

Digital-Based Management of the Primabaca Library of the Prima Swarga Bara Education Foundation to Improve Information Literacy

Sugeng Bashori^{1*}, Widyatmike Gede Mulawarman², Azainil³, Usfandi Haryaka⁴, Yudo Dwiyono⁵, Laili Komariyah⁶

Master of Educational Management, Mulawarman University

Corresponding Author: Sugeng Bashori sugengbashori43@gmail.com

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ABSTRACT

This study aims to analyze digital literacy management in the Primabaca Library of the Prima Swarga Bara Education Foundation as part of efforts to improve information literacy for school residents and the community. The research background is based on the need for educational institutions to adapt to the development of information technology and the demands of digital literacy in 21st century learning. The research uses a qualitative approach of the type of case study. Data were obtained through in-depth interviews, direct observations, and documentation studies of library heads, library staff, teachers, and service users. The results of the study show that digital literacy planning is carried out through the determination of digitalization vision and strategy, mapping service needs, and the preparation of literacy programs that are integrated with the curriculum. The implementation of the program includes the use of Smart Libraries, SLiMS automation systems, the provision of digital collections, and the implementation of digital literacy and training activities for users. Control is carried out through routine evaluation, identification of technical obstacles, and service improvement based on user needs. The main supporting factors include the foundation's commitment, policy support, availability of facilities, and human resource competence. Obstacles that arise include limited internet networks, server capacity, and variations in users' digital literacy abilities. The improvement strategy is directed at strengthening technology infrastructure, expanding digital literacy training, optimizing service socialization, and developing relevant digital content. This study concludes that planned and responsive digital library management contributes significantly to strengthening information literacy and the quality of the learning process.

INTRODUCTION

Digital literacy is not limited to the ability to use technological devices, but it also includes the ability to search, evaluate, and utilize information effectively. In this fast-paced digital era, information can be easily accessed, but not all information is accurate or relevant (UNESCO, 2018). This is becoming increasingly relevant along with the rapid development of information technology. Data shows that more than 4.9 billion people worldwide used the internet in 2021, and this number continues to increase every year (Statista, 2025).

In this context, information literacy is very important, especially in libraries as information providers. In this fast-paced digital age, information can be easily accessed, but not all information is accurate or relevant. Therefore, libraries must play an active role in providing the necessary training and resources for users to be able to navigate the ocean of information that exists.

Literacy management in libraries does not only include the procurement of books or other printed resources, but also involves the development of digital literacy programs that are in accordance with the needs of the community. With the increasing use of digital devices, digital literacy has become a competency that must be owned by library users. However, despite various efforts, there are still challenges in managing digital literacy, such as a lack of public understanding of digital resources and how to access them.

The development of information and communication technology has brought significant changes in various aspects of life, including education. Libraries, as learning resource centers, are required to adapt to digital transformation to meet the digital literacy needs of the community. Digital literacy includes the ability to search, evaluate, and utilize information effectively through technological devices.

School libraries have an important role in supporting the digital literacy movement. Effective library management can increase students' interest in reading by providing easier, more flexible, and engaging access through technology. In addition, school libraries also function as a means for students to learn to become individuals who have information literacy, namely the ability to identify, select, and use information appropriately (Wasilah et al., 2025).

LITERATURE REVIEW

Digital literacy management in libraries includes strategic planning, provision of adequate digital facilities, training for librarians, and policy formulation that is adaptive to technological developments. Management can optimize digital literacy starting from planning, implementation, to evaluation in digital libraries (Susinta & Senjaya, 2022). Therefore, an in-depth study is needed to understand how digital literacy management is implemented in libraries, the factors that support and hinder it, and strategies that can be implemented to increase its effectiveness.

Libraries as information resource centers have a very strategic role in improving information literacy in the community. In Indonesia, well-managed libraries continue to strive to address this challenge by implementing literacy programs that are relevant to the needs of users. However, there is still a gap

between the need for information literacy in the digital era and the ability of libraries to provide appropriate services. Data from the Indonesian Library Association (2019) shows that only about 30% of libraries in Indonesia have adopted digital technology in their services, while the public's need for digital information continues to increase.

On the other hand, a survey conducted by We Are Social and Hootsuite in 2023 found that 94% of internet users in Indonesia use social media as their main source of information, while only 30% access information through library websites. This signifies that although society is increasingly digitally connected, they tend to rely on non-library platforms to meet their information needs them (Social, 2023). One of the main challenges faced by libraries is the lack of digital understanding and skills among visitors.

According to a survey by the Ministry of Communication and Information Technology (Kominfo) with the Katadata Insight Center in 2021, only 14.9% of internet users get access to information from official government websites. Indonesia's Digital Literacy Index in 2022 reached a score of 3.54 on a scale of 1 to 5, in the medium category. Meanwhile, the level of competence and skills of the community in the use of digital technology in 2023 reached a score of 43.18 on a scale of 1-100, in the category of sufficient (Literacy Status Digital_Nasional.Pdf, n.d.). This shows the need for digital skills training and development programs for library users. In this context, strengthening literacy management in libraries is very important to increase user capacity in accessing and utilizing digital information.

In addition, the rapid development of information technology also affects the way libraries manage collections and services. Libraries must be able to adapt to these changes to remain relevant and able to meet the needs of users. Research by Johnson (2021) shows that libraries that integrate technology in their services can attract more visitors and improve user satisfaction.

Yayasan Pendidikan Prima Swarga Bara (YPPSB) is a self-education foundation under the auspices of PT Kaltim Prima Coal's mining business to facilitate the main educational needs of children employees of the company. The Prima Swarga Bara Education Foundation was officially established on July 31, 1991, by opening education services from kindergarten to junior high school level. Primabaca Library is a library managed by the Prima Swarga Bara Education Foundation in North Sangatta District, East Kutai Regency. To meet the needs of learning resources, library services are also provided.

In its development, the library has consistently served the needs of learning and literacy resources until now, called the Primabaca Library, which meets the needs of 1 kindergarten unit, 3 elementary school units, 1 junior high school unit, and 1 high school unit. In addition, the Primabaca Library also offers services to the general public through its membership. This library acts as a literacy center for students, teachers, foundation employees, and the surrounding community.

In addition to still opening library services conventionally, in a few years after the Covid-19 pandemic, the form of library services was developed by opening digital library services. In its implementation, various challenges

are faced, such as the limitation of human resources who understand digital literacy in depth, the availability of adequate digital infrastructure, and the effectiveness of the digital literacy programs implemented.

Therefore, the Primabaca library needs to develop an effective literacy management strategy that focuses not only on providing information but also on developing user skills in utilizing the information. Several studies have been conducted to examine various aspects related to digital literacy management in libraries. Nurhayati, Daswati, & Nuraisyah (2024) conducted a case study at the U.P.A Library of Tadulako University and found that digital-based library management can improve the quality of services (Nurhayati et al., 2024). Susinta & Senjaya (2022) also researched digital library management in the global era, focusing on IPDN campus libraries, and identifying various strategies and challenges (Susinta & Senjaya, 2022). Furthermore, Hidayah & Ali (2024) examine the role of librarians in introducing digital literacy to elementary school students, emphasizing the importance of this role in improving digital literacy from an early age (Hidayah & Ali, 2024).

Research conducted by Eny Supriati (2021) regarding Library Management in Supporting the Digital Literacy Movement at Madrasah Aliyah Negeri 2 Madiun City shows that libraries have a strategic role in strengthening digital literacy in the secondary education environment. The results of the study emphasized the importance of planning digital literacy programs based on classes, school culture, and the surrounding community. The planning is carried out through analysis of the madrasah work plan, evaluation of previous programs, and consideration of internal and external factors, including the competence and potential of program implementers. In addition, the process of preparing the digital literacy program is also equipped with socialization stages to ensure the involvement of all education stakeholders.

The findings of Supriati's research have strong relevance to the focus of this research, namely, digital literacy management at the Primabaca Library of the Prima Swarga Bara Education Foundation. As part of an educational institution, the Primabaca library is required not only to be a collection storage center, but also to be a driving force for digital literacy that is active, adaptive, and integrated with learning needs. Therefore, the approach used in planning literacy programs at Primabaca should also consider alignment with the vision of the institution, the needs of users (students, teachers, the community), and the potential resources possessed. By referring to Supriati's (2021) frame of mind, this study seeks to explore how literacy management in the Primabaca Library can be developed systematically and contextually in facing literacy challenges in the digital era.

Based on the research above, it can be seen that there are several main themes that emerge. *First*, the importance of digital-based library management to improve service quality (Nurhayati et al., 2024). *Second*, the strategic role of libraries in improving digital literacy, both at the university and elementary school levels (Susinta & Senjaya, 2022; Hidayah & Ali, 2024). *Third*, strong factors in planning literacy management programs are to the socialization stage to ensure the involvement of all education stakeholders (Supriati, 2021).

However, these studies have not in-depth examined the implementation of comprehensive digital literacy management in school libraries, especially in the context of educational foundations.

Primabaca Library is a library managed by the Prima Swarga Bara Education Foundation in North Sangatta District, East Kutai Regency. The Prima Swarga Bara Education Foundation is a self-education foundation under the auspices of PT Kaltim Prima Coal's mining business to facilitate the main educational needs for the children of the company's employees. The Prima Swarga Bara Education Foundation was officially established on July 31, 1991, by opening education services from kindergarten to junior high school level. To meet the needs of learning resources, library services are also provided.

In its development, the library has consistently served the needs of learning and literacy resources until now, called the Primabaca library, which meets the needs of 1 kindergarten unit, 3 elementary school units, 1 junior high school unit, and 1 high school unit. In addition, the Primabaca library also offers services to the general public as a member. At the Primabaca Library of the Prima Swarga Bara Education Foundation, although it has made efforts to provide digital services such as *e-book* collections, online catalogs, and internet access for users, there are still several significant challenges that hinder the optimization of digital literacy management.

First, the low digital literacy of users, especially students and some teachers, who still experience difficulties in accessing, filtering, and utilizing information from digital sources effectively. This challenge has an impact on the lack of use of digital services that have been provided by libraries.

Second, the limitation of human resources, especially in terms of the competence of library managers in developing and managing digital literacy services that are innovative and responsive to information technology developments. This has implications for the stagnation of literacy programs, which should continue to be updated and adjusted to the needs of the times.

Third, there has not been maximum collaboration between libraries, teachers, and foundations in the preparation and implementation of digital literacy programs. Libraries have not been fully integrated into the foundation's education ecosystem strategically, so their role in improving the quality of digital literacy-based learning has not been maximized. Therefore, this research aims to fill this gap by conducting a case study at the Primabaca Library, in order to examine in depth how digital literacy management is designed, implemented, and evaluated in the context of schools under the auspices of private education foundations.

METHODOLOGY

This study uses a qualitative approach aimed at analyzing complex findings in the field (Sarosa, 2021). Meanwhile, this research method uses a case study research method. Data collection in case studies involves a variety of sources, such as documentation, archival recordings, interviews, direct observations, informant observations, and other instruments

Research Time and Place

This research was conducted at the Primabaca Library of the Prima Swarga Bara Education Foundation, which is located at Jalan Dr. Sutomo, Swarga Bara, North Sangatta District, East Kutai Regency, East Kalimantan Province. The research is scheduled for semester 1 of the 2025/2026 academic year

Research Target/Subject

Primabaca library supervisor, Primabaca library staff, principal, teachers, school committee, students, and parents of students. Procedure Steps in the case study research process, as follows:

- Define and design research. The researcher conducts a study on the development of theories or concepts to determine cases and design data collection protocols.
- Prepare, collect, and analyze data. The researcher prepares, collects, and analyzes data based on a pre-designed research protocol.
- Analyze and conclude. In a single case, the results of the research are used to check back on the concepts or theories that have been built in the first stage of research.

Data, Instruments, and Data Collection Techniques

The primary data of this study were obtained through observation and interview activities with YPPSB research and development managers, Primabaca library supervisors, Primabaca library staff, principals, teachers, school committees, students, and parents of students. Secondary data is research data obtained indirectly through intermediary media or obtained and recorded by other parties, which includes documents related to the planning, organization, implementation, and supervision of digital literacy

Data Analysis Techniques

The data analysis of this study consists of 2 (two) analysis activities, namely analysis while in the field and analysis after collection, referring to the analysis of research data proposed by Miles and Huberman (Miles et al., 2021). Examination of the validity of this research data using triangulation. This research uses two types of triangulation, namely source triangulation and technique triangulation. Source triangulation is done by searching for data from several sources and then comparing the data in the study with different sources (Abdussamad & Sik, 2021). Triangulation techniques are used to compare data obtained through interview, observation, and documentation methods (Winarni, 2021).

RESULTS AND DISCUSSION

The results of this study present a comprehensive overview of the implementation of digital-based library management at the Primabaca Library of the Prima Swarga Bara Education Foundation (YPPSB) in an effort to improve information literacy for its users. Data exposure was obtained through in-depth interviews with stakeholders, direct observation of service activities, and review of relevant institutional documentation. The research findings were systematically compiled based on four managerial functions, namely planning,

organizing, implementing, and controlling. The presentation of these results not only describes the objective condition of libraries as modern literacy centers that are adaptive to technological developments, but also displays the dynamics of roles, challenges, and strategies implemented by various work units in realizing effective, inclusive, and digital-based library services.

The results of the research on the digital-based management of the Primabaca Library of the Prima Swarga Bara Education Foundation (YPPSB) show that there is a comprehensive implementation of the classic POAC (Planning, Organizing, Implementation, and Control) management framework that is specifically adapted for the context of digital literacy.

Linkage to the POAC Management Framework

The findings of the study confirm that the operations of the Primabaca Library are managed through four management functions systematically. This approach is in line with the concepts of Terry (2006) in Cen (2023) and Fayol (1949) in Boon et al. (2021), which define management as a process that consists of planning, organizing, executing, and supervising to achieve organizational goals.

- a. **Planning:** Planning at Primabaca is participatory and strategic, involving foundations and teachers to determine the vision and procurement of digital resources. This is consistent with the findings of Supriati (2021), which emphasizes the importance of planning digital literacy programs that are integrated with school culture and involve all *stakeholders*. The involvement of the Research and Development Manager (MRSP) as a 'strategic driving force' confirms that planning at YPPSB has a macro dimension that aims to create an environment that is adaptive to the demands of 21st Century learning.
- b. **Organizing:** Research shows that there is collaboration across units (Library, IT, Research Division, Multimedia). This organization is very important because digital libraries require the integration of technology systems, content, and curriculum. This role is in line with the study of Oktaviani & Putri (2023), which examined the role of educational foundations in supporting the digital transformation of private schools, where structural support and resource allocation are key.
- c. **Implementation (Actuating):** The implementation at the Primabaca Library is characterized by *Program-Driven Management* and the use of the YPPSB Smart Library. Activities such as *Cheerful Smart Holidays (LCCs)*, AI training to create animated fairy tales, and the integration of digital resources in student assignments (Actuating by Teachers) show a shift in focus from just physical collections to literacy activity hubs. This strengthens the findings of Rachmadhanii et al. (2024) regarding the implementation of POAC management in literacy programs, but Primabaca managed to contextualize it into the digital realm.
- d. **Controlling:** Control is carried out in layers and periodic reports, surveys, and follow-ups are structured. The evaluation includes monitoring technical constraints (internet network, servers) and also user competencies (uneven digital literacy). This control is in line with the concept of *Total Quality Management (TQM)*, which aims at *continuous service improvement*.

Library Digitization and Adoption Challenges

Primabaca Library has successfully transformed a Conventional Library into a Digital-Based Library by providing an SLiMS 9 (Bulian) automation system, YPPSB Smart Library, and an *e-book* collection of 1,318 titles.

Infrastructure Success vs. Adoption Challenges: The results of statistical documentation show an interesting contradiction: although physical library visits (PRIMABACA) are very high (reaching 12,856 people in September 2025), the use of Digital Smart Libraries is still low and fluctuates (the average digital visit is only around 23-34 people/month).

This fact indicates that while digital infrastructure management (as researched by Nurhayati et al., 2024) has been successful in the provision stage, technology adoption management (user behavior) is still a major challenge.

Relevance to Information Literacy: The low adoption of digital services is consistent with the findings of obstacles expressed by the School Committee and the Principal, namely the limitations of internet devices and networks, and digital literacy skills that are not evenly distributed among users. This is in line with the research of Sivathanu, B. (2019) and Luo, L. (2021), which underlines that readiness and management strategies are determinants of the success of digital transformation in libraries.

Strengthening Information Literacy through Innovative Programs

Although the adoption of *Smart Libraries* is still low, the research findings show that the improvement of Information Literacy (LI) is substantially achieved through creative programs that combine physical elements (*phygital*) and advanced digital skills.

- a. The Importance of *Digital Creation*: Programs such as the Utilization of AI to Create Animated Fairy Tales and Educational Video Creation Training go beyond the basic dimensions of Digital Literacy (Access, Evaluation) and focus on the dimension of Creative Skills (creating digital content). This initiative is an adaptive response to the demands of the 21st Century LI.
- b. Curriculum Integration: The involvement of teachers as facilitators and content integrators who lead students to use digital resources in academic assignments is crucial. Indicators of LI's success, according to the teachers, are the quality of credible references and the ability to compile citations/bibliographies.
- c. Librarian Role: Librarians and multimedia staff play the role of Librarians 2.0 who are active in training, socialization, and even content production (*Digital Creation*).

Overall, this discussion concluded that the digital-based Primabaca Library Management has succeeded in building a solid infrastructure and managerial framework (POAC). Despite facing challenges of technology adoption (low use of Smart Libraries), the library overcame it with a program-driven strategy and the development of digital creative skills that effectively contributed to the strengthening of Information Literacy, making it an adaptive management model for foundation-based private school libraries.

Digital Skills Development and Information Literacy

PRIMABACA management shows a strong initiative to advance the digital competence of users and staff, as an effort to overcome the low adoption of the *Smart Library*. Integration of AI and Digital Creativity:

- Activity: Utilization of AI to Create Animated Fairy Tales (May).
- Information Literacy Linkage: This is the implementation of Advanced Digital Literacy (Digital Creation). Users are trained to use cutting-edge technology (AI) not only for consumption, but to produce new information/content (animated fairy tales), beyond simply searching for information.
- Media Technical Skills: Activity: YPPSB teachers attended Educational Video Making Training in the AI Era (June). LI Linkage: Strengthening the capacity of teachers (as Information Literacy facilitators) in communicating information through digital media, which will have a positive impact on the quality of information-based teaching.
- Socialization and *Application On-Boarding* : Activities: Socialization of the Pearson Program and the "Si Pinter" Application Tutorial (October), as well as the MPLS (School Environment Introduction Period) series, which includes the library (July).
- Information Literacy Linkage: Ensure users (especially new members) have the technical knowledge to access and use digital library resources and applications (Fundamental Information Literacy Skills).

Phygital Initiative (Physical-Digital): Activity: Barcode generation in Edupark Park (implicit in the report). Information Literacy Linkage: Integrating digital information into the physical environment. Users are trained to use *their devices* (mobile phones) to access contextual information in physical locations (Blended/Hybrid Literacy).

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research on the Digital-Based Management of the Primabaca Library of the Prima Swarga Bara Education Foundation (YPPSB) for Improving Information Literacy, it can be concluded that the management of digital libraries has been carried out systematically and effectively through the adoption of management frameworks: planning, organizing, implementing, and supervising.

1. Planning is done by involving a variety of stakeholders, including foundations, principals, teachers, library staff, and school committees. The main focus of the planning is directed at strengthening internet bandwidth, procurement of e-book collections, improving the *YPPSB e-Library Smart Library application on Android / IOS on the Play Store* (<https://play.google.com/store/apps/details?id=com.appsfoundry.smartlibrary&hl=in&gl=US>), [maximizing the use of email@yppsb.id accounts for access, and digital literacy training for teachers and students.](mailto:email@yppsb.id)
2. Organizing is realized through the formation of a collaborative and adaptive work structure, ensuring that the allocation of human resources and technology is optimally integrated. Intensive collaboration between

librarians, IT Teams, Research Divisions, and academic units has succeeded in creating a synergistic ecosystem that supports digital library operations.

3. The implementation of the digitization and information literacy program at the Primabaca Library (YPPSB) shows a *Program-Driven Management* approach supported by technology integration and academic collaboration. The digital library program is carried out through the YPPSB Smart Library system and SLiMS (*Senayan Library Management System*), which facilitates online information services.
4. Supervision is carried out in layers through monthly reports, routine evaluations, and feedback from library members (students, teachers/employees, the public). The foundation and the principal play a role in strategic supervision, while teachers, librarians, and school committees carry out operational and participatory supervision. SLiMS's data-driven evaluation system supports informed decision-making for service improvement.

Overall, the implementation of the four management functions has resulted in an effective, participatory, and sustainable digital library management system, and has a positive impact on improving student information literacy in the YPPSB environment.

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