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Implementation of Management Information System Based on Open Source Senayan Library Management System (SLIMS) in Padang State Polytechnic Library

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A B S T R A C T

The implementation of SLiMS in libraries, particularly in the Padang State Polytechnic Library, aims to enhance library user services and the management of existing collections. This study seeks to evaluate how the Senayan Library Management System (SLiMS) is managed at the Padang State Polytechnic Library. The research was conducted using a qualitative method with observation, interviews, and documentation techniques. The findings indicate that SLiMS has successfully modernized the library management system, despite several obstacles such as staff's limited technical skills and data migration issues. This study recommends comprehensive training for library staff to optimize the use of SLiMS in improving library services and meeting users' information needs.

INTRODUCTION

Traditional libraries often experience difficulties in managing collections and user services. Data accessibility can be compromised by slow manual processes and will compromise information accessibility. With the development and growing influence of library technology, librarians must think creatively and innovatively about how they provide information to others and add different types of library materials to their library collections. Information systems are needed by every company or organization. The Information System (SIM) was developed to simplify the data management process in the library (Saputra, 2018) .This is the reason for the need for other alternatives to change the manual system into an automated system, one of which is using the SLiMS open soyrce application which can facilitate the work of librarians.

SLiMS is software for managing libraries that is free and open source code (free software and open source or FOSS). With the General Public License (GPL) version 3, the SLiMS license provides freedom to obtain, use, study, change, and distribute information to anyone, as long as it does not remove or change disturbing information (Loneli Costaner et al., 2020) .

The SLiMS application facilitates the work of librarians in processing library materials, such as creating call numbers, circulation services, recording visit statistics, collection statistics, creating barcodes, borrowing or returning books (et. a. Kesuma, 2021) . Therefore, to improve library services, the use of information systems such as SLIMS is very important to improve library services.

With its various features, SLIMS assists in the overall management of the library. These features include cataloging, circulation lending, membership management, and statistical reporting, allowing librarians to assess collection usage more effectively. SLIMS is open source, so users can change its features according to their library's specific needs.

With the use of SLIMS at Politeknik Negeri Padang, it is expected to improve the information services provided to staff and students. The integrated online system allows users to search and access library collections easily, which speeds up the teaching and learning process. In addition, the system allows librarians to focus more on user services rather than completing repetitive administrative tasks.

Padang State Polytechnic Library has used SLIMS to modernize the library management system and improve user experience when accessing information. With the help of the right information technology, libraries can transform into information resource centers that are more efficient and in line with user needs. Especially in today's modern era, systems like SLIMS really help librarians' work to be more efficient.

LITERATURE REVIEW

A. System

The system is a collection of elements, components that are organized, interact with each other, depend on each other, and are integrated. The components or subsystems here are not only physical components, but also

include components that are abstract or conceptual in nature, such as vision, mission, policies, procedures and other activities (Dr. Kusnendi, 2014) .

The system consists of several elements and inputs, processing, and outputs. The system can be interpreted as a set of several variables that are organized and interconnected (Mursyidah et al., 2023) .

A system can be understood as a collection of organized and interacting elements, each component both physical and abstract that depend on each other. Universally, systems are interconnected and function to achieve certain goals.

B. Management Information System

Management information systems (MIS) are activities carried out by a group of people in an organization that are interrelated to solve problems by utilizing management resources and providing information that helps decision making (Anak et al., n.d.) (p. 111)

Management information system is an integrated system that provides information to assist management operations and organizational decision making. This system uses computer software and hardware as well as manual procedures, models for analyzing, planning, monitoring, and decision making (Effendy et al., 2023)

Academically, the term information management relates to the automation or support of human decision-making, such as executive information systems, decision support systems, and expert systems.

From the above understanding, it can be concluded that a management information system (SIM) is an integrated system that uses technology and human resources to collect, process, and provide relevant information to support decision making and improve organizational efficiency and effectiveness. The main purpose of management information systems is to produce information. In general, management information systems aim at internal control of the company, dealing with problems such as product cost problems, services, or exclusive distribution strategies by utilizing people, documents, technology, and management accounting procedures.

C. Library

According to Endarti (2022) The library is known as a storage place for printed and non-printed library materials, the library is currently not just storing and searching for books for academic purposes, but has developed into an information warehouse that can be visited for entertainment. The function of the library is as an information center, education center, culture.

D. Senayan Library Management System (SLiMS)

Senayan Library Management System (SLiMS) is software used to improve user information services in libraries (Mantasa et al., 2024) . Senayan Library Management System (SLiMS) is one of the most widely used library management applications in Indonesia. This system is designed to assist in various aspects of processing (Bima et al., 2024)

METHODOLOGY

The method used in this research is a qualitative method, which aims to produce an in-depth understanding of the phenomenon under study through, analysis and collection of data that is descriptive, interpretative, and contextual. In this context, data collection techniques are from observation, interviews, and documentation. Observation is done by directly observing what is happening at the research location and recording various relevant elements. In addition, interviews are conducted by personally interviewing informants, which allows researchers to find out more about informants' perspectives and experiences related to the research topic, and documentation includes collecting data from various relevant sources, such as written sources, photos, and relevant books. The researcher was able to explore various perspectives and gain insight into how the library information system operates and is accepted by users of Politeknik Negeri Padang.

RESEARCH RESULT

Padang State Polytechnic Library used SLiMS in 2015, previously the library used GELIS (Generasi Lestari Integrasi Sistem), an opensource-based library automation system developed to facilitate library management. The implementation of SLiMS requires several stages. First, the study identifies the key issues and objectives, including evaluating the efficiency and impact of SLiMS compared to the previous system, GELIS. Primary sources include surveys of users and interviews with staff; secondary sources include statistical usage, library reports, etc. The focus of the analysis and interpretation is to identify improvements in system efficiency, user satisfaction, and accessibility, as well as the issues that arose during the migration process. The results are presented through detailed reports, visualizations, and actionable recommendations to enhance future library operations. The findings indicate that SLiMS can improve operational effectiveness and the quality of user services. It also provides practical insights for other institutions considering a similar transition.

DISCUSSION

1. Procurement of Collections

Collection procurement at the Padang State Polytechnic library is held once a year, usually the procurement submission process will begin in August. Librarians will procure collections through distributors in the agency. First, the distributor will send a list of book titles offered to the library. This list includes various titles that are relevant and in accordance with the needs of the library. Then the librarian will make a letter requesting the selection of library material titles to the head of the study program (kaprodi). This letter contains a request to review and select titles to be made available. After receiving input from the Head of Study Program, the librarian will compile a list of selected titles. This list is then sent back to the distributor for further processing.

Once the distributor receives the list of selected titles, the librarian makes payment according to the agreement. Once the payment is confirmed, the distributor sends the requested books to the library. The books are then

received and checked by the librarians and book distributors, to ensure the suitability of the book conditions. If there are missing titles or missing copies, the distributor will note and send them back.

Then the librarian starts processing the books, usually the books will be checked again according to the book inventory list. Then the books will be separated according to their respective departments. After the process is complete, the next step is cataloging.

2. Collection Data Processing

After procurement, the next process is collection data processing. The first thing to do is to make a book catalog. Librarians catalog the collection using the applicable bibliographic standards. A catalog is a card or list that contains information about a book, such as the number of books, title placement, author's name, editor, arrangement, isbn, book subject, and others. (Kamil et al., 2024) says a catalog is a list that contains complete information about a book, or other library material. The catalog allows someone to find library documents if from the document he knows the author, title or subject discussed in the book (Kacili et al., 2020) .

In the Padang State Polytechnic library, collection data processing starts with cataloging, then class numbering or classification. The librarian searches for class numbers using e-DDC (electronic- dewey decimal classification. According to (Rotmianto, 2015) classification aims to facilitate the identification, placement, storage, and retrieval of an object or object. In the Padang State Polytechnic library, the classification number is also used to give color to the book label, namely the orange color is used for class 600 and many color for antoher number class.

After giving the class number, then enter the book data into SLiMS. The data entered is in accordance with the collection catalog card. This data contains the number of books or copies, title, author's name, editor, arrangement, isbn, book subject, and finally uploading a photo of the book cover. The addition of book cover images aims to facilitate the process of searching or finding information.

After entering the data in SLiMS, the book barcode can be printed according to the book copy. This barcode is then pasted on the back of the book. This barcode aims to facilitate the borrowing process. After the book label barcode can be printed, then attached to the edge of the book (spine), this label contains the name of the library, 3 letters prefixing the author's name, and the book class number. The labeling of this book coincides with the labeling of the color according to the classification number. After all the data has been completed, the last process is to provide a book cover, this is intended to protect the book so that it is not easily damaged.

3. Circulation

One of the services provided by the Padang State Polytechnic library is circulation services, which is a service that provides borrowing, returning, and renewing collections. (Hengky Gampala, 2016) circulation services refer to

activities related to borrowing and returning books in the library. In the Padang State Polytechnic library, circulation service activities include borrowing, returning, collecting fines (if any), renewing books, supervision, loan administration, borrowing statistics, registering new members, and making library exemption letters. Circulation services play a role in all activities in the library (M. E.-K. Kesuma et al., 2021) . According to (Sumiyati & Wijaya, 2023) library circulation services are not limited to borrowing, returning, and renewing collections, but also include the entire process of meeting user needs through circulation services.

In SLiMS this circulation feature includes, as follows:

a. Borrowing

Library members can borrow collections easily through the system, and librarians can record loans automatically. Borrowing collections can be done by simply scanning the barcode of the book, and the system will process automatically, when the date of borrowing and returning the book.

b. Return

The book return process is also done quickly, and the system will update the collection status in real-time. If the user is late in returning the book, the system will automatically display the fine that needs to be paid by the user.

c. Renewa

Librarians can also extend the collection, just enter the data and the system will display the features for the book extension.

d. Fine notice

SLiMS can automatically calculate fines if books are not returned on time and send notifications to members.

To borrow or return a collection, library members only need to bring a member card or student card, and bring the collection to be borrowed or returned. Informants said that each of the existing librarians already understands the features contained in SLiMS for borrowing, returning, renewing, fines, and other activities related to circulation services in the library. Librarians also said that the existence of SLiMS made work more effective and efficient.

To borrow, extend, and return books at the polytechnic library, students only need to bring KTM (student identification card) then the librarian scans the barcode on the book.

According to (Infromatika & Asahan, 2024) automation systems in libraries that utilize the SLiMS application are very effective in managing libraries and providing optimal services. Services in this library make it easy for users to find the information they need.

4. Collection Search

One of the advantages of SLiMS is its ease of use for library visitors, namely with the OPAC (Online Public Access Catalog) feature. With this feature, searching can be done only by typing the keyword of the book or library book material being searched, and SLiMS will display the details of the book and its availability in the library. This feature is considered very simple and facilitates the search process. Search results in SLiMS. The information listed on each collection will make it easier to find it on the shelf, such as class number, author, book subject, so that searching for books does not have a long time.

However, there are still many students or lecturers who do not know this feature, so they are often confused in finding the collection they need, the users will more often ask the librarian about the book they need available or not, and on which shelf. Then the librarian will help find and show the collections that the users need. The use of SLiMS in libraries can reduce the time needed to complete various tasks. Thus, these jobs can be completed more quickly and efficiently. In addition, SLiMS can also be effective in helping and facilitating the search for library materials and retrieval systems, which can be done from anywhere (Zidane et al., 2023).

5. Barrier

Although SLiMS offers many advantages, there are some obstacles faced by the Padang State Polytechnic library, among others:

a. Limited human resources, the use of SLiMS in Padang State Polytechnic Library requires certain technical skills. If library staff do not receive adequate training, this can hinder effective management of the system. The skills required include understanding how to operate the application, performing maintenance, and dealing with problems that may arise.
b. Technological constraints, technical issues such as unstable internet connections or inadequate hardware, can disrupt SLiMS operations in libraries. Limitations in technological infrastructure can cause delays in access to information and services to users, which will ultimately affect user satisfaction.
c. Adaptation of users, students or lecturers at Politeknik Negeri Padang, may take time to adapt to a new system such as SLiMS, especially if they are previously accustomed to traditional methods of searching and borrowing books. This adaptation process can affect the level of optimal use of the system.
d. Regular maintenance and updates of the SLiMS system are essential to ensure that the application functions properly. However, this process requires a lot of time and resources. If maintenance is not done regularly, it can cause technical problems that disrupt library services.

From the results of interviews with informants, there are several obstacles in using SLiMS, namely in the early stages of implementing the use of SLiMS, especially during data migration. SLiMS substantially improves library services and operational effectiveness over a long period of time. By utilizing an

online catalog, SLiMS simplifies data access for users, enhances user experience, and increases user satisfaction. Additionally, SLiMS supports digital services and interlibrary networks, modernizing library operations such as cataloging, circulation, and inventory management, which reduces employee workload and boosts their relevance in the digital era. Furthermore, despite challenges such as staff training and inadequate infrastructure, SLiMS enables library operations to remain more relevant.This problem was caused by the difference in database structure between the previously used application and SLiMS. In addition, another obstacle arose because the informant did not have skills in programming, which caused confusion when migrating data from the old application used. The existence of human resources in an agency has a very important role. Labor has great potential to carry out various activities at the agency. Every potential possessed by human resources in the agency must be utilized optimally in order to produce maximum performance (Rumengan, 2018) . The librarians finally check the collection on SLiMS, if the collection is not found, the librarian will add the collection data to SLiMS. The successful implementation of an information system is highly dependent on the extent to which the ease and utilization of information systems are presented in a company to assist individuals in completing their tasks (Ashianti, 2017). A few of the obstacles to SLiMS deployment in libraries are staff technical training, insufficient infrastructure, user acculturation, data migration problems, and change aversion. Structured training programs, easily navigable manuals, and continuous staff mentoring are crucial to addressing issues. While offline SLiMS options can support libraries with restricted access, system performance can be enhanced by upgrading hardware and improving internet connectivity. Adoption goes well when users are educated through workshops, tutorials, and specialized support services. Data loss can be avoided with careful data movement preparation, verification, and backups. A smooth transition and optimal system efficacy are ensured by open and honest communication about the advantages of SLiMS and the encouragement of user and staff feedback.

CONCLUSIONS

The implementation of the Open Source Senayan Libraray Management System (SLiMS) in the Padang State Polytechnic library shows that the process of collection procurement, data processing, circulation, and collection search becomes more efficient and effective. SLiMS makes it easier for users to find library materials through the OPAC feature and speeds up circulation services. Although there are obstacles such as data migration difficulties and limited technical skills of staff, with proper training, these obstacles can be overcome. Overall, SLiMS has the potential to improve the quality of library services and better fulfill users' information needs.

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