoarjo

Lailul Mursyidah*, Rita Ambarwati Sukmono, Laila Ihza Masithah

Universitas Muhammadiyah Sidoarjo, Indonesia

Abstract: This article discusses the transformation of archiving management from manual to digital systems at SMA Negeri 2 Sidoarjo. This study aims to analyze the implementation of the Dynamic Archiving Information System (SIKD) in improving the efficiency and effectiveness of archive management. The research method used is a case study with a qualitative approach through interviews, observations, and document analysis. The results of the study indicate that the implementation of SIKD has a positive impact on archive management, including increasing accessibility, security, and time efficiency. However, there are several challenges such as the lack of trained human resources and adequate infrastructure. In conclusion, digital transformation in archiving management is very important to support smooth administration and decision making in the educational environment.

Keywords: Digital Archiving, Dynamic Archiving Information System, Efficiency, Effectiveness, Digital Transformation

Introduction

The development of information and communication technology has brought significant changes in various aspects of life, including in archiving management (Marjono et al, 2023). Digital archiving is a modern solution to overcome various problems in conventional archive management (Sudarsana et al, 2024). The goal of digital archiving management is to increase the efficiency, effectiveness, security, and accessibility of information. The benefits of this topic are to help organizations manage information better, reduce the risk of data loss, and improve the quality of service. The reasons or impacts of digitalizing archives are to support broader digital transformation, increase transparency, and support faster and more accurate decision-making (Parasuraman, 1985) (Sidabalok, 2022)

In Indonesia, digitalization of archives has become an important agenda for the government and various organizations, including educational institutions. The phenomenon that is occurring is that more and more organizations are switching from manual to digital archiving systems (Fauziah et al, 2022). The role of society in facing this era is to increase awareness of the importance of good information management,

participate in training and development of digital skills, and support government policies in digitalizing archives (Kennedy et al, 2024).

Several journal studies show that implementing a digital archiving system can improve operational efficiency, reduce storage costs, and increase user satisfaction (Saefulrahman et al, 2025). However, there are also challenges that need to be overcome, such as data security issues, lack of infrastructure, and resistance to change from some staff (Ramadhan et al, 2024).

Information management theory, which emphasizes the importance of managing information as a strategic asset of an organization. This theory explains that well-managed information can increase the competitiveness, innovation, and efficiency of an organization. In addition, the theory of diffusion of innovation is relevant to understanding how the adoption of new technologies, such as digital archiving systems, occurs within an organization (Aisyah, 2022) (Cipta, 2023).

Implementation of digital archiving. In theory, digitalization of archiving should increase efficiency and effectiveness. However, in practice, many organizations face various obstacles that hinder the achievement of these goals (Darmansah et al, 2023). The importance of this study is to identify factors that influence the success of implementing a digital archiving system, as well as to provide practical recommendations for organizations that wish to undertake digital transformation in archiving management (Zainuddin, 2024).The purpose of this study is to analyze the implementation of the Dynamic Archiving Information System (SIKD) in improving the efficiency and effectiveness of archive management at SMA Negeri 2 Sidoarjo.

Methodology

The research method used in this study is a case study with a qualitative approach. Case studies were chosen because they allow researchers to understand the phenomenon of implementing digital archiving systems in depth and comprehensively in a real context. A qualitative approach was used to explore in-depth information regarding experiences, perceptions, and practices related to the implementation of SIKD at SMA Negeri 2 Sidoarjo (Creswell, 2010).

Data collection technique
1. Interviews: Semi-structured interviews were conducted with various informants, including principals, administrative staff, teachers, and students involved in archive management. The interview aimed to obtain information regarding the SIKD implementation process, the benefits felt, the challenges faced, and the strategies used to overcome these challenges.
2. Observation: Observations are conducted to directly observe how SIKD is used in daily practice. Observations include observations of the data input process, archive searches, document management, and interactions between users and the system.
3. Document Analysis: Document analysis is carried out on various relevant documents, such as archiving policies, SIKD usage guidelines, evaluation reports, and archives managed in the system. Document analysis aims to obtain information

regarding the system structure, available functions, and the effectiveness of the system in managing archives.

Data Analysis Techniques The collected data was analyzed using analysis techniques (Miles, 2014). Content analysis was used to identify patterns and trends in interview and document data. Thematic analysis was used to identify key themes emerging from the data and relate them to relevant theories. At the data collection stage, this activity is focused on collecting relevant information for compiling the internship report. This process involves systematic recording of the various activities and tasks carried out during the internship, including duration, results achieved, and individual and team accomplishments. The data collected includes daily notes, activity documentation, and evaluation results of each completed task. Data collection is carried out carefully to ensure that the information obtained is accurate, comprehensive, and can be used as a solid basis in preparing the final internship report.

Result and Discussion

The focus of this internship is related to administration and archiving. SMAN 2 Sidoarjo provided specific directions to the team to assist with various tasks related to administration and archiving, which are important elements in maintaining the smooth operation of the school. These tasks generally include inputting new student membership data for the 2024-2025 academic year in the SliMS application, helping to create reports on BOS and BPOPP TB 2024 funds, and assisting in managing student administration.

In the input of new student membership data for the 2024-2025 academic year, the SliMS application simplifies the digital recording process, enabling fast and accurate data access. This application also helps in ensuring that every student information is stored safely and organized, making it easier to monitor and manage school data.

Furthermore, assistance in preparing BOS and BPOPP TB 2024 fund reports includes preparing detailed reports on the allocation and use of the budget for school operational needs. This process involves collecting data related to expenditure and ensuring that each fund is used according to its intended use, whether for facility needs, teaching and learning activities, or other needs. The preparation of this report is very important to ensure transparency and accountability of school finances, facilitate audits, and maintain public trust in the management of education funds.

Then, in terms of managing student administration, it includes managing important files such as personal data, registration, attendance, and other academic completeness. In addition, this task also includes maintaining archives and updating student data periodically, including changes in status, academic achievements, and handling administrative needs such as scholarship applications and graduation documents. With proper management, this process helps ensure order and efficiency in school operations, and supports optimal service to students, teachers, and parents.

Figure 1. Recording old SKHUN that has not been distributed
Source: Personal Documentation, 2024.

Archive management in schools is an important aspect that supports smooth administration, documentation, and educational services. Archives function as official documents that support administrative activities, such as storing student data, financial records, correspondence, and evaluation results. In addition, archives serve as an important source of information for decision-making and school management, including for accreditation, audit and inspection needs. Good archive management also helps in preserving the history of the institution, recording the activities, achievements and development of the school over time. However, archive management in schools often faces various challenges, one of which also occurred at SMA Negeri 2 Sidoarjo. SMA Negeri 2 Sidoarjo faces challenges in terms of resources, including a lack of experts and adequate facilities to support effective archive management. Observations during the regular internship program showed that this school experienced obstacles, especially in managing student data. One of the reasons is the lack of IT staff tasked with administering the data, who also have to carry out additional responsibilities as teachers. In addition, there are also technical problems such as frequent disruptions to Wi-Fi connections which also hamper the process of managing student data. This indicates the need for improvements in human resources and school facilities so that archive management for student data purposes can run more efficiently.

The implementation of the Dynamic Archiving Information System (SIKD) at SMA Negeri 2 Sidoarjo has had a positive impact in increasing the efficiency and effectiveness of archive management. SIKD enables users to search and access archives more quickly and easily, protect archives from unauthorized access, automate many manual tasks, and reduce costs associated with conventional archive management. However, the implementation of SIKD also faces several challenges, such as the lack of trained human resources and adequate infrastructure. To increase the success of implementing a digital archiving system, organizations need to invest in training and digital skills development for staff, improve information technology infrastructure, and develop clear policies and procedures regarding digital archive management. Further research is needed to explore the factors influencing the successful implementation of digital archiving systems in different contexts, as well as to develop more effective and efficient implementation

models. Research Limitations: This research is limited to a case study in one school, so the results may not be generalizable to different contexts. In addition, this study only focuses on the efficiency and effectiveness aspects, so other aspects such as user satisfaction and environmental impact have not been explored in depth.

To optimize the management of student data and other archives, schools need to increase the number of experts, especially in the IT field, and provide special training for staff involved in archive management. The development of technological infrastructure is also crucial, including improving Wi-Fi connections and providing equipment that supports digital archive storage, to facilitate administration and documentation processes. In addition, the use of a full electronic filing system needs to be considered to facilitate efficient data management and access and reduce dependence on physical documents. Regular evaluation and monitoring of archive management is also important to ensure the system is running effectively and identify technical problems early.

The implementation of SIKD at SMA Negeri 2 Sidoarjo showed positive results in increasing the efficiency and effectiveness of archive management. Some of the key findings are Improved Archive Accessibility.SIKD allows users to search and access archives more quickly and easily. This reduces the time needed to search for information and increases staff productivity. Enhanced Archive Security, SIKD is equipped with security features that protect archives from unauthorized access. This reduces the risk of data loss and ensures confidentiality of information. Increased Time Efficiency, SIKD automates many manual tasks in archive management, such as data input, indexing, and storage. This reduces the time required to complete these tasks and frees up staff to focus on more important tasks. Cost Reduction, Implementation of SIKD reduces costs associated with conventional archive management, such as storage costs, duplication costs, and shipping costs.

Table 1. Comparative Analysis of Archive Management Before and After SIKD Implementation

Aspect	Before the implementation of SIKD	After the implementation of SIKD
Accessibility	Difficult and time consuming	Fast and cheap
Security	Vulnerable to loss	Protected
Time efficiency	Low	Tall
Cost	Tall	Low
Storage capacity	Limited	Unlimited (cloud)

Source: Processed by researchers, 2024

The results of this study are in line with previous research findings which show that the implementation of a digital archiving system can increase the efficiency and effectiveness of archive management (Arianto, 2018). Implementation of SIPD at SMA Negeri 2 Sidoarjo supports information management theory, which emphasizes the importance of information management as a strategic asset of the organization. However, the implementation of SIKD also faces several challenges, such as the lack of trained human resources and adequate infrastructure. This challenge is in line with previous research findings which show that data security issues, lack of infrastructure, and

resistance to change from some staff can hinder the successful implementation of digital archiving systems (Rusmana et al, 2023).

Conclusion

The implementation of the DGis Archival Information System (SIKD) at SMA Negeri 2 Sidoarjo has had a positive impact in increasing the efficiency and effectiveness of archive management. SIKD enables users to search and access archives more quickly and easily, protect archives from unauthorized access, automate many manual tasks, and reduce costs associated with conventional archive management. However, the implementation of SIKD also faces several challenges, such as the lack of trained human resources and adequate infrastructure. To increase the success of implementing a digital archiving system, organizations need to invest in training and digital skills development for staff, improve information technology infrastructure, and develop clear policies and procedures regarding digital archive management.Further research is needed to explore the factors influencing the successful implementation of digital archiving systems in different contexts, as well as to develop more effective and efficient implementation models. Research Limitations: This research is limited to a case study in one school, so the results may not be generalizable to different contexts.In addition, this study only focuses on the efficiency and effectiveness aspects, so other aspects such as user satisfaction and environmental impact have not been explored in depth.

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