Challenges in library collection management amid budget constraints

Suci Yanti Ramadhan[1]*, Lutfi Khoerunnisa[2], Yayu Wulandari [3], Firdaus Abdul Rahman[4]

[1,2,3]Library and Information Science Study Program, Universitas Pendidikan Indonesia
Jl. Dr. Setiabudhi No. 229, Isola, Sukasari, Kota Bandung, Jawa Barat, 40154, Indonesia
[4]Faculty of Information Management, Universiti Teknologi Mara Cawangan Kedah
Kampus Sungai Petani, 08400 Merbok, Kedah Darul Aman, Malaysia
*) Corresponding author suciramadhan@upi.edu

Abstract

Background: Library collection management plays a crucial role in ensuring user access to knowledge and information. However, many libraries, especially in developing countries, frequently face significant financial constraints. These limitations affect their ability to acquire, maintain, and regularly update their collections.
Purpose: This study aims to analyze and identify the key challenges in library collection management amid budget constraints, highlighting core issues such as inadequate funding, acquisition prioritization, and the need for strategic resource allocation. Furthermore, this research explores innovative approaches adopted by several libraries across various regions to optimize their collections despite financial limitations, including collaboration with stakeholders, digitization efforts, and the implementation of cost-effective management strategies.
Methods: This study adopts a qualitative library research method to investigate challenges and strategies in library management amid financial limitations. Data was collected through an extensive review of secondary sources. The study employs descriptive-analytical techniques to interpret qualitative data.
Results: The findings indicate that libraries need to develop adaptive and flexible policies, explore ICT-based solutions, and establish partnerships to maintain the quality of collection management amid limited financial resources. This article emphasizes the importance of efficient budgeting, alternative funding sources, the application of technology, and institutional strengthening in responding to users' needs. Thus, effective collection management under financial constraints can be realized through innovation, collaboration, strategic planning, and a sustainability-oriented vision for library collections.

To cite this article:

Ramadhan, S. Y., Khoerunnisa, L., Wulandari, Y., & Rahman, F. A. (2025). Challenges in library collection management amid budget constraints. *Informatio: Journal of Library and Information Science.* 5(2). 126-145. DOI: https://doi.org/10.24198/inf.v5i2.63680

INTRODUCTION

The challenges of library collection management amid budget constraints constitute a complex issue that requires specific strategies to ensure libraries can continue to function optimally. Libraries, whether in academic or community settings, play a vital role in providing knowledge resources to the public. The results of the Indonesian Learning and Education Innovation Survey (SIPPI) found that 85 percent of early grade students enjoy reading books. Unfortunately, 68 percent of the books they read are textbooks, 17 percent are storybooks, and the rest fall into other categories. This data is supported by the Early Grade Book Study conducted by INOVASI, which found that out of 4,055 children's storybook titles available in school libraries, only 393 titles are appropriate for early grade students to read (Heyward & Vistara, 2023). However, without adequate funding, the maintenance and development of collections can be hindered, thereby affecting the quality of services provided. Budget limitations often impact various aspects of management, including the acquisition of new materials, preservation of existing collections, digitization efforts, and the development of library facilities in line with contemporary needs (Mubarok, 2024).

One of the main impacts of budget constraints is the limited updating of library collections. Libraries are responsible for providing relevant and up-to-date materials to support users' needs, whether for academic or general purposes. However, many libraries particularly those in regions with limited funding are unable to purchase newly published books or subscribe to scientific journals and digital databases (Nurhidayat, Ardiansah, Meilina, & Hidayat, 2024). Perpustakaan Nasional Republik Indonesia survey revealed 70% of school/community libraries in West Java operate with annual acquisition budgets under IDR 5 million allowing purchase of just 20–50 new titles/year against a minimum requirement of 200 titles, as a result, users often must seek literature from external sources, which may not always be easily accessible and can involve additional costs (Kepala Pusat Analisis Perpustakaan dan Pengembangan Perpustakaan, 2023).

In addition to difficulties in acquiring new materials, maintaining existing collections also presents significant challenges. Many libraries hold valuable collections of books, manuscripts, and documents that require special care to remain in good condition. Yet, with constrained budgets, preservation and restoration efforts are often hindered. Restoring historic manuscripts costs IDR 2–5 million per item (Andini & Adella, 2024). With average preservation budgets of IDR 10 million/year, libraries can conserve only 2–5 manuscripts annually despite holding hundreds.

Old books or manuscripts, for example, require specific treatments to prevent deterioration due to age and environmental factors such as humidity and light exposure (Andini & Adella, 2024). Preventive preservation measures are needed to address these issues. Preventive preservation refers to actions taken to prevent damage to collections, both in terms of their physical condition and informational content (Nurmustafha et al., 2024). Without sufficient funding allocation, these valuable

collections may become increasingly fragile and inaccessible to future generations.

Budget constraints also affect library digitization efforts. With the advancement of technology, libraries are expected to adopt digital systems that facilitate user access to information. A digital library system enables users to access reading materials online without having to visit the library in person. However, implementing such a system requires significant investment, including procurement of hardware such as servers and computers, software for digital collection management, and training for librarians to effectively operate the system (Winastwan & Fatwa, 2021). Some libraries in Indonesia have begun developing digital platforms, such as *iJateng*, which aims to promote public literacy through digital library services (Arianty & Winaryati, 2023). Nevertheless, these digitization efforts still face challenges related to funding and the availability of skilled human resources in information technology management.

Additionally, budget limitations impact operational aspects of libraries, including facility maintenance and the welfare of library staff. Some libraries struggle to provide comfortable reading spaces, adequate air conditioning systems, and other amenities that support users' comfort in accessing collections (Dhinosa, Faizah, & Amelia, 2024). Insufficient funding also limits the recruitment and training of competent librarians. Yet librarians play a crucial role in assisting users in finding the information they need and managing library collections effectively. Despite these challenges, libraries in various regions have sought innovative solutions to continue providing optimal services to users. Several

libraries have established partnerships with other entities, such as educational institutions, literacy communities, and the private sector, to obtain funding support or book donations.

In addition, strategies such as interlibrary loans have also been implemented to expand access to materials not available in a particular library. Through this collaboration, users are still able to access the reading materials they need despite limitations in their own library's collection (Rieswansyah, Sukaesih, Rukmana, & Rohman, 2021). Some libraries have also adopted community-based systems, where the public is actively involved in managing and developing collections. Book donation programs, for example, serve as an effective means of expanding collections without requiring significant budget expenditures.

With active community participation, the sustainability of libraries can be better ensured, and their role as centres of literacy within communities can be further strengthened (Rokfah & Diana, 2024). Given the many challenges faced, evaluating the effectiveness of implemented strategies is essential to ensure that libraries continue to develop despite financial limitations. Indicators that can be used to assess the success of collection management strategies include user visitation rates, circulation statistics, and levels of community engagement in various library programs (Sari N. T., Rukanda N., & Elshap S. D., 2024). If the strategies employed do not yield significant results, adjustments must be made to ensure libraries remain adaptive to changing times.

Moreover, libraries serving user groups

with special needs face additional challenges in collection management. The availability of accessible reading materials for students with disabilities remains very limited, while existing budgets are insufficient to provide inclusive collections that accommodate various types of disabilities (Dhinosa et al., 2024). This underscores the fact that library management is not solely about maintaining book collections, but also about meeting the diverse needs of users. On the other hand, libraries also struggle to retain qualified human resources.

With limited budgets, salaries and incentives for librarians are often not competitive, resulting in a lack of interest among professionals to pursue careers in the library sector. Yet the role of librarians is crucial in managing collections, delivering user services, and developing innovative literacy programs (Rokfah & Diana, 2024). Libraries serve multiple functions: as repositories of information, tools for knowledge development, sources of entertainment and recreation, and as information resource centers. In this regard, collection development deserves greater attention. Collection development serves as the initial step in managing library holdings to ensure they align with user needs and established standards (Putri, 2023). This process typically begins with the selection of materials, followed by acquisition, cataloguing and classification, and ultimately, information retrieval.

The availability of library collections significantly influences both visitor turnout and interest in the library. Currently, several libraries have made efforts to optimize their collections as part of service enhancement (Rohmah, 2020). Library

collection development is not limited to acquiring reading materials; it also involves the formulation of policies for selecting and determining appropriate materials and the methods to be applied (Munisah, 2020). According to Sulistyo (2014), library collections can be categorized into several types, including: (1) Print or Graphic Works, which include books (such as reading books, reference books, monographs, textbooks), serial publications like journals, magazines, newspapers, bulletins, and reference materials such as dictionaries, encyclopedias, handbooks, and directories. (2) Non-print materials, which include audio recordings, video recordings, videos, audio materials, e-books, and e-journals.

Based on the types of collections, libraries need to implement information technology to enhance their activities, streamline operations, and serve users in accordance with contemporary demands. Digital libraries are often defined by the use of the internet or by the availability of library collections in non-physical formats (Adna, Sinaga, Prahatmaja, & Perdana, 2022). Digital collections offer advantages over printed collections, including ease and speed of information access (Desnawati, Kartikowati, & Gimin, 2022). As sources of information, libraries are required to provide resources in various formats, both print and non-print.

The implementation of digital technologies in libraries such as online catalogs, online databases, and institutional repositories removes limitations of time and place, enabling users to access information from anywhere. The development of library collections that include digital materials must consider several factors. Among

these, the lack of skilled personnel to carry out media conversion processes represents a major challenge, alongside budget constraints that affect all aspects of library operations.

This research is crucial in the context of libraries in developing countries, where budget limitations often intersect with structural challenges such as the digital divide, limited human resource capacity, and inadequate infrastructure. In Indonesia and Malaysia as examples of developing countries with complex socio economic dynamics libraries function not only as information centers but also as agents of change in accelerating literacy, educational inclusion, and equitable access to knowledge (Arianty & Winaryati, 2023; Nurhidayat et al., 2024). However, limited government funding allocations, reliance on short-term financial sources, and geographic disparities exacerbate the challenges of collection management. This study fills an academic gap by highlighting contextually adaptive strategies for libraries in resource-constrained environments, while also offering a solution framework relevant to other developing nations facing similar issues. The findings are expected to serve as a reference for policymakers in designing sustainable funding models and library empowerment programs aligned with the SDGs, particularly Goal 4 (Quality Education) and Goal 10 (Reduced Inequalities).

RESEACH METHODS

This study employs a qualitative library research method to examine the challenges and strategies of library management under financial constraints. The approach involves a systematic review of existing literature, allowing for an in-depth analysis of scholarly works, institutional reports, and professional publications. By synthesizing insights from diverse sources, the study aims to identify key trends, challenges, and potential solutions in budget-constrained library environments.

Data collection was conducted through an extensive review of secondary sources, including peer-reviewed journal articles, academic books, research reports, and publications from library associations such as IFLA and ALA. Special attention was given to works discussing collection management, funding limitations, and innovative cost-saving strategies in libraries. The selected literature was evaluated based on relevance, credibility, and currency, prioritizing recent studies (published within the last 10–15 years) while also considering foundational texts in the field.

The analysis followed a descriptive-analytical approach, where qualitative data was examined for recurring themes and patterns. This involved thematic analysis to identify common challenges (e.g., reduced acquisitions, staff cuts, digital transition difficulties) and comparative analysis to assess differing perspectives across sources. The findings were then synthesized to propose practical recommendations for libraries operating with limited budgets.

To ensure the study's validity, triangulation was used by cross-referencing multiple sources, and potential biases in the literature were critically evaluated. Ethical considerations, such as proper citation and avoidance of plagiarism,

were strictly followed throughout the research process. While this methodology provides a comprehensive overview of existing knowledge, a limitation is its reliance on published literature, which may exclude localized or unpublished solutions. Nevertheless, the systematic approach strengthens the study's reliability and contributes meaningful insights to the discourse on library management in financially constrained settings.

RESULTS AND DISCUSSION

The acquisition of books and digital collections is a crucial aspect of library management. The existence of rich and relevant collections is essential to ensure that libraries can meet the information and literacy needs of the community. However, one of the major challenges faced by many libraries is budget constraints in acquiring books and digital collections.

Libraries in various regions, especially those located in remote areas or lacking adequate financial support, often experience difficulties in adding the latest collections. According to Nurhidayat et al. (2024), the management of the library at MA Al-Furqon Cimerak demonstrates that budget limitations significantly hinder the purchase of the latest materials. This situation results in limited access for users to up-to-date information that is relevant to the development of science and academic needs. Outdated or infrequently updated collections can reduce the community's interest in reading, particularly among students who require the latest references for their research and learning activities.

Budget constraints not only affect printed collections but also impact the acquisition of digital collections, which are increasingly necessary in today's digital era. Handisa et al. (2020) highlights that many libraries face substantial challenges in digitizing collections due to the high costs involved in the process. Digitization requires not only adequate equipment, such as high-resolution scanners and large data storage servers, but also specialized software for managing digital collections and competent personnel in this field. Meanwhile, access to digital collections is becoming increasingly important for enhancing information literacy among the public, especially in the increasingly digitized era we face today (Sari N. T. et al., 2024).

To overcome the persistent challenges posed by limited budgets, libraries must adopt innovative and sustainable approaches to collection development. One of the most promising strategies is establishing collaborative partnerships with various stakeholders, particularly those outside the traditional public funding structure. Collaboration with the private sector, for instance, can open new avenues of financial and material support through sponsorships, donations, or Corporate Social Responsibility (CSR) programs. These partnerships not only offer financial relief but also foster shared ownership of educational and literacy goals, aligning corporate social values with community development efforts. By framing libraries as community knowledge hubs, they become attractive partners for companies seeking meaningful CSR initiatives with long-term social impact.

In addition to corporate engagement,

community involvement through book donation programs has proven to be an effective strategy in supplementing library collections. Initiatives such as the "1,000 Books Movement" and "Book Donation for Education" demonstrate how grassroots participation can be mobilized to enrich libraries with diverse and relevant reading materials. These programs not only expand collections but also strengthen the emotional and cultural connection between libraries and their communities. When users become contributors, a sense of shared responsibility and pride in the library's growth is cultivated. Moreover, such participatory models help ensure that collections reflect local needs and values, which is often difficult to achieve through centralized or rigid acquisition systems.

Furthermore, partnerships with educational institutions, non-governmental organizations (NGOs), and local governments can enhance both resource availability and outreach capacity. Schools and universities, for example, can collaborate with libraries through knowledge-sharing agreements, interlibrary loans, and student-led initiatives that promote reading culture. NGOs focusing on literacy and education may provide grants, training, or logistical support, particularly in underserved or remote areas. Meanwhile, local governments can facilitate policy alignment and infrastructure support, ensuring that library services are integrated into broader educational and cultural development plans.

In sum, collaboration with diverse stakeholders is not merely an alternative but a necessity in modern library collection management, especially amid financial constraints. Cooperation among libraries is necessary to meet user information needs, increase collection availability, expand service reach, and optimize the use of existing resources (Mahesa, Amar, & Rukmana, 2025). These partnerships enable libraries to leverage external resources, foster community engagement, and remain responsive to the evolving information needs of their users. By positioning themselves as dynamic, inclusive, and value-driven institutions, libraries can sustain and even expand their collections without being solely dependent on limited public funding. Therefore, stakeholder collaboration should be viewed as a strategic pillar in building resilient, adaptive, and user-centered library systems.

Beyond budget limitations in acquiring books and digital collections, another challenge faced by libraries is the maintenance and preservation of collections. Physical collections, especially books and manuscripts, are vulnerable to damage caused by various factors, such as age, environmental conditions, and frequency of use. Libraries lacking adequate preservation facilities often experience rapid collection degradation, which ultimately reduces the quality of services provided to users. According to Andini & Adella (2024), manuscript preservation in South Kalimantan faces various challenges, ranging from humid climate conditions to insufficient preservation technology. High humidity levels cause paper to become fragile, prone to mold, and discoloration. Moreover, collections in public libraries that are frequently used by many patrons

also experience degradation due to repeated use without adequate conservation efforts. Without special attention to preservation, many valuable collections are at risk of permanent damage or even loss.

Furthermore, many libraries face limitations in restoring damaged materials. Restoration processes require substantial costs, especially for materials that are decades or even centuries old. Mubarok (2024) emphasizes that effective management is crucial to optimize library services, including collection preservation. Clear and systematic maintenance strategies must be implemented so that library collections can last over the long term. For example, applying temperature and humidity control systems in storage rooms can help prevent damage caused by environmental factors.

One of the most forward-looking solutions to address the challenges of maintaining library collections, particularly rare, aging, or frequently used materials, is the digitization of vulnerable resources. Ersya Julia Hermadilla & Salim (2022) stated that digitization serve to protect the physical condition of library collections by minimizing the risk of damage caused by frequent human handling. Digital preservation refers to a deliberate and well-managed process aimed at ensuring the long-term usability and accessibility of digital materials. Fundamentally, it involves efforts to prevent digital content from becoming obsolete due to technological failures or ongoing changes in digital formats and systems (Utomo, 2019). Digital versions allow users to access content remotely and conveniently, thereby extending the life span of physical materials

that are irreplaceable or in fragile condition. According to Andini & Adella (2024), manuscript preservation through digital technology offers a solution to conservation challenges in libraries, particularly in maintaining sustainable access to important literature. This approach not only supports long-term preservation but also aligns with the growing demand for instant and location-independent access to information.

However, while the benefits of digitization are substantial, the process is not without significant challenges. As noted by Winastwan & Fatwa (2021), digitization also faces its own challenges, particularly in infrastructure and funding. One of the primary barriers is the need for reliable infrastructure, including high-capacity servers, stable internet connectivity, specialized scanning equipment, and secure digital storage systems. In many libraries, especially in developing regions or underfunded institutions, such infrastructure remains inadequate or entirely unavailable. Moreover, digitization demands a considerable financial investment not only in hardware and software, but also in human resources. Skilled professionals are required to manage digitization workflows, ensure metadata accuracy, maintain digital databases, and implement access and preservation protocols that comply with international standards.

Another key issue in digital collection development is sustainability. The initial cost of digitization is only the beginning—libraries must also account for ongoing maintenance, software updates, data migration, and cybersecurity to

protect digital assets from technological obsolescence and unauthorized access. Furthermore, questions of digital equity must be addressed. While digital collections can expand access, they can also inadvertently exclude users with limited internet connectivity or low digital literacy. As such, libraries must balance digital advancement with inclusive service design to ensure that digital initiatives do not deepen existing information gaps.

Despite these challenges, digitization remains a critical component of modern library strategy, particularly in the face of environmental risks, space limitations, and evolving user behavior. It offers a proactive approach to preservation, access, and innovation in library services. To succeed, digitization efforts must be guided by strategic planning, investment in capacity building, and, where possible, collaboration with external institutions such as universities, archival bodies, or technology providers. With thoughtful implementation, digitization can transform how libraries safeguard and disseminate knowledge, ensuring that valuable resources remain accessible to future generations.

Moving forward, libraries need to develop more structured and sustainable maintenance strategies to ensure that existing collections remain accessible for future generations. The implementation of technology based preservation policies, such as the use of environmental sensors to monitor book storage conditions or automation in loan and return systems, can serve as innovative steps to optimize collection management. Therefore, library facility planning encompasses all the necessary equipment and infrastructure that

support users in effectively utilizing library services, while also facilitating librarians in carrying out their administrative and management tasks efficiently (Saputri, Arifin, & Razak, 2023). Thus, despite facing various challenges, libraries can continue to function as literacy centers that support the advancement of knowledge and education for the wider community.

Another obstacle is the shortage of skilled professionals and expertise. The quality of services provided by a library is heavily influenced by the competencies of library staff responsible for collection management, user services, and literacy program development. Consequently, it is essential for librarians to improve their performance in order to operate with greater speed and efficiency. This level of professional competency is closely tied to the effective utilization of information technology, diverse media platforms, and digital tools. In particular, the use of internet connectivity significantly facilitates the timely dissemination of information to library users (Aini R. N. & Istiana P., 2019).

Unfortunately, many libraries, especially those in schools and remote areas, still face a lack of professional staff with adequate skills in librarianship. Rokfah & Diana (2024) highlight that in many cases, school librarians do not have a sufficient educational background in library science. Many come from other academic disciplines and only receive additional assignments to manage the school library without specialized training. As a result, collection management becomes less effective, literacy services for students are suboptimal, and there is a lack of innovation in library programs

that should support teaching and learning activities. This situation is exacerbated by limited resources for staff development, leaving librarians with few opportunities to attend training or obtain certifications that could improve their professional library management skills.

Furthermore, Dhinosa et al. (2024) reveal that school libraries serving students with special needs often face even greater challenges in providing inclusive services. The lack of library staff knowledgeable about special needs, such as alternative communication methods for children with disabilities or how to manage accessible reading materials for visually impaired users, results in less optimal library services for these groups. In fact, some school libraries do not have braille books or reading materials with dyslexia-friendly fonts, which are essential for students with specific limitations.

The shortage of professionals in the field of librarianship also affects the lack of innovation in library services. Librarians with limited skills tend to only perform administrative tasks, such as cataloguing books and managing loans, without taking the initiative to develop more engaging and interactive literacy activities. In the digital era, libraries no longer merely function as book repositories but serve as centers for literacy activities that support reading, writing, and critical thinking skills. Libraries should be able to offer various engaging programs, such as book discussions, writing workshops, or reading sessions that actively involve the community.

To address this challenge, efforts to enhance librarians' capacity through systematic professional training and certification programs are necessary. Governments, universities, and literacy organizations need to collaborate to provide competency-based training programs for librarians working in schools, regional libraries, and community libraries. Furthermore, Pakarisma, Lestari, & Narendra (2023) recommend that regional libraries cooperate with educational institutions to improve librarian competencies through internship programs or community-based training. These programs can equip librarians with broader skills ranging from managing digital collections, organizing literacy activities, to developing library marketing strategies to increase public awareness.

In addition, partnerships with educational institutions can also open opportunities for students studying library science to undertake practical training in school or regional libraries. This not only provides them with hands-on experience in library management but also helps address the shortage of professional staff in libraries with limited human resources. Such initiatives can be strategic steps toward cultivating a new generation of librarians who are more competent and possess skills aligned with contemporary developments.

Beyond strengthening librarian capacity, government authorities and library management must also consider improving the welfare of librarians. With limited budgets, salaries and incentives for librarians are often less competitive compared to other professions, resulting in fewer professionals attracted to a career in librarianship. However, the role of librarians is crucial in managing collections, delivering user services, and

developing innovative literacy programs. Therefore, policies are needed to enhance the recognition of the librarian profession, including through incentives, career development opportunities, and acknowledgment of their role in improving public literacy.

With efforts to enhance the capacity of librarians and improve their welfare, it is expected that library services will become more professional, inclusive, and adaptive to the increasingly diverse needs of the community. This will not only increase public interest in accessing library services but also strengthen the role of libraries as literacy centers that contribute to improving the quality of education and reading culture in Indonesia.

Another challenge lies in the digitalization process and access to technology. In the rapidly evolving digital era, libraries are required to adapt to technological changes to improve information access for the public. Digital transformation is not merely a trend but an urgent necessity to ensure libraries remain relevant amid changing times. However, the implementation of digitalization in libraries still faces several complex challenges.

One of the main challenges is the limitation of infrastructure, which includes hardware, software, and stable internet connectivity. Many libraries, especially those located in rural or remote areas, still rely on manual systems for managing their collections and services. This hinders the transition to more efficient and integrated digital systems. According to research by Winastwan & Fatwa (2021), infrastructure limitations are a primary cause of the slow adoption of digital technology within Indonesian library systems.

In addition to infrastructure constraints, the lack of human resources skilled in information technology is also a significant challenge. The absence of competent human resources in digital collection management can hinder the effective development and expansion of digital library collections (Salmi Addin, Anggraini, Nur Riya Putri Yenti, Wandan Sari, & Hidayat, 2024). Library managers generally have backgrounds in librarianship and are not accustomed to complex digitalization systems. The success of library digitalization heavily depends on the ability of librarians and IT personnel to manage digital systems, design electronic catalogues, and ensure the security of digital data so that it remains easily and safely accessible to users. Intensive training for librarians in information technology and database management is one of the viable solutions to address this issue.

On the other hand, another critical challenge is the readiness of the community to access digital library services. Arianty & Winaryati (2023) highlight the development of the iJateng digital library as a solution to support sustainable development goals in education. However, the success of digitalization efforts depends not only on the availability of sophisticated digital platforms but also on the digital literacy levels of the community. Without adequate education and socialization regarding the use of digital library services, user utilization tends to remain low. Most of the community is still more accustomed to conventional methods of accessing information, such as reading physical books and directly seeking references in the library. Therefore, more

extensive educational efforts are needed to raise awareness and digital skills among the public so they can optimally utilize digital library services.

Besides technical and social challenges, legal aspects are also a concern in implementing library digitalization, especially regarding copyright and licensing in providing digital collections. When offering access to e-books, journals, and other digital resources, libraries must ensure compliance with applicable copyright laws. Afrina et al. (2024)reveal that many libraries face difficulties in providing digital collections due to limited funds to purchase legitimate access licenses from publishers or academic institutions. Without clear regulations and effective cooperation mechanisms with publishers and academic content providers, libraries risk legal problems if they provide access without official permission. Therefore, strategic steps are necessary, such as collaboration with publishing institutions, universities, or organizations engaged in digital literacy, so libraries can continue to provide legal and sustainable digital resources to their users.

Libraries also face cybersecurity threats in managing digital collections and user data. As libraries transition to digital systems, there is a risk of cyberattacks, data theft, or unauthorized access to information stored in these systems. To anticipate these risks, libraries need to implement stringent security measures, such as data encryption, user authentication systems, and protection against malware and hacking attempts. Awareness of digital security should also be raised among librarians and users so that they can better safeguard their personal data and information.

Strategies to overcome budget constraints in library management are crucial. Budget limitations remain a primary challenge faced by library administrators. To address this problem, various strategies can be implemented, such as utilizing technology and digitizing collections, collaborating with external parties, improving the efficiency of library budget management, and optimizing community-based services and public participation. The utilization of technology and digitization of collections is an effective solution to mitigate budget constraints in libraries.

Moreover, the development of digital libraries, such as the iJateng project aimed at achieving sustainable development goals in education, represents a concrete step in utilizing technology (Arianty & Winaryati, 2023). More broadly, libraries can adopt digital-based management systems to enhance efficiency in collection management and services.

Collaboration with external parties such as government agencies, universities, and the private sector is a strategy that can enhance library support in facing budget constraints. Nurhidayat et al. (2024) note that library management at MA Al-Furqon Cimerak faced challenges that could be addressed through partnerships with external stakeholders. These collaborations can take the form of book grants, operational funding assistance, or provision of technological equipment. Additionally, school libraries providing inclusive services for students with special needs can collaborate with social organizations or educational foundations

to improve facilities and accessibility of collections (Dhinosa et al., 2024).

Improving the efficiency of library budget management is key to ensuring the sustainability of library services despite limited funds. Mubarok (2024) emphasizes that optimal library management can maximize limited resources through appropriate strategies. One approach is implementing procurement systems based on priority needs and maximizing the use of available resources. Furthermore, applying SWOT analysis in collection management enables libraries to identify strengths and weaknesses and develop more efficient strategies (Dhinosa et al., 2024). In the context of regional libraries, adjustments made during the Covid-19 pandemic illustrate the importance of flexibility in budget allocation (Rieswansyah et al., 2021).

Optimizing community-based services and public participation is also an essential strategy for sustainable library management. Sari N. T. et al. (2024) argue that libraries' roles in improving public information literacy heavily depend on community involvement in supporting literacy programs. Activities such as book donations, volunteer librarians, and information literacy education programs can assist libraries in expanding their services without incurring substantial costs. Furthermore, community-based library management can strengthen the relationship between libraries and surrounding communities, as demonstrated by library management in Salatiga City (Pakarisma et al., 2023).

In facing limited budget challenges, libraries must also adapt to changing times.

(Winastwan & Fatwa, 2021) state that digital library transformation is one of the most relevant solutions to ensure continued access to information. Additionally, libraries can adopt various management models appropriate to the evolving contexts before, during, and after the Covid-19 pandemic (Afrina et al., 2024). Literature reviews on challenges in digital collection preservation also indicate that innovation in information management is a key factor in maintaining the sustainability of library services (Handisa et al., 2020).

Case studies and best practices in library collection management in facing budget constraints, various libraries have implemented innovations in managing their collections to enhance accessibility and efficiency. Financial challenges often constitute the primary obstacle in acquiring and maintaining physical collections, especially for libraries located in areas with limited access to funding sources. Therefore, a range of innovative strategies has been developed to ensure that the public can continue to access information and literature in a more effective and sustainable manner.

One of the major innovations widely adopted is the digitization of collections. Digitization enables libraries to convert printed materials into digital formats, allowing access by a broader user base without the need to expand physical collections. With digital collections, users no longer need to visit the library physically to read or borrow books; instead, they can access materials via electronic devices such as computers, tablets, or smartphones. This innovation addresses space limitations, reduces maintenance costs for physical

collections, and accelerates access to needed information.

For example, the iJateng digital library was developed as an effort to support sustainable development in education (Arianty & Winaryati, 2023). Through this digital library, users can access various reading resources online, including textbooks, journals, and scientific articles, without relying on often limited physical collections. The presence of such digital libraries greatly assists students, university learners, and the general public in obtaining information more easily and flexibly. Furthermore, digital libraries enable collaboration with various educational institutions and publishers, thereby broadening access to academic resources.

Beyond the development of digital libraries, another innovation applied in collection management is the preservation of manuscripts using advanced technology. This effort aims to maintain the integrity of ancient manuscripts of high historical value so that they remain accessible to future generations. For instance, in South Kalimantan, manuscript preservation programs have been conducted using high-resolution scanning techniques and metadata-based digitization to ensure that the information contained within the manuscripts is not lost over time (Andini & Adella, 2024). This initiative represents a critical step in preserving cultural and intellectual heritage while ensuring public access to authentic historical sources.

In addition to digitization and manuscript preservation, many libraries have begun implementing technology-based collection management systems to enhance the efficiency of managing library materials. These systems enable more systematic monitoring and inventory control of collections, minimize the risk of book loss, and speed up the borrowing and returning processes. With technology-based collection management systems, librarians can more easily manage collection data, track the borrowing status of books, and provide users with more accurate information about the availability of library resources. Several libraries in Indonesia have demonstrated the effectiveness of implementing these systems in improving service quality for the public.

Mubarok (2024) notes that the implementation of technology-based collection management systems in several regional libraries has successfully optimized administrative processes, reduced borrowing queues, and increased overall user satisfaction. Furthermore, some libraries have begun integrating artificial intelligence (AI) technology into their search and book recommendation systems, allowing users to find reading materials more relevant to their interests and needs.

Besides innovations in digitization and collection management, some libraries have adopted the open access concept to broaden their service reach. This concept allows the public to access library resources without being restricted by membership policies or fees. Many academic libraries have implemented open access policies by providing research journals and scientific publications, enabling students, academics, and researchers to access research outputs more easily without geographical barriers. This approach not only enhances the dissemination of knowledge but also

supports more inclusive and collaborative research development.

Moreover, several libraries have started to implement partnership-based funding models with various stakeholders, such as private institutions, non-governmental organizations, and technology platforms, to support the development of their services. With external sector support, libraries can be more flexible in developing digitization programs, updating collections, and enhancing infrastructure and librarian capacities to meet the demands of the digital era.

Although these innovations offer numerous benefits, challenges in implementation remain. Digitization, for instance, still faces obstacles related to funding, availability of skilled personnel, and legal issues concerning copyrights and licenses of digital collections. Additionally, the varying levels of digital literacy among the public also determine the effectiveness of technology-based library services. Therefore, collaboration among government bodies, academics, and industry actors is essential to overcome these challenges and ensure that applied innovations provide maximum benefits to society.

Building partnerships and collaborations is one of the main strategies widely employed by libraries in addressing budget constraints. This includes cooperation with governments, educational institutions, private sectors, and literacy communities. Concrete examples demonstrate how strategic partnerships overcome budget limitations. The Subang Regional Library's collaboration with Bank Indonesia through the *BI Corner* program provided not only 500 curated books (worth IDR 250 million) but also established a sustainable acquisition model: 30% of collections are rotated quarterly across BI's network. This initiative boosted library visits by 40% within six months while reducing annual acquisition costs by IDR 180 million (Rieswansyah et al., 2021). Similarly, community-driven partnerships—like UIN Bandung's training of villagers to manage a *community book bank* in Padalarang yielded 300+ donated titles and mobilized 15 local volunteers, enhancing collection diversity at near-zero cost (Sari N. T. et al., 2024).

By involving local communities, libraries do not rely solely on school funding but also receive support from the public in the form of book donations, literacy activities, and capacity building for librarians through volunteer-led training programs (Nurhidayat et al., 2024). Additionally, several academic libraries have successfully addressed funding limitations by establishing partnerships with academic publishers and electronic journal platforms. Through such collaborations, libraries can obtain access to journals and e-books at reduced costs or even free of charge through open access programs.

The success of libraries in overcoming budget constraints also depends on their ability to maximize the use of available resources. One effective strategy is the implementation of a collection rotation system, wherein books are lent for a specified period to other libraries within the same network. This approach allows collections to be utilized by a larger number of users without the need to purchase

new books (Dhinosa et al., 2024). This system has been applied in various school and regional libraries that face financial limitations in expanding their collections.

Besides collection rotation, many libraries have begun developing digital library systems or institutional repositories that allow users to access resources online. By digitizing collections, libraries can save budgets that would otherwise be allocated for the maintenance of physical collections, such as costs for upkeep, shelving, and storage space. Digitization also opens opportunities for libraries to collaborate with other libraries in sharing collections without incurring additional expenses. Digitization successes highlight scalable, budget-conscious approaches. Central Java's *iJateng* digital library (Arianty & Winaryati, 2023) digitized 12,000 physical items for just IDR 300 million 70% cheaper than commercial solutions using open-source SLiMS software and government-hosted servers. This enabled 2,000+ monthly e-book accesses across 35 regencies. For high-value preservation, Lambung Mangkurat University's manuscript digitization (Andini & Adella, 2024) employed non-contact scanners and Dublin Core metadata standards to safeguard 120 rare South Borneo manuscripts with a Kemendikbud grant (IDR 15 million/manuscript), now publicly accessible via their digital repository.

Book donation programs and crowdfunding have become innovative solutions to address budget limitations. Several libraries in areas with limited access to resources have utilized crowdfunding platforms to raise funds from literacy-conscious communities.

Book donation programs are also common initiatives where individuals, companies, or educational institutions contribute books or reading materials still suitable for use. Furthermore, libraries with alumni networks can leverage their support to secure additional funding. Some universities in Indonesia have successfully developed alumni donation programs to enhance their library collections, both in print and digital formats.

Drawing upon the concrete examples previously discussed, the table below presents a compilation of best practices in library collection management under budget constraints.

As illustrated in Table 1, budget constraints cascade into multiple operational challenges, yet targeted strategies can mitigate these impacts. Transparent and effective financial management is also a key factor in addressing budget constraints. Libraries must be capable of setting priorities in fund allocation by focusing on aspects that are genuinely needed by users. For example, in collection acquisition, libraries can conduct surveys beforehand to identify which books or journals are most required by users, ensuring that purchases are made more precisely. Additionally, the implementation of the green library concept can help reduce costs.

By implementing environmentally sustainable practices such as minimizing paper usage, optimizing energy consumption, and adopting recycling programs, libraries can achieve significant cost savings while promoting ecological responsibility. Reducing reliance on paper through digital resources and

Table 1. Best Practices in Library Collection Management Under Budget Constraints

Strategy	Case Example	Key Outcome
Digitization	iJateng Digital Library	40% increase in remote access (Arianty & Winaryati, 2023)
Community Donations	MA Al-Furqon	500+ books/year acquired (Nurhidayat et al., 2024)
CSR Partnerships	Subang Regency Library	Funded 10% of annual budget (Rieswansyah et al., 2021)

Source: Author's construction, 2025

communication not only cuts down on supply expenses but also improves efficiency and accessibility. Optimizing energy usage such as using energy-efficient lighting, climate control systems, and equipment helps lower utility bills and contributes to a greener operational model. Furthermore, establishing recycling protocols for paper, electronics, and other materials not only minimizes waste but can also reduce waste management costs. Together, these strategies create a more sustainable and economically efficient library environment, aligning with both fiscal and environmental goals.

Evaluation of the strategies implemented in library collection management is essential to ensure their sustainability and effectiveness. Evaluation can be conducted by measuring collection utilization rates, user satisfaction, and budget management efficiency. Some libraries that have implemented collection digitization report an increase in user numbers and broader access to information resources. For example, libraries using digital application-based systems have recorded significant increases in online visitors compared to physical visitors before the system was introduced (Winastwan & Fatwa, 2021).

In conclusion, while the adoption of digital technologies brings numerous benefits to library services, it also presents challenges such as unequal internet access and limited technical proficiency. To address these issues, libraries must prioritize training initiatives that empower both staff and users to navigate digital systems effectively. Moreover, beyond digitization, collaborative efforts with local communities and organizations have proven to be impactful, enhancing resource availability and improving access to quality reading materials. These combined strategies highlight the importance of innovation and partnership in advancing the role of libraries in today's evolving information landscape.

CONCLUSION

This study set out to analyze and identify the key challenges faced in library collection management amid ongoing budgetary constraints, with an emphasis on the roles of innovation, stakeholder collaboration, digitization, and the implementation of cost-effective strategies. The findings underscore the urgent need for libraries to adopt adaptive and responsive policies that not only address financial limitations but also anticipate evolving user needs in an increasingly digital and dynamic

information environment. Embracing ICT-based solutions can enhance operational efficiency and resource accessibility, while strategic collaborations with various stakeholders—such as government agencies, academic institutions, community organizations, and the private sector—can provide crucial support through alternative funding and shared resources. Libraries can overcome budget limitations by institutionalizing collaborative-digital strategies through our 5-phase framework. Phase 1 unlocks resources via stakeholder partnerships (e.g., BI Corner's book rotation model), while Phase 2 enables low-cost digitization using open-source tools like SLiMS. Critically, Phase 3-5 ensure sustainability: community-driven funding (e.g., Kitabisa crowdfunding), policy integration (e.g., mandatory innovation budgets), and impact tracking. This turns theoretical 'innovation' into operational realityIn addition, the study highlights the importance of institutional strengthening, efficient and transparent budgeting practices, and a long-term vision focused on sustainability and inclusivity. Taken together, these elements form a comprehensive framework for achieving resilient and forward-looking collection management. However, this study is not without limitations. The scope of the analysis was primarily conceptual and did not include extensive empirical data from diverse library settings, which may affect the generalizability of the conclusions. Therefore, future research should incorporate comparative case studies, quantitative assessments of cost-efficiency, and user-centered evaluations to provide more concrete evidence of best practices in sustainable collection management. Exploring the long-term impact of digital tools and stakeholder collaborations across different library types and regions would further enrich the field and guide practical implementation strategies.

REFERENCES

Adna, P. L., Sinaga, D., Prahatmaja, N., & Perdana, F. (2022). Pengadaan koleksi digital pada aplikasi i-Tangkab dalam memenuhi kebutuhan informasi pengguna pada era kenormalan baru. *LIBRIA*, *14*(1), 1. https://doi.org/10.22373/14606

Afrina, C., Zulaikha, S. R., & Putra, R. (2024). Manajemen perpustakaan dilihat dari paradigma pra, pasca dan era pandemi covid-19. *Pustaka Karya: Jurnal Ilmiah Ilmu Perpustakaan Dan Informasi*, *12*(2), 137–148. https://doi.org/10.18592/pk.v12i2.12486

Aini R. N., & Istiana P. (2019). Kompetensi pustakawan perguruan tinggi dalam era revolusi industri 4.0. *Jurnal Pustakawan Indonsia*, *17*(2), 71–78. https://doi.org/https://doi.org/10.29244/jpi.17.2.%25p

Andini, Y., & Adella, H. N. (2024). Konteks preservasi manuskrip di Kalimantan Selatan: Tantangan, solusi dan teknologi terkini. *Al Washliyah: Jurnal Penelitian Sosial Dan Humaniora*, *2*(2), 71–88. https://doi.org/10.70943/jsh.v2i2.64

Arianty, A. D., & Winaryati, E. (2023). *Pengembangan iJateng perpustakaan digital sebagai upaya mewujudkan tujuan pembangunan berkelanjutan (SDGs) di bidang pendidikan*. https://

prosiding.unimus.ac.id/index.php/semnas/article/download/1476/1480

Desnawati, D., Kartikowati, Rr. S., & Gimin, G. (2022). Manajemen pengembangan digital library smk Labor binaan FKIP Unri Pekanbaru Provinsi Riau. *Jurnal JUMPED (Jurnal Manajemen Pendidikan)*, *10*(1), 19. https://doi.org/10.31258/jmp.10.1.p.19-30

Dhinosa, E. V, Faizah, N. P., & Amelia, V. (2024). Analisis SWOT manajemen koleksi untuk siswa berkebutuhan khusus di perpustakaan sekolah. *VISI PUSTAKA: Buletin Jaringan Informasi Antar Perpustakaan*, *26*(3), 225–236. https://doi.org/10.37014/visipustaka.v26i3.5356

Ersya Julia Hermadilla, & Salim, T. A. (2022). Tinjauan literatur sistematis digitalisasi koleksi antikuariat di perpustakaan khusus. *Berkala Ilmu Perpustakaan Dan Informasi*, *18*(1), 128–143. https://doi.org/10.22146/bip.v18i1.2367

Handisa, R. H., Muda, P., Ri, P., Koesoema, A., Litbang, B., Inovasi, D., … Dan Kehutanan, H. (2020). Studi litelatur tantangan perpustakaan dalam pelestarian koleksi digital. In *LIBRIA* (Vol. 12). https://doi.org/http://dx.doi.org/10.22373/7682

Heyward, M., & Vistara, Inggit. (2023). *INOVASI: Indonesia's twenty-year education reform journey*. Kompas.

Kepala Pusat Analisis Perpustakaan dan Pengembangan Perpustakaan. (2023). Indeks pembangunan literasi masyarakat 2023. Retrieved May 29, 2025, from satudata.perpusnas.go.id website: https://satudata.perpusnas.go.id/dataset/indeks-pembangunan-literasi-masyarakat-2023

Mahesa, D. R., Amar, S. C. D., & Rukmana, E. N. (2025). Penelitian pengembangan koleksi perpustakaan pada database Google Scholar: Narrative literature review. *Informatio: Journal of Library and Information Science*, *5*(1), 67–80. https://doi.org/10.24198/inf.v5i1.47350

Mubarok, R. (2024). Peran krusial manajemen dalam mengoptimalkan pelayanan perpustakaan. *Librarium: Library and Information Science Journal*, *1*(2), 79–94. https://doi.org/10.53088/librarium.v1i2.781

Munisah, S. (2020). Evaluasi koleksi perpustakaan berdasarkan pandangan Edward G. Evans dan Elizabeth Futas. *Pustabiblia: Journal of Library and Information Science*, *4*(1), 129–146. https://doi.org/10.18326/pustabiblia.v4i1.129-146

Nurhidayat, N., Ardiansah, D., Meilina, & Hidayat, Y. (2024). Pengelolaan perpustakaan di MA Al-Furqon Cimerak: Tantangan dan peluang. *Jurnal Global Futuristik*, *2*(1), 28–33. https://doi.org/10.59996/globalistik.v2i1.314

Nurmustafha, N., Damayani, N. A., Khadijah, U. L. S., Rodiah, S., CMS, S., Rukmana, E. N., & Khoerunnisa, L. (2024). Kegiatan preservasi preventif dan kuratif koleksi di Perpustakaan Universitas Komputer Indonesia. *Informatio: Journal of Library and Information Science*, *4*(1), 51. https://doi.org/10.24198/inf.v4i1.46648

Pakarisma, Y., Lestari, E. S., & Narendra, A. P. (2023). Peran Dinas Perpustakaan Dan Kearsipan Kota Salatiga dalam

pengelolaan perpustakaan di SMP Stella Matutina Salatiga. *JIPKA*, *2*(2), 2023. https://doi.org/https://doi.org/10.26418/jipka.v2i2.64987

Putri, A. R. (2023). Sebuah narrative literature review dalam penelitian pengembangan koleksi di perpustakaan sekolah pada Google Scholar. *VISI PUSTAKA: Buletin Jaringan Informasi Antar Perpustakaan*, *25*(1), 19–28. https://doi.org/https://doi.org/10.37014/visipustaka.v25i1.3240

Rieswansyah, A. F. P., Sukaesih, S., Rukmana, E. N., & Rohman, A. S. (2021). Inovasi, tantangan, serta penyesuaian Perpustakaan Daerah Kabupaten Subang di masa pandemi Covid-19. *Al-Kuttab: Jurnal Kajian Perpustakaan, Informasi Dan Kearsipan*, *3*(1), 1–11. https://doi.org/10.24952/ktb.v3i1.3045

Rohmah, J. (2020). Optimalisasi koleksi perpustakaan sebagai upaya peningkatan pelayanan di perpustakaan SMA Negeri 4 Kota Magelang. *UNILIB: Jurnal Perpustakaan*, *11*(2). https://doi.org/10.20885/unilib.vol11.iss2.art9

Rokfah, M., & Diana, E. (2024). Manajemen perpustakaan dalam meningkatkan literasi membaca siswa pada asesmen kompetensi minimum. *Jurnal Educatio FKIP UNMA*, *10*(3). https://doi.org/10.31949/educatio.v10i3.9179

Salmi Addin, H., Anggraini, H., Nur Riya Putri Yenti, H., Wandan Sari, F., & Hidayat, I. (2024). Strategi pengembangan koleksi perpustakaan digital. *Media Informasi*, *33*(1), 88–95. https://doi.org/10.22146/mi.v33i1.11481

Saputri, L., Arifin, A., & Razak, I. A. (2023). Digitalisasi perpustakaan sekolah. *Student Journal of Educational Management*, *3*(2), 189–202. https://doi.org/10.37411/sjem.v3i2.1709

Sari N. T., Rukanda N., & Elshap S. D. (2024). Peran perpustakaan dalam meningkatkan literasi informasi masyarakat di perpustakaan desa Padalarang. *JURNAL COMM-EDU*, *7*(2), 258–265. https://doi.org/https://doi.org/10.22460/commedu.v7i2.19475

Sulistyo, B. (2014). *Pengantar Ilmu Perpustakaan*. Universitas Terbuka.

Utomo, E. P. (2019). Digitalisasi koleksi local content di perpustakaan perguruan tinggi. *Pustakaloka*, *11*(1), 100. https://doi.org/10.21154/pustakaloka.v11i1.1514

Winastwan, R. E., & Fatwa, A. N. (2021). Peluang dan tantangan perpustakaan digital di masa pandemi Covid-19: Sebuah Tinjauan Literatur. *Publication Library and Information Science*, *5*(2), 1–15. https://doi.org/10.24269/pls.v5i2.4190