



The Effectiveness of Leadership Policies in Creating a Digital Library System

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ABSTRACT

Purpose: This research paper aims to investigate potential solutions to school library problems by leveraging digital transformation and implementing effective digital-based library development strategies. Due to the rapid development of technology, traditional school libraries face numerous obstacles that hinder their ability to meet the changing needs of students and teachers. This study examines how digital transformation can address these challenges and improve school library functionality and effectiveness. **Methods:** The research methodology consists of a comprehensive literature review, case studies, and an analysis of digital library development best practices. **Findings:** The paper identifies significant challenges facing school libraries, such as limited resources, outdated materials, insufficient access to information, and low user engagement. Incorporating technology into library services and resources, it examines how digital transformation can mitigate these problems. Implementing digital platforms, online databases, e-books, multimedia resources, and interactive learning tools are effective strategies for the development of digital-based libraries. By exploring solutions to school library problems through digital transformation and providing strategies for effective digital-based library development, this paper aims to contribute to the improvement of school library services, empowering students and educators with access to current information, promoting digital literacy, and fostering a dynamic learning environment.

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INTRODUCTION

The development of information and communication technology (ICT) has significantly transformed various sectors, including libraries (Essaaidi, 2015). The rapid advancement of the internet and new information sources necessitates a major shift in library collections and services (Guerra Bretaña & Orozco Inca, 2020). Digital libraries provide users with convenient access to electronic information anytime, eliminating the constraints of traditional library hours and physical visits. This innovation addresses the challenge of limited access to information (Noviarto & Samputra, 2021; Rahyadi et al., 2021).

According to Carter V. Good, a school library is a designated space containing a variety of library materials managed by librarians for the benefit of students and teachers (Boyle, 2022). The Indonesian National Standard for School Libraries (SNI 7329-2009) further emphasizes that school libraries are essential for supporting educational activities in both primary and secondary schools (Alghamdi & Alghamdi, 2022). Thus, while school libraries share similarities with general libraries, they are specifically tailored to serve the school community's needs (Gunton, 2022).

This study highlights the importance of collaboration among librarians, educators, and technology specialists to successfully integrate digital technologies into the library environment. It also stresses the significance of user-centered design, ensuring that digital library services are user-friendly and catered to the specific needs of students and teachers. Additionally, the research explores potential obstacles and challenges in the digital transformation of school libraries, such as budgetary constraints, technical infrastructure, and staff training. The study provides recommendations to overcome these obstacles and emphasizes the necessity of ongoing professional development and evaluation of digital library projects.

School libraries face several significant challenges that can impede their ability to cater to the needs of students and teachers. These challenges include limited resources, outdated materials, inadequate access to information, and low user engagement. Budget constraints and other limited resources can hinder the acquisition of new books, digital resources, and technology upgrades. The relevance and quality of the library's collection may suffer due to outdated physical and digital materials. Insufficient access to information, especially in this digital age, can obstruct students' ability to find and use diverse, up-to-date resources (Ahmad, 2021; Krishna & Murugan, 2023). Moreover, low user engagement, marked by underutilization of library services and disinterest in library resources, can diminish the library's impact on student learning.

There is an increasing acknowledgment of the potential for digital transformation in school libraries to tackle these challenges (Swenson & Tinsley-Kim, 2017; Us & Musyaffa, 2023). Digital transformation refers to the

integration of technology into library services and resources to enhance accessibility, engagement, and efficiency. By embracing digital transformation, school libraries can address resource limitations through digital collections that can be easily expanded and updated without requiring additional shelf space (Chourasia et al., 2022; Nagy et al., 2021). Digital materials also enable the creation of interactive and multimedia-rich resources that cater to various learning styles and interests.

Technology integration significantly enhances information accessibility through online databases, e-books, and digital archives, expanding the range of resources available to students and enabling flexible access anytime and anywhere (Kristiana et al., 2023; Lee, 2023). Digital tools and platforms, incorporating interactive learning experiences, gamification, and personalized recommendations, can also enhance user engagement, fostering active participation and collaboration between students and the library (Sari et al., 2020).

The integration of technology in school libraries encompasses not only the digitization of existing resources but also the adoption of emerging technologies such as artificial intelligence, data analytics, and virtual reality. These innovations provide new avenues for user engagement, facilitate personalized learning experiences, and assist librarians in making data-driven decisions. By embracing digital transformation, school libraries can effectively maximize limited resources, update materials, improve information access, and increase user engagement. However, to fully realize the benefits of digital transformation for all students and teachers, it is crucial to strategically plan and implement digital initiatives, considering infrastructure, digital literacy, and equitable access.

METHODS

This study's research methodology includes a comprehensive literature review, case studies, and an analysis of digital library development best practices. To gain a comprehensive understanding of the topic, a comprehensive literature review was conducted, which included scholarly articles, books, reports, and other authoritative sources. This literature review served as the basis for identifying the most significant issues and challenges school libraries face in the digital age.

In addition to the review of the literature, a series of case studies were conducted to provide real-world insights into the experiences of schools that have implemented digital-based library development strategies. These case studies entailed conducting interviews, collecting observational data, and

analyzing documentation pertaining to the obstacles faced and the strategies employed by these schools. By examining multiple cases, a comprehensive and diverse perspective was obtained, enabling a more nuanced comprehension of the various approaches and their efficacy.

In addition, the study included an analysis of digital library development best practices. This analysis examined successful initiatives, innovative solutions, and emerging trends in the digital library industry. Examining exemplary models and successful implementations revealed valuable insights and strategies for addressing school library problems in the digital age.

Using this research methodology, which combined a comprehensive literature review, case studies, and an analysis of best practices, a comprehensive and informed perspective was obtained. This study's findings provide valuable insights and actionable suggestions for enhancing school libraries through the development and implementation of effective digital library strategies. In addition, the research contributes to the academic discourse surrounding library science, educational technology, and digital transformation in educational settings.

RESULTS AND DISCUSSION

The Importance of School Libraries

Libraries serve several essential functions within educational institutions. According to Permendikbud No. 59 of 2012, which pertains to the National Accreditation Board, comprehensive facilities and infrastructure are required for schools, with the school library being a key component of school accreditation.

The need for a collection of non-textbook materials is highlighted in the Regulation of the Minister of Education and Culture Number 23 of 2015, which mandates that students read for at least 15 minutes each day before engaging in teaching and learning activities. Consequently, schools must maintain a school library to provide teachers and students with access to a diverse array of non-textbook resources.

School libraries play a vital role in enhancing the learning process, as institutions strive to produce intelligent and exceptional students. Access to sufficient learning resources in the school library is crucial for improving understanding and performance among both teachers and students. Furthermore, a well-resourced school library can enhance the school's reputation in the eyes of the public, contributing to a culture of reading and the development of academically outstanding students. Therefore, establishing a school library is essential for schools aspiring to achieve "Excellent School" status.

A school library worker is an individual appointed by an authorized official to manage the organization and administration of the school library based on their qualifications. The school principal has the authority to appoint library staff. The responsibilities of a school library worker encompass various administrative tasks, including the acquisition of library materials, classification and cataloging of books, facilitating loan and return processes, and performing other relevant duties.

The concept of a digital library involves utilizing information technology in library management. Many higher education libraries in Indonesia have successfully implemented digital libraries to support their daily operations.

Characteristics of Digital Libraries

A digital library is a virtual collection of digital resources that offers users access to a wide range of electronic materials, utilizing digital technology to store, organize, and disseminate information. Unlike traditional libraries, digital libraries provide online access to various resources, including books, journals, articles, audiovisual materials, and more, stored in formats such as PDF, ePUB, and MP3. Users can access these materials from computers, tablets, or smartphones with an internet connection.

One of the primary advantages of digital libraries is their accessibility, allowing users to access resources remotely at any time, thus eliminating constraints related to physical proximity and operating hours. Additionally, digital libraries are scalable and capable of storing vast amounts of information without the physical space limitations of traditional libraries. Advanced search capabilities enhance the discoverability of resources, enabling users to quickly locate specific materials by searching titles, authors, subjects, or keywords.

Digital libraries also play a crucial role in preservation by digitizing fragile or rare materials, protecting them from physical deterioration while ensuring long-term accessibility. They offer interactive features that enhance user experience, such as bookmarking, annotation tools, and multimedia content, fostering a more engaging learning environment. Furthermore, these libraries promote user collaboration and knowledge sharing through discussion forums and community spaces.

Finally, digital libraries can be cost-effective by reducing expenses related to physical infrastructure and printed materials. They allow for broader outreach by facilitating remote access, thus reaching a wider audience. Overall, digital libraries leverage technology to enhance information access, facilitate knowledge sharing, and improve the user experience in an online setting.

Analysis and Solution to Library Problems

A digital library is an online platform that provides access to a vast collection of digital resources, including books, journals, articles, audio, video, and other media. It serves as a digitized version of a traditional library, allowing users to retrieve information remotely via computers, tablets, or smartphones.

Digital libraries offer several advantages over traditional libraries, such as accessibility from any location with internet access, eliminating the need for physical visits. They can store a massive amount of information without space limitations, housing millions of resources for users to explore. Advanced search tools and metadata enhance the searchability of materials, making it easier to find specific content.

Additionally, digital libraries contribute to the preservation of cultural heritage by digitizing fragile or rare materials, making them accessible while protecting them from deterioration. Features like adjustable font sizes, highlighting, and audio versions enhance the reading experience. They also promote collaboration and knowledge sharing through discussion forums and social sharing options.

Many universities, research institutions, public libraries, and private organizations have developed their own digital library platforms, alongside large-scale initiatives at national and international levels to provide widespread access to resources.

Challenges and Solutions: Addressing budget constraints in digital library initiatives

Building and developing a school library is not free from problems that will be faced and often become obstacles. Below we summarize some common school library problems and their solutions

Financing: To build and develop a library, schools are often constrained by cost. The program to build and develop a library does not have to be a one-time event (i.e., a building and collection right away), but can be paid in installments as a long-term program, as discussed earlier. Thus, it is not burdened by a small amount of money. Funding sources for libraries are as follows:

- (a) Using BOS (School Operational Assistance) Funds. As stated in Permendikbud No. 6 of 2021 concerning the Technical Guidelines for the Management of Regular BOS Funds, which requires schools to use one of the BOS Funds for Library Development.
- (b) Using BOP (Education Operational Assistance) Funds. BOP funds are issued and regulated by local governments, one of which must be spent on developing school libraries and literacy.
- (c) Using Company CSR Funds. Schools can submit proposals for CSR fund assistance to purchase library book collections to certain companies in the city/district where the school is located. Because in general, every

company has CSR funds that are specifically donated to community institutions, including educational institutions or schools.

- (d) Using self-help funds from the school community or parents. In order to support their children's achievements, of course parents of students with middle to upper economic levels will not mind donating funds for the shopping needs of the school library book collection. Similarly, teachers and other school community members can work together to pay for library books.

One significant obstacle identified in the research is the need for more professional librarians or teachers trained in Library Science. This gap can hinder effective library management and the overall functioning of school libraries. While it is noted that knowledge in Library Science can be acquired through various resources, including guidelines from the Ministry of Education and Culture, formal training may lead to adequate governance and management practices. This study highlights the need for schools to prioritize hiring qualified personnel or providing training opportunities for existing staff to ensure the library is managed effectively.

Limited Collection and Lack of Relevance to Student Interests: Another critical issue is the limited collection of materials in school libraries, which often needs to align with student interests. The research indicates that many students are disinterested in visiting the library due to a lack of engaging resources, primarily textbooks and scientific literature. The study suggests several actionable strategies.

The recommendations include allocating a portion of the BOS/BOP Fund to purchase diverse library materials, which could enhance the collection's relevance. Additionally, recording the specific categories of books desired by students and teachers – such as poetry, novels, and biographies – can help tailor the library's offerings to meet actual interests. Finally, partnering with book distributors who can supply these desired categories is crucial for fulfilling the library's needs.

The findings underscore the importance of professional library management and a relevant, engaging collection to foster student interest in school libraries. By implementing the proposed solutions, schools can create a more vibrant library environment that encourages reading and supports students' educational needs.

To improve the school library, it is recommended that a portion of the BOS/BOP Fund be allocated for book purchases. Schools should maintain a record of the types of books required by students and teachers, including genres such as poetry, short stories, novels, motivation, biography, and history. Subsequently, they should identify a book distributor capable of meeting these demands.

A significant concern is the lack of interest among students and teachers in library resources. This disinterest may stem from poor management and the absence of engaging programs. Therefore, library managers should implement creative and innovative activities to foster a culture of literacy among students and faculty.

Current challenges include insufficient library budgets, outdated furniture, underutilized collections and services, and resources that do not align with user needs or the curriculum. Additionally, there is a general lack of awareness within the school community regarding the library's integral role in the educational system.

Limited library budgets pose significant challenges to developing and improving school libraries, restricting the acquisition of new resources, technology upgrades, and infrastructure maintenance. Advocacy efforts are essential to raise awareness among school administrators, parents, and stakeholders about the importance of sufficient funding for library services. Additionally, outdated furniture can detract from the library environment and user experience, necessitating budget allocations or external funding for upgrades to create a comfortable space conducive to reading and collaboration.

Schools should align resources with the community's needs and curriculum to optimise library collections and services. Regular assessments and surveys can identify areas for improvement, while collaboration with educators and student involvement in resource selection can enhance relevance and promote library usage. Furthermore, raising awareness about the library's integral role in education is crucial; utilizing communication channels and integrating library activities into the curriculum can demonstrate its value. School librarians should advocate for adequate budgets, engage in professional development, and actively involve the community in library planning to create a more effective educational resource.

The development of school libraries in Indonesia has progressed significantly, although this advancement varies by region and school type. Recognition of school libraries as essential components of educational institutions has increased, with the Indonesian government highlighting their role in supporting learning and promoting literacy through the Ministry of Education and Culture. This growing acknowledgment emphasizes the importance of adequate funding and infrastructure to enhance library services.

Efforts to improve library infrastructure and resources have led to the creation of dedicated library spaces equipped with appropriate furniture and diverse reading materials. Schools are focusing on acquiring age-appropriate books, magazines, reference materials, and digital resources. With the integration of technology, many libraries have adopted computerized systems for cataloging and circulation, as well as digital libraries and online platforms

that provide access to e-books and educational databases, thus modernizing the library experience.

Professional development for librarians has also been prioritized, with training programs and workshops aimed at enhancing skills in collection management, information literacy, and technology integration. Collaborations with local communities, parents, and educators have fostered reading initiatives and events that promote literacy. Furthermore, there is a concerted effort to create inclusive libraries that accommodate diverse student needs, including materials in multiple languages and resources for students with disabilities, ensuring a welcoming environment for all learners.

Policies for Improving Libraries

As policymakers, understanding principals' strategies for enhancing school library quality is essential for improving library services. Key strategies include recognizing the library's importance, allocating sufficient resources, fostering collaboration with librarians, prioritizing professional development, engaging the school community, and evaluating library services. By promoting the library as a vital educational component, principals can advocate for its necessary support.

Principals must ensure adequate resources, including budgetary funds and staffing, to support library operations. A collaborative relationship with librarians is crucial; involving them in decision-making and curriculum planning aligns library services with educational goals. Additionally, prioritizing professional development enables librarians to stay informed about best practices in library management and educational trends.

Engaging the school community is vital for promoting reading and information literacy. Principals should encourage teachers to integrate library resources into their instruction and involve parents in library activities. Ongoing evaluation of library services, including feedback collection and usage analysis, helps identify areas for improvement. Furthermore, promoting technology integration in libraries enhances access to digital resources and supports students' digital literacy skills. Research suggests that libraries should explore corporate social responsibility (CSR) programs for alternative funding and seek school committee support to optimize information technology in library management.

Efforts to Improve Library Management

Principals can take concrete steps to stabilize library services amid limited human and financial resources. First, they should assess the current staffing situation to identify opportunities for reallocating personnel or acquiring additional support. This may include assigning staff with an interest in library services, even on a part-time basis, and exploring resource-sharing

arrangements with other departments or schools. Principals can engage the school community to recruit volunteers for library operations. By reaching out to parents, community organizations, retired educators, and college students interested in library science or education, they can enlist help for tasks such as shelving books, organizing materials, and assisting with library events.

To enhance library services amid limited human and financial resources, principals should actively engage the school community, including teachers, students, and parents, fostering a sense of shared ownership and responsibility. By encouraging teachers to integrate library resources into their lessons and providing opportunities for student involvement in library maintenance and projects, principals can cultivate a collaborative environment. Additionally, leveraging technology is crucial; automating routine tasks such as circulation and cataloging through a library management system can streamline operations and free up the librarian's time for other essential duties. Online platforms can also enhance access to e-books and digital resources, improving overall service delivery.

Furthermore, principals should seek external funding opportunities to supplement library budgets, including grants and sponsorships from local businesses and educational foundations. Collaborating with community organizations and parent associations can facilitate fundraising efforts and resource sharing. Forming alliances with local libraries and educational institutions can provide access to additional materials and professional development opportunities for staff. Advocating for increased funding with relevant stakeholders is essential to underscore the significance of library services in promoting student achievement and literacy. By implementing these strategies, principals can effectively stabilize and enhance library services, ensuring their continued educational value.

In the context of rapid technological advancement, traditional school libraries encounter significant challenges in adapting to the evolving needs of students and educators. This study explores the potential of digital transformation to enhance the functionality and effectiveness of school libraries, aiming to unlock their full potential in supporting contemporary education. By examining digital tools and strategies, the research seeks to identify innovative approaches that can improve libraries' capacity to meet the changing demands of their users.

Successful integration of digital technologies in educational libraries requires several critical components. First, establishing a robust infrastructure with reliable high-speed internet, adequate hardware, and scalable network support is essential. Second, digital literacy training for students, educators, and librarians is vital to ensure effective navigation of digital library systems and resources. Efforts must also be made to ensure equitable access to digital resources, addressing disparities in technology availability. Additionally,

implementing strong cybersecurity measures is crucial for protecting user data and maintaining system integrity. Collaboration with publishers and educational institutions can enhance resource availability and align digital content with curriculum objectives. Finally, continuous evaluation and user feedback are necessary to assess the effectiveness of digital library integration, guiding improvements and ensuring that services meet the specific needs of students and teachers. The study highlights the importance of collaboration among librarians, educators, and technology specialists, as well as user-centered design, to foster a dynamic and effective digital library environment.

CONCLUSION

Key factors for successful integration have been identified, including the need for a robust infrastructure with dependable internet connectivity, adequate hardware, and sufficient storage space. Digital literacy has emerged as a crucial component, highlighting the significance of training students, teachers, and librarians to use digital library systems, conduct effective online research, and develop essential digital skills. It was emphasized that equitable access to digital resources is a crucial factor, and initiatives such as loaner devices, computer labs, and mobile hotspots are recommended to bridge the digital divide. To protect the integrity and privacy of digital library systems, cybersecurity measures were emphasized, necessitating the implementation of robust security protocols and regular updates. Collaboration and partnerships with publishers, content providers, and other educational institutions were deemed beneficial for acquiring diverse digital resources and aligning them with educational objectives and curriculum requirements. It was deemed essential to conduct ongoing evaluation and assessment in order to collect user feedback, analyze usage patterns, and make informed decisions for continuous improvement. Overall, the discussion highlighted the need for an all-encompassing strategy to ensure the successful integration of digital technologies in the digital library environment. By considering infrastructure, digital literacy, equitable access, cybersecurity, collaboration, and evaluation, educational institutions can create a dynamic and effective digital library environment that supports educational goals and enhances student learning experiences.

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