

**USE OF LIBRARY SOFTWARE IN CONSTITUENT CAMPUSES
LIBRARIES OF TRIBHUVAN UNIVERSITY**



A Report of Mini Research Project Submitted To

Research Management Cell Committee

Birendra Multiple Campus

Bharatur, Chitwan

Nepal

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May, 2023

DECLARATION

The project report entitled "**Use of Library Software in Constituent Campuses Libraries of Tribhuvan University**" which is being submitted to the Research management cell of Birendra Multiple Campus, Bharatpur (Tribhuvan University) for the mini research project supported by Research Management Cell Committee of Birendra Multiple Campus, Bharatpur, is an original research work carried out by me and has not been submitted earlier in part or full in this or any other form to any institute, here or elsewhere, for any award.

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CERTIFICATION

Certified that the Mini Research entitled "**Use of Library Software in Constituent Campuses Libraries of Tribhuvan University**" carried out by Mahendra Prasad Adhikari, staff member of the Section of Library, Birendra Multiple Campus, has successfully completed in scheduled time duration of six months under the guidelines of Research Management Cell committee of Birendra Multiple Campus, Bharatpur, Chitwan.

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ACKNOWLEDGEMENT

I am indebted and would like to express my sincere gratitude to the respected coordinator prof. Dr. Sita Ram Bahadur Thapa and all the members of Research Management Cell Committee with Prof. Dr. Krishna Prasad Poudyal of Birendra Multiple Campus, Bharatpur, Tribhuvan University for providing me such a wonderful opportunity to carry out the research work.

I would also like to express my sincere gratitude to the respected Campus Chief Prof. Daya Ram Poudel for the administrative support to carry out the research work. I would also like acknowledge sincerely, Assistant Professor Mrs. Nira Manandhar, Head of Central Department of Library and Science, TU, Kirtipur, faculty member Mrs. Dr. Lila Nyaichyai and Mrs. Sarita Gautam for the valuable suggestions and She has also played a great role for my research. I would also like acknowledge, Assistant professor Mr. Sharad Chandra Kafle. So, I am very thankful for his valuable guidance and support. It is my great pleasure to express thanks to my classmate for their help in the work. I am also thankful to my technical staff specially Mr. Prakash Acharya for his help in the collection of the information. I am also thankful to the non-teaching staffs specially account office assistant Mrs. Sabitra Sharma, office assistant Mrs. Mira Tiwari and senior office assistant Mrs. Shiwa Devi Koirala for the continuous help throughout the research work.

I would like to express my sincere thanks to all my friends and family members for their valuable support for me to carry out the research work.

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ABSTRACT

The study explores challenges in library management software in Tribhuvan University libraries, proposing solutions to enhance operations. It highlights the lack of uniform software and limited awareness among executives and librarians, hindering data availability. Addressing these issues can improve data management in Tribhuvan University campus libraries.

The study examines challenges in library management software by addressing difficulties in TU campus libraries and proposing solutions to enhance its functionality. The significance lies in understanding library management system initiatives, software identification, and utilizing electronic sources for accessible information.

The research methodology includes observing software usage and collecting data through a questionnaire from librarians in all 62 TU constituent campus libraries. The study focuses on 45 selected libraries across various districts in Nepal. Data analysis is done manually using Microsoft Excel, and findings are presented through tables, graphs, and diagrams.

The study findings reveal areas requiring improvement, including technology adoption, online presence, and resource utilization in campus libraries. It also highlights varying levels of progress among the 45 campus libraries, with some facing challenges. A shortage of professional staff and IT personnel is identified, impacting library efficiency.

The study emphasizes the importance of staffing adjustments, training, and technological investments in campus libraries. It recommends adopting open-source software, expanding book collections, and customizing services based on individual campus needs. Further research is needed to propose effective solutions and understand the limited adoption of ICT.

This study highlights the need to address challenges in library management software at Tribhuvan University campus libraries. Recommendations include investing in technology, online presence, and resource expansion. Implementing these suggestions can enhance functionality and better serve users.

Keywords: Automation, Integrated System, digital library, academic library

LIST OF ABBREVIATIONS

CDLIS	: Central Department of Library and Information Science
CDS/ISIS	: Computerized Documentation Service/Integrated Set of Information Systems
DL	: Digital Library
ELMS	: Electronic Library Management System
EMIS	: Educational management information system
FOSS	: Free and open -Source software
ICT	: Information and Communication Technology
ILMS	: Integrated library management system
ILS	: Integrated Library System
ISO	: International standard organization
MARC	: Machine readable catalogue
OCLC	: Ohio College Library Center
OPAC	: Online Public Access Catalogue
OS	: Operating System
OSS	: Open-Source Software
PMB	: Php My Bibli
RFID	: Radio Frequency Identification
SDI	: Selective dissemination of information
UNIMARC	: Universal Machine-readable catalogue format
TUCL	: Tribhuvan University Central Library

CHAPTER-I

INTRODUCTION AND BACKGROUND

1. INTRODUCTION

A library is a structured repository of information resources that are made available to individuals, either in physical or digital form. Historically, access to library resources was primarily limited to the physical library space, but with the advancement of technology, access has transitioned to online platforms(Dinesh et al., 2015). The library is a rapidly evolving entity, and traditional approaches to its management are no longer agile and effective. To ensure swift information retrieval, efficient dissemination, and enhanced user experience, the integration of contemporary methodologies has become imperative(Lakshmipathi, 2019)

The Library Management System incorporates modules for book and user maintenance, ensuring accurate tracking of library users and comprehensive book descriptions. By adopting this computerized system, the risk of book or member records being lost, which is common with non-computerized systems, is eliminated. Additionally, the system includes a reporting module that enables administrators to generate various reports, such as user registration lists, book lists, and issue/return reports. These modules collectively empower librarians to efficiently and conveniently manage the library, surpassing the capabilities of non-computerized library systems.

Librarians utilize a computerized system to streamline library management, enabling them to record diverse transactions including book lending, book returns, book acquisitions, student registrations, and other administrative tasks with enhanced efficiency this system enables librarians to categorize and organize the library in a structured manner, allowing for better management and easier access to information for library users etc. (Tripathi & Srivastava, 2012)

1.1 Background of the Study

Library management is a specialized field encompassing the management of libraries and addressing unique challenges such as intellectual freedom, anti-censorship efforts, and fundraising. It combines traditional management tasks with a focus on preserving

access to information and securing necessary resources for the library's operations. Several of the obstacles faced in library administration mirror those encountered in the governance of nonprofit entities(Sharma). The Library Management System is a software application designed to represent and manage the operations of a library, typically catering to libraries of small to medium size.

Libraries play a vital role in preserving and sharing knowledge, adapting to the changing landscape through the integration of information technology, which has revolutionized their operations and services for the benefit of society's pursuit of knowledge. New technologies have reshaped libraries into modern, tech-savvy information resource centers that cater to the ever-changing needs of users. These advancements have enabled libraries to provide dynamic and technologically advanced services, enhancing accessibility and expanding opportunities for knowledge acquisition. The swift integration and utilization of these emerging technologies have revolutionized conventional libraries, turning them into automated, electronic, virtual, and digitalized libraries(Peer et al., 2013).

The Library Management System is a software solution designed to oversee and regulate the operations and activities within a library(Tripathi & Srivastava, 2012).

The Library Management System caters to the overall needs of the library, encompassing functions such as procurement, cataloging, circulation, and various other departments.

A library management system comprises a relational database, software, and user interfaces for both patrons and staff. It utilizes modules such as acquisitions, cataloguing, circulation, serials, and OPAC to streamline resource management and improve operational efficiency within the library.

Before computerization, library tasks were conducted manually, with selectors ordering materials, cataloguers cataloguing items using the card cataloguing system, and users manually signing out books using cue cards at the circulation desk, resulting in independent and labor-intensive processes.

The concept of modern library services has only emerged in Nepal relatively recently (Amatya, July 2005). During that period, while the western world embraced the rapid

dissemination of printed books and documents, Nepali librarians such as Pandit Kedar Nath, Khadga Ram Joshi, and Megh Nath Rimal diligently focused on copying and preserving manuscripts, as the British Museum in the western world thrived and offered vibrant library services.

The proliferation of library software companies and their enticing advertising campaigns has created confusion among libraries regarding which software best meets their requirements. Choosing the right software is a complex matter, and experts recommend convening a selection committee to engage in discussions and procure the most suitable option based on criteria such as flexibility, capacity, expandability, security, affordability, user-friendly modules, and compatibility with the latest technology. Consequently, conducting evaluations of suitable software packages becomes crucial in academic or other libraries to ensure user-friendliness, efficiency, and cost-effectiveness, providing Nepalese librarians with valuable guidelines for software selection or development.

The overwhelming flow of information necessitates the application of advanced technologies in libraries to effectively control and disseminate materials, preventing information obsolescence and meeting user requirements. The advent of computers has transformed library services, with librarians now assisted by computer hardware and software, making library automation a significant and debated topic worldwide. Software, which consists of a collection of programs, is responsible for executing a series of commands that instruct and operate the hardware components (Sharma Pandey, 1993).

Software is essential for a computer to function effectively, analogous to a brain for a person or books and librarians for a library. Consequently, the selection of suitable software takes precedence over hardware to ensure optimal performance and desired outcomes. The author placed significant emphasis on providing a comprehensive overview of the software required to manage library operations and facilitate information retrieval services (Mahmood Malik, 1996).

Software selection for libraries requires careful consideration by a selection committee, focusing on factors such as flexibility, capacity, expandability, security, cost-effectiveness, and user-friendliness. An evaluation study can provide valuable

guidelines for Nepalese librarians in choosing or developing suitable software packages that are efficient, user-friendly, and aligned with the latest technology.

The lack of uniform information management software among Tribhuvan University (TU) affiliated campuses has hindered timely and easy access to library data. A study utilizing structured questionnaires and data analysis aims to identify solutions to improve information management in campus libraries, addressing issues in library software and facilitating resource sharing.

Established in 1959, Tribhuvan University Library merged with the Central Library in 1961 to form Tribhuvan University Central Library (TUCL). With five institutes, four faculties, sixty-two (62) constituent campuses, forty(40) central departments, and 1062 affiliated campuses, Tribhuvan University is one of the world's largest universities, catering to diverse programs and a large student body. Each campus has its own library, including academic and special libraries under institutes, serving students, teachers, and staff members. Additionally, TU houses four research centers to support scholarly activities.

Nepal lacks a centralized national body to regulate and oversee libraries and information centers, resulting in inconsistent information services. Despite the provision of libraries in accordance with acts, rules, and regulations, citizens are unable to access legal-based library services. The roles and responsibilities related to information acquisition, collection, processing, circulation, preservation, and scholarly communication have not been clearly defined. Neither Tribhuvan University nor the Nepalese Government have addressed this issue in any national plan. No policies and programs have been formulated for the effective implement of library services (Karki, 2012).

The integration of computer software packages and ICT is crucial in delivering information effectively in university teaching and learning, enabling libraries to provide their community with access to their own collections and catalogs of other libraries to expand the scope of available resources(Sarkar, 2012).

Tribhuvan University has taken steps towards creating a web portal, but ensuring the availability of reliable data and information remains a challenge. The lack of uniformity in software choices among affiliated campuses and a shortage of knowledgeable and

skilled library officers have contributed to this issue. To address these problems, the study aims to identify and evaluate the nature and types of software being used in different institutions through a questionnaire survey. The goal is to determine the most suitable software solution that promotes uniformity, effectiveness, efficiency, and user-friendliness.

1.2 Statement of the Problem

Among the 62 constituent campuses of Tribhuvan University in Nepal, there is a lack of uniform information management software, leading to challenges in timely and easy data availability. Library management software is a relatively new phenomenon, and many libraries in Nepal face issues with their chosen software due to limited awareness and understanding. The prevailing trend is to use proprietary software like Mumolas, PMB, Cosmos, Libra, or freeware like CDS/ISIS. However, executives and librarians often lack updated knowledge about software-related problems and their solutions. A study is needed to investigate the use and problems of software in different TU libraries.

1.3 Objectives of the Research

The study aims to investigate the problems associated with library management software usage in Tribhuvan University constituent campus libraries and identify potential solutions. It focuses on exploring and addressing software-related issues to improve the efficiency and effectiveness of library operations.

1.4 Research Questions

The research was conducted with a focus on addressing the following research inquiries:

- What are the problems faced using library management software in TU constituent campus libraries?
- How could the problems be solved library management software?

1.5 Significance of the Study

This study holds significance in understanding the scope of library management system initiatives and projects in Nepal, providing comprehensive insights into the landscape.

By identifying the types of library management software used in various TU constituent campus libraries, the study sheds light on the factors influencing their success.

Furthermore, the study incorporates electronic sources, offering easily accessible and relevant information for assessing the appropriateness and usefulness of the topics at hand.

1.6 Limitations and Delimitations of the Study

This study focuses on 45 Tribhuvan University constituent campus libraries, specifically gathering data from the installed library management software.

Its primary objective is to assess the problems associated with software used for library management in these campuses and propose potential solutions.

1.7 Definition of Literary Terms

Library Management:

Classification, cataloguing, indexing, database construction, and database indexing are all library management practices that would certainly benefit from the use of these rapid ICT advances Library

Automation

Automation, as defined in the Encyclopedia of Library and Information Science, refers to the utilization of technology to create and implement processes and systems that decrease reliance on human involvement in various operations and tasks (Venkatesh & Bala, 2008).

Free software:

Free software is software that grants individuals the freedom to utilize, adapt, and distribute it without limitations, on the condition that any subsequent distribution maintains the original terms of free use, modification, and distribution, including the availability of the source code.

Open-source software

Open-source software refers to code that is openly accessible to the public, allowing individuals to view, alter, and distribute the code according to their preferences. This

collaborative and decentralized approach to software development encourages peer review and community participation.

Electronic Library Management System (ELMS):

Electronic libraries offer advantages over traditional libraries such as better search systems, no risk of damage or loss, and faster reproduction. Electronic library management systems allow for easy data management through a protected online control panel, saving time and increasing accuracy.

Library Science Discipline Development in Nepal

Nepal has only a Master's and Bachelor's degree in Library and Information Science under Tribhuvan University. The lack of proper policy and planning in libraries and professional manpower development hinders the development of library science in Nepal. However, the Nepal National Planning Commission aims to produce higher-level workforce in library and information science and has included postgraduate programs in its 9th year plan period (1997-2002)(Karki, 2012).

1.8 Organization of the Study

The research report is structured into six chapters, each providing an overview and summary of its respective content:

Chapter 1: The introduction section furnishes the contextual backdrop, articulates the issue at hand, states the objectives and research inquiries, defines the scope and significance of the study, acknowledges its limitations, and presents the reasoning behind conducting the research, while also presenting a structural overview of the thesis.

Chapter 2: The literature review delves into the topics of library software, digital library software, library management systems, the status of information and communication technology (ICT), as well as the automation and digitization efforts undertaken in the constituent campus libraries of Tribhuvan University in Nepal.

Chapter 3: In the chapter on research methods, the study's design, paradigm, methodology, data collection tools (questionnaire), merits and demerits of the chosen

methods, implementation of the research, and techniques employed for data analysis are comprehensively examined and discussed.

Chapter 4: Within this chapter, detailed descriptions are presented for both open-source and proprietary library management software utilized in the libraries of Tribhuvan University's constituent campuses in Nepal.

Chapter 5: The data analysis chapter presents the analysis of quantitative data collected through semi-structured questionnaires and provides a summary of findings. The findings are presented in tables created using Microsoft Excel.

Chapter 6: The final chapter includes the findings, summary, conclusion, and recommendations. It discusses the problems faced by libraries, suggests improvements for campus and university libraries, and highlights the implications of the study. Library automation and digitization are emphasized for facilitating easy access to information and optimal utilization of library resources.

CHAPTER-II

LITERATURE REVIEW

2.1 Review of Literature and Research Gap

The literature review chapter offers a comprehensive overview of the relevant literature pertaining to software, library management software, library automation software, and digital library software, examining both national and international perspectives in the field. The search for secondary data included print and online resources, revealing limited literature on the status of software programs specifically in Tribhuvan University campus libraries. While foreign literature on digitization in universities was abundant, research specific to software status in TU campus libraries was scarce.

Within this chapter, an extensive literature review is conducted, encompassing digital library initiatives and the global landscape of automation and digitization, with a specific focus on the digitization efforts undertaken in public and private university libraries at national, regional, and international levels.

In this chapter, a compilation of literature is presented, addressing the concepts of automation, digitization, and related facets from diverse perspectives and contexts, with some insights gleaned from technologically advanced countries. The synthesized literature serves as a valuable resource to establish a framework or set of guidelines for assessing the current state of library automation and digitization in university campus libraries.

During the study, an array of keywords was employed in the search process, including software, library software, library management software, information and communication technology (ICT), digital library, digital library initiatives, challenges in digital libraries, library automation, digital library software, automation software, open-source and proprietary software, as well as constituent campus libraries of Tribhuvan University (TU), ensuring comprehensive coverage of the relevant literature.

The following is an inventory of pertinent literature sources that have been thoroughly examined and analyzed as part of the research process:

To acquire a more comprehensive comprehension of the subject matter, conducting a thorough survey of pertinent literature and studies is imperative and beneficial. The review of such related literature serves as a foundation for justifying the research findings. The primary aim of this chapter is to facilitate a comparative analysis between the current investigation and preceding studies, fostering a deeper understanding of the topic at hand.

Koha made its pioneering move into the online realm in 2000, paving the way for numerous open-source software (OSS) projects designed specifically for the library and information science field. Among them, Greenstone, DSpace, and VuFind have garnered a substantial global user community, demonstrating continuous advancement in functionality and substantial exchange of innovative concepts derived from shared experiences.

A comprehensive integrated library management system (ILMS) is typically anticipated to encompass essential library operations such as acquisitions, cataloging, circulation, administration, serials management, online public access catalog (OPAC), interlibrary loan (ILL), and statistical reporting, while offering seamless accessibility to individual sub-modules within these primary functional components(Giri, 2012).

Malwad (1995), said that in the article "*Selection Criteria for Library Automation Software*" Explored in this section are the diverse software packages accessible in the market, catering to a broad spectrum of applications encompassing library maintenance operations, information storage, and retrieval. These software offerings exhibit variances in capabilities, pricing, and frequent version updates. The critical aspect of library automation system lies in the careful selection of an appropriate software package, contingent upon the unique requirements of the institution, its operating environment, budgetary constraints, as well as the aims and objectives of the users.

Joint (2006), suggested in his article "*Evaluating library software and its fitness for purpose*" This conceptual paper offers an examination of established software evaluation models and aims to tailor their general principles to the distinctive requirements inherent in information retrieval and educational applications within library settings. Furthermore, it presents a comprehensive software quality model that

encompasses key overarching factors, including functionality, reliability, usability, efficiency, maintainability, and portability.

Ramesh (1998), said that in this article “*Technical problems in University libraries on Automation-An overview*” In order to cater to the needs of today's knowledgeable readers, it is imperative for libraries to establish efficient technical services that are well-structured, employing contemporary applications to deliver prompt and expedient user service. This paper explores various aspects of technical service management, including acquisition, cataloging, circulation, and highlights the conventional approaches employed prior to automation. Furthermore, it acknowledges the substantial transformations in library infrastructure and the resultant challenges encountered in optimizing technical services within university libraries, particularly in light of advancements in information technology.

Minkova (2018) define that Open-source software refers to computer software that is accompanied by source code accessible under a license that grants users the freedom to examine, modify, and distribute the software without restrictions. Such software is commonly developed through collaborative and transparent efforts within a public domain.

Singh and Sanaman (2012) reported that Koha was first launched online in 2000, and many other open-source software (OSS) projects have since been developed for library and information science. Greenstone, DSpace, and VuFind are among the most popular, with a large global user base and ongoing development based on shared experiences and ideas.

Rahman (2014) Explored in the discussion is DSpace, a platform dedicated to the management of digital repositories, catering to a diverse range of digital content including articles, books, theses, multimedia files, and bibliographic records. Notably, DSpace offers multilingual support to accommodate a wide array of languages.

2.2 Conceptual / Theoretical Framework of the Study

At first, the study will identify the TU constituents' libraries. The researcher categorized different software currently using in TU constituent campus libraries. Through the data collection with a set of questionnaire form, the researcher collects the

data from the concerned personalities with proper checklist. After the collection of data, the researchers has categorized all compiled data into different categories and thematic concerns and analyze the data in qualitative and quantitative manner.

This research report was prepared under the guide of mini-research grant of research management cell under the Birendra Multiple Campus and submitted submitted with in the provided timeframe

CHAPTER-III

RESEARCH METHODOLOGY

This chapter outlines the research approaches and methods utilized in the study, including the research design, population, data collection methods, and data analysis procedures. The research aims to address the problem of library management software in TU Constituent Campus Libraries, employing a systematic and structured approach. The chapter provides a comprehensive description of the research design, population sampling, data collection techniques, and detailed procedures for data analysis.

Research is a systematic and organized way as well as effort to investigate a specific problem that needs a solution. According to Mouly, " Research is simply the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data" (Kumar, 1992). Research is the process of collecting and analyzing data to solve problems and generate new knowledge. Methodology refers to the systematic procedures and techniques used in conducting research.

3.1 Research Design

Research design refers to the planned sequence of steps and the conceptual structure within which a research study is conducted. In this study, various types of software, such as Koha, Mumolus, PMB, EMIS Mitra ERP, and Libra, were observed in the visited libraries. These user-friendly software options facilitate easy retrieval of information from the library's collections.

3.2 Sources of Data

For this study, the primary source of data was collected through email using a questionnaire. A survey research approach was employed to achieve the study's objectives. A specific set of questionnaires was designed to gather information on the library management software used in TU Constituent Campus Libraries. The questionnaires were targeted towards the libraries in order to obtain relevant data.

3.3 Study Population

The study included participants from all 62 TU constituent campus libraries, totaling 273 staff members. The participants were primarily the librarians and heads of library sections from each campus. The survey encompassed both male and female participants, ensuring a diverse representation in the study.

3.4 Study Sampling Procedure

For this study, the researcher designed a questionnaire specifically tailored for librarians and heads of library sections in the Tribhuvan University Constituent Campus Libraries. The questionnaire aimed to uncover the problems and potential solutions related to library management software and systems. To ensure reliable results, the researcher personally reached out to the library professionals and individuals through email and distributed the questionnaire via Google Forms. The sample selection technique used was purposive, targeting individuals who were actively using library software within the total population.

In this study, a purposive sampling approach was employed to select a subset of 62 constituent campus libraries out of a total of 45 libraries that were using library software. Purposive sampling involves selecting individuals or groups based on specific criteria that align with the research objectives, rather than using random or representative selection methods. The researcher had a specific need to gather information from libraries using software, and therefore chose a sample that met this criterion. While the selection process was not guided by randomness, it was intentional and targeted to fulfill the purpose of the study.

3.5 Study Area

The focus of this study was on the Tribhuvan University Constituent Campus Libraries, which are spread across various districts and locations throughout Nepal. These libraries, located in different regions of the country, were the primary area of interest for the research. The aim was to examine the library management software and system used in these libraries and explore the problems and potential solutions related to their implementation. By studying libraries from diverse geographical locations within Nepal, the research aimed to provide insights into the overall scenario of library

management software in the context of Tribhuvan University Constituent Campus Libraries.

3.6 Data Collection Procedure

The researcher employed a structured questionnaire to gather data from librarians and library professionals as part of this study. The questionnaire consisted of 28 questions, comprising both closed-ended and open-ended questions. The researcher sent the questionnaire via email to the respective librarians and personally distributed it to the library professionals and head librarians/staff. A total of 62 questionnaires were distributed through a Google Form.

Out of the 62 questionnaires distributed, 45 were submitted by the respondents within the specified timeframe. Unfortunately, 17 questionnaires were not responded to. Among the respondents, it was found that 35 campuses were using different types of software, while the remaining 10 campuses were not utilizing any software at the time of the study. The attached Annex No. 2 provides a sample of the questionnaire distributed to the library heads and professionals who participated in the study.

3.7 Data Analysis Procedure

The collected data on the use of library management software in Tribhuvan University constituent campus libraries were analyzed using Microsoft Excel. The data analysis involved the collection, editing, coding, tabulation, and classification of the questionnaire responses. The analysis was conducted manually for both sets of respondents. The results of the data analysis were then presented in various forms such as tables, graphs, and diagrams. Based on the findings, conclusions were drawn.

CHAPTER - IV

DESCRIPTION OF LIBRARY SOFTWARE

4.1 Operating System

The operating system (OS) manages all of the software and hardware on the computer. It performs basic tasks such as file, memory and process management, handling input and output, and controlling peripheral devices such as disk drives and printers. Details different types of Operating system are given as following

4.1.1 Linux Operating System

Linux is a free and open-source operating system based on Unix and designed to be lightweight and highly customizable. It is known for its stability, security, and reliability, and is used in a variety of applications, from servers and enterprise systems to embedded systems and personal computers. There are many different distributions of Linux available; each with its own features and user interface, and it is supported on almost every major computer platform. As an open-source system, Linux is constantly evolving and improving, with regular updates and contributions from a large community of developers.

4.1.2 Macintosh Operating System:

MACINTOSH stands for More Accurate Computer Inter-Networking, at the Top of Such Heights. It is a GUI-based operating system designed by Apple Inc. in 1984 and is now known as macOS. It is used to power every Mac, and comes with beautiful apps and iCloud integration, while prioritizing privacy and security.

4.1.3 Windows Operating System:

I apologize, but that information is not entirely accurate. Microsoft Windows 1.0 was actually released on November 20, 1985, not November 10, 1983. Additionally, Windows was not Microsoft's first operating system - they had previously released versions of MS-DOS and Xenix.

Types of operating system

- Windows 10 S (2017) ...
- Windows 10 (2015) - MS Version 6.4. ...
- Windows 8/8.1 (2012-2013) - MS Version 6.2/6.3. ...
- Windows 7 (2009) - MS Version 6.1. ...
- Windows Vista (2006) - MS Version 6.0. ...
- Windows XP (2001) - MS Version 5.1. ...
- Windows 2000 (2000) - MS Version 5.

4.2 Software

Software is a collection of computer programs, documentation, and data that performs various tasks on a computer. It can be written in low-level assembly language or high-level programming languages that are compiled or interpreted into machine language. (Wikipedia, 2022).

4.2.1 Open-Source Software

Open-source software is software that is freely available and allows users to access and modify its source code to fit their needs, often developed collaboratively in a public manner (Minkova, 2018). Open-source software can offer many benefits such as improved quality due to the ability for anyone to contribute and review the source code, increased flexibility and customization options, and lower costs due to the lack of licensing fees. It also helps to break down traditional vendor lock-in where users are locked into using a particular vendor's software and solutions (Tramboo et al., 2012).

4.2.2 Proprietary Software

Proprietary software is software that is licensed under exclusive legal right of the copyright holder, restricting users from modifying, sharing, studying, redistributing, or reverse engineering the code. The code is restricted and cannot be changed from its original construction (Randhawa, 2008).

In terms of library automation and digitization, library software can be classified as either library management software or electronic library software.

4.3 Library Automation Software:

Library automation involves the computerization and automation of traditional library operations such as acquisition, cataloging, circulation, serials management, and information services to improve efficiency and accuracy (Sonone, 2023). Library automation is the application of computers and technology to automate and streamline various library services and tasks, such as cataloging, circulation, and information retrieval. In general Library Automation means ‘use of machines for library processes’ (Adkinson & Stearns, 1967).

4.3.1 Evergreen

When exploring open-source options for Integrated Library Systems (ILS), Evergreen ILS stands out as a viable choice. Evergreen is an open-source software developed by the Georgia Public Library Service for the Public Information Network for Electronic Services (PINES), a consortium of over 270 member libraries. It was first released in September 2006 and requires the Linux operating system to operate. Evergreen is compliant with standards, utilizes the OPAC interface, and offers a wide range of features, including customizable administration, adaptable workflow, flexible programming interfaces, and the advantage of being open source, allowing for community contributions (Amatya, July 2005).

4.3.2 Koha:

Koha, originally developed by Katipo Communications for the Horowhenua Library Trust in New Zealand in 1999, is a robust open-source integrated library system (ILS) designed to operate on the Linux operating system. This highly regarded software solution is now widely adopted by libraries worldwide, offering a comprehensive range of features and functionalities. (Chouhan, 2010).

Derived from a Maori word denoting a gift or donation, Koha encompasses the majority of essential features one would anticipate in an integrated library system (ILS), comprising a comprehensive range of capabilities. (Reddy & Kumar, 2013):

4.3.3 Alice for Windows

The Alice library management system is a suitable option for libraries that Some libraries may lack access to state-of-the-art technology or robust IT infrastructure, and that it is easy to use, reliable and effective. Softlink International has a global presence and markets their LMS under different names in different regions. Soft Link International has recently made the decision to globally adopt the name "Alice for Windows" for their software, aiming to ensure uniformity in nomenclature across different regions. (Mukhopadhyay, 2002).

4.3.4 Libsays

LIBSYS Ltd. is a company based in Gurgaon, India, providing innovative library management systems across the country. Renowned for its comprehensive functionality and exceptional features, LIBSYS software stands as a fully integrated multi-user library system, following the client-server model and endorsing open system architecture, web-based accessibility, and a user-friendly graphical user interface (GUI). This library management system (LMS) encompasses seven fundamental modules, encompassing Acquisition, Cataloging, Circulation, Serials, Online Public Access Catalog (OPAC), Web-OPAC, and Article Indexing. The software is designed and developed by LibSys Corporation in New Delhi(Mukhopadhyay, 2002):

4.3.5 Mirror

The Mirror library is specifically developed to offer comprehensive meta-data on C++ constructs during both compile-time and run-time, encompassing vital details about namespaces, classes, inheritance relationships, member variables, constructors, and member functions. The primary objective is to furnish a uniform and versatile interface that enables seamless introspection of these constructs.

Mirror aims to be non-intrusive, which means that it does not require any changes to be made to existing code or any Mirror-specific code to be added to class definitions. Mirror achieves this by using the C++ template metaprogramming technique to generate meta-data about classes at compile time, which can then be used at runtime for various purposes like serialization, validation, and more. This approach makes

Mirror quite flexible and versatile, as it can work with any C++ code, whether it was designed with Mirror in mind or not.

4.4 In House Made:

Libraries have different needs and requirements, and choosing between in-house developed software and commercial packages depends on several factors such as budget, technical expertise, customization needs, and support options. Some libraries may have the resources and expertise to develop their own software, while others may prefer to use commercial packages that can offer more features and support. Ultimately, the choice depends on the library's specific needs and resources.

Custom-built software refers to software that is specifically designed and developed for a particular organization or user, catering to their specific needs and requirements.

Customized software can meet a library's exact specifications without unnecessary extras, providing greater control and addressing specific needs. Additionally, it can enhance the user interface, making it more intuitive and user-friendly.

4.4.1 PhpMyBibli (PMB) Library management System

PMB (previously referred to as PhpMyBibli) is a library automation system originating from France, built on PHP and MySQL. It offers extensive customization options and is tailored for medium-sized and large libraries. PMB enables the management of library networks integrated into a collective catalog, while employing the UNIMARC cataloging format. Moreover, the software encompasses conversion and importation systems, including USMARC and XML, facilitating seamless data integration.

4.4.2 Mumolas

ERASOFT Pvt. Ltd is a software development company based in Nepal. It was founded in 2008 by Kabita Raya and has since experienced organic growth under the leadership of Managing Director Om Khadka. The company offers a range of services, including web application development, library management, business ERP, IT consultancy, training services, and library consultancy. ERASOFT is known as the best software development company in Nepal and has a strong presence in the national market, with plans to establish alliances in the international market. The company aims to deliver

smart technology solutions that align with the business needs of its clients and has supported government and non-government organizations, the education sector, and other corporate businesses inside Nepal.

ERASOFT understands that every project has clearly defined business goals and works with its clients to measure the return on investment (ROI). The company's commitment to progressive improvement over short-term achievement has been key to its success. It has identified that its trusted and capable network of partners and clients has underpinned its success. As a technology company, ERASOFT believes that technology has become a permanent feature and works as a partner to deliver smart technology solutions that align with the business needs of its clients. The company's mission, vision, and values hinge on technology evolution and innovation, which has led to its expansion into broader and more holistic engagement beyond its foundation expertise.

4.4.3 Mitra Erp Emis (Nepal)

FEATURE AND MODULES

Cataloguing

- New Book Bibliographic Record Entry
- Multi-copy Book entry
- Spine Level/Barcode
- Stock Summary
- Stock Verification
- Location Transfer
- Auto Catalogue by ISBN from Google docs
- Auto Classification from OCLC
- Manage Journal and Articles
- Library 2.0 OPAC
- Online Reserve and Renew option

Membership Management

- Member Registration from Existing Database with generates ID card in standard format.
- Member Renewal process, valid date, updated, expire date provision

- Member Search options
- Member Barcode Generation

Circulation

- Transaction Management with applied rule
- Fine Management in several scheme
- Barcode Circulation Desk

Reports

- Status
- Transactional
- Fine; paid history,
- Member who not issued any book
- Book which is not issued yet.
- Maximum fine payer and Maximum time issued time.
- Stock Summary Reports with adjust leave calendar.

Integration with EMIS

- Get Automatically Members from Master Data of Student and HR
- Web Based and cloud database.
- Role Based Access control
- Fine Send to Accounts
- Data import and export to all modules such as Academic, Store, Administration, Library, Account, class room, etc.

4.4.4 Libra Library Software

Buddha Academic Enterprises, a highly regarded and well-established organization, has a longstanding expertise in the import and export of publications. Their strong market reputation has become their distinguishing characteristic. Ensuring customer satisfaction, they offer comprehensive support and maintenance services even after the delivery of their products. Libra, their management software, is a robust and reliable solution designed to effectively handle various library tasks such as collection management, storage, processing, and dissemination. Moreover, Buddha Academic

Enterprises provides training programs to equip library staff with the necessary skills for seamless implementation and utilization of the Libra software. After all, Libra has:

Cross platform support: Libra software is platform-agnostic, offering compatibility and seamless operation across diverse operating systems such as Linux, Windows, Fedora, Debian, Solaris, and Unix.

Barcode and Identity card Generator: The library system has the capability to automatically generate barcode labels for books and patrons, as well as generate identity cards for both staff and students.

Online Public Access Catalogue (OPAC): The Online Public Access Catalogue (OPAC) is a robust functionality within Libra that empowers library users to access and utilize library resources via the internet, regardless of their geographical location.

A single librarian can do work, office job for more the 10 staff.

4.5 Digital Library Management Software:

Digital library management software is a type of software that is designed to help libraries manage their digital resources, such as e-books, e-journals, and digital archives. It can provide a range of features to help libraries organize, store, and provide access to these resources, as well as to track usage and monitor performance.

Some common features of digital library management software include:

Cataloging: This feature allows libraries to create and maintain an online catalog of their digital resources, including metadata such as author, title, subject, and keywords.

Search and discovery: This feature enable users to search for and access digital resources using a variety of search criteria, such as title, author, subject, and keyword. It can also provide search suggestions and related resources based on user queries.

Access management: This feature allows libraries to control access to digital resources, such as by setting access levels, creating user accounts, and monitoring usage.

Reporting and analytics: This feature allow libraries to track usage of their digital resources, such as the number of downloads, the most popular resources, and the types of users who are accessing them.

Interlibrary loan: This feature allows libraries to borrow and lend digital resources with other libraries, providing greater access to resources and expanding the reach of the library.

Integration with other systems: Digital library management software can be integrated with other library systems, such as integrated library systems (ILS), learning management systems (LMS), and research management systems (RMS), to provide a seamless user experience and simplify administrative tasks.

4.5.1 Dspace:

Dspace serves as a digital library and institutional repository, providing a centralized platform to store, manage, and organize digital items along with their accompanying metadata. It facilitates seamless search and retrieval of research output for efficient access and utilization. It is widely used by universities to capture, preserve, and redistribute the intellectual output of their research faculty in digital formats(Ashok Kumar, 2009).

DSpace is an adaptable digital institutional repository that can be customized to meet the needs of different communities. It is built to adhere to international standards for metadata format and interoperability between systems. Being an open-source technology platform, Dspace can be expanded and tailored to enhance its functionalities, allowing for increased customization and extended capabilities.

4.5.2 Greenstone:

Greenstone Digital Library Software is a New Zealand-based project that offers an innovative way of organizing and sharing large collections of digital documents over the internet. It provides a uniform interface to access collections of information consisting of thousands to millions of documents(Tramboo et al., 2012). By leveraging metadata-based organization and internet publishing capabilities, Dspace offers a

streamlined approach to structuring information and making it accessible on the web(Witten & Bainbridge, 2005).

4.5.3 Eprints

Developed by the University of Southampton, England, EPrints is an open-source software that serves as a repository platform for gathering, preserving, and distributing digital research output. It provides researchers with a user-friendly web interface to deposit their preprints, postprints, and other scholarly publications, ensuring efficient organization and seamless retrieval of these publications. EPrints is highly customizable to accommodate various forms of digital content and is designed to be accessible for both end-users and administrators(Tramboo et al., 2012)

CHAPTER-V

FINDING OF THE STUDY

5.1 Campus Email and Website

Table 1 Availability of official email and website of the campus(n=45)

Question	Responses	Number of Campuses	Percentage
Has Official Email	Yes	45	100
	No	0	0
Has Campus Website	Yes	36	80
	No	9	20

Source: Online survey

5.2 Operating System in Library

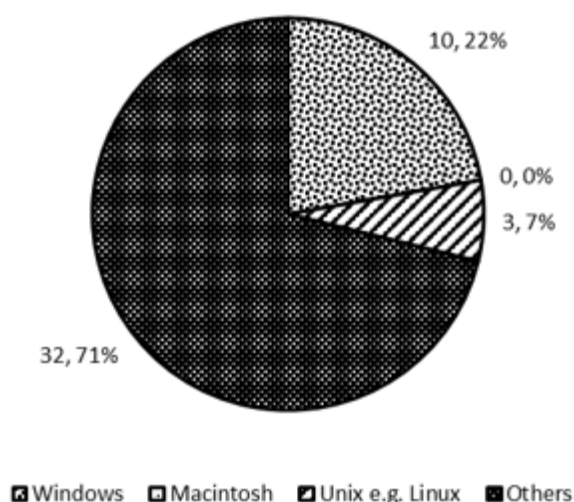
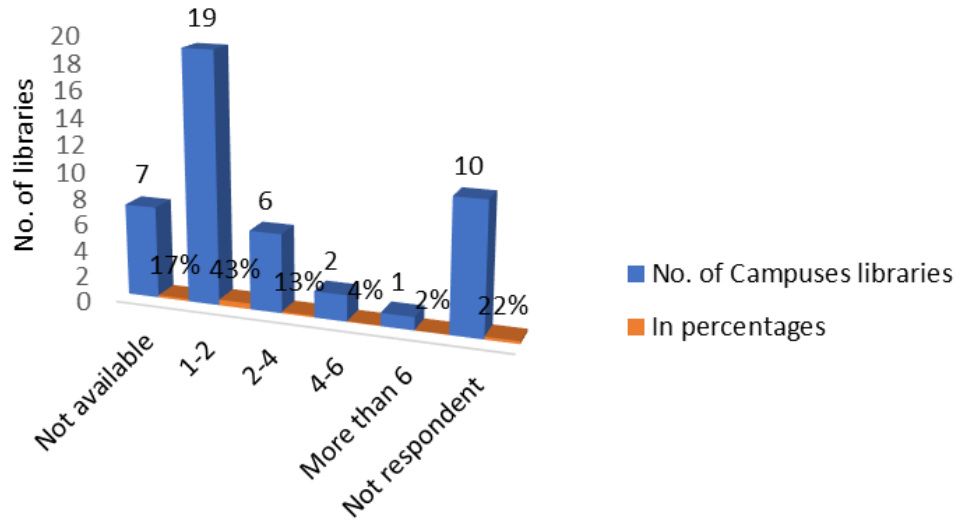


Figure 1 Operating system is being used on the campus library

Source: Online survey

Figure 1 shows that the majority of the sampled campuses, which amounts to 71%, are using the Windows operating system on their campus library computers. This suggests that Windows is the most popular operating system in campus libraries, and it could be due to its user-friendly interface and widespread availability. However, it is worth noting that a small percentage of campuses (7%) use Unix-based operating systems, such as Linux. These operating systems are known for their stability, reliability, and flexibility, and they are often preferred by advanced users and developers. The data also reveals that a significant proportion (22%) of campuses use other operating systems, which could include macOS or Chrome OS.



Available no. of computer server on libraries

Figure 2 Available number of computer server on library

Source: Online survey

The majority of campuses libraries (38%) do not have any servers available. The most common number of servers in use in libraries is 1-2, with 42% of campuses libraries reporting this. A smaller percentage of campuses libraries have 2-4 servers (14%), and an even smaller percentage have 4-6 servers (4%) or more than 6 servers (2%).

Overall, it seems that most campuses libraries have a relatively low number of servers available, with only a few libraries reporting multiple servers. This may have implications for the types of electronic resources and services that can be provided to library users.

5.3. Library Automation

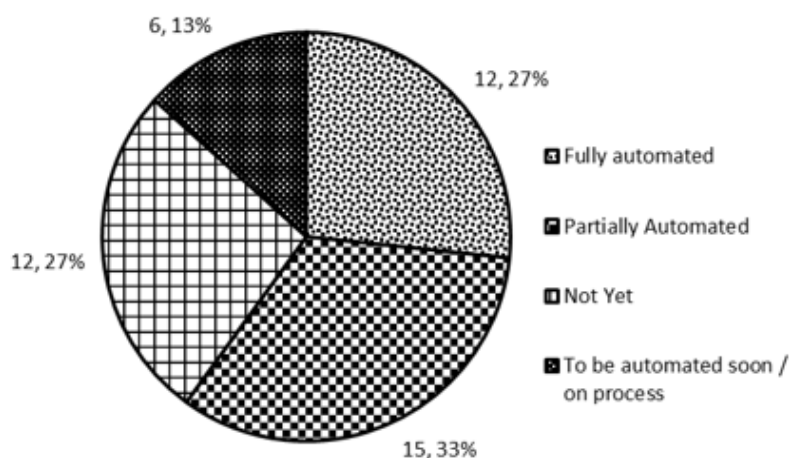


Figure 3 Automation status on the campus library (n=45)

Source: Online survey

Figure 3 shows data from 45 campuses on automation of library systems for managing digital resources. 27% have not automated, 33% are partially automated, 27% are fully automated, and 13% plan to automate soon. While there is a trend towards automation, there is still room for growth, and the reasons for the variation in automation rates are not provided. Further research is needed to better understand the factors that influence decisions on automation.

5.4 Library Personnel Information

Table 2 Staff designation with number

Staff of TU Constituents Campuses Library			
SN	Designation	No. of Staff	Percentage
1	Deputy librarian	6	2%
2	Library officer	17	6%
3	Section Officer	13	5%
4	Head Assistant (Mu.Ka.Sa)	40	15%
5	Office Assistant	30	11%
6	Library office assistant	43	16%
7	Office account assistant	2	1%
8	Technician	6	2%
9	Mimographer	1	0%
10	Book Checker	22	8%
11	Audio Reader	1	0%
12	Audio Editor	1	0%

13	Lab assistant	1	0%
14	Volunteer	3	1%
15	Helper	87	32%
	Grand Total	273	100%

Source: Telephone survey

TU Constituent Campuses Library has a diverse range of staff members with various job designations, but the majority are in support positions like "Helper", "Library office assistant", and "Office Assistant". The smaller percentages of higher-level positions may suggest a flatter organizational structure. However, the data also shows a deficiency in professional staff, technicians, and IT personnel, which may hinder the library's smooth functioning. The insights provided by this data can aid in identifying areas for staffing adjustments and training.

Table 3 Different software knowledge base staff no.

Total library staff of TU Constituent Campuses Library	No. of Staff	Percentage
General ICT knowledge	15	5%
Library Software Knowledge (e.g.KOHA, PMB, EMIS, etc.)	23	8%
Digital Library Software Knowledge (e.g. Greenstone, DSpace etc.)	6	2%
LIS background	29	11%
Computer Science background	25	9%
Others (Administrative Staff)	175	64%
Grand Total	273	100%

Source: Online survey

Among the 273 Library staff in TU Constituent Campuses Library, only a small percentage possess specific knowledge/skills related to ICT, library software, digital library software, LIS background, or computer science background. The majority of staff don't have these skills, and 64% fall under the "Others" category. This data provides insights into the strengths and weaknesses of the library's workforce and can be useful for identifying areas for improvement or training. However, it's important to note that the data represents a snapshot in time and may change over time as staff gain new skills or leave the organization.

5.5 ICT on Libraries

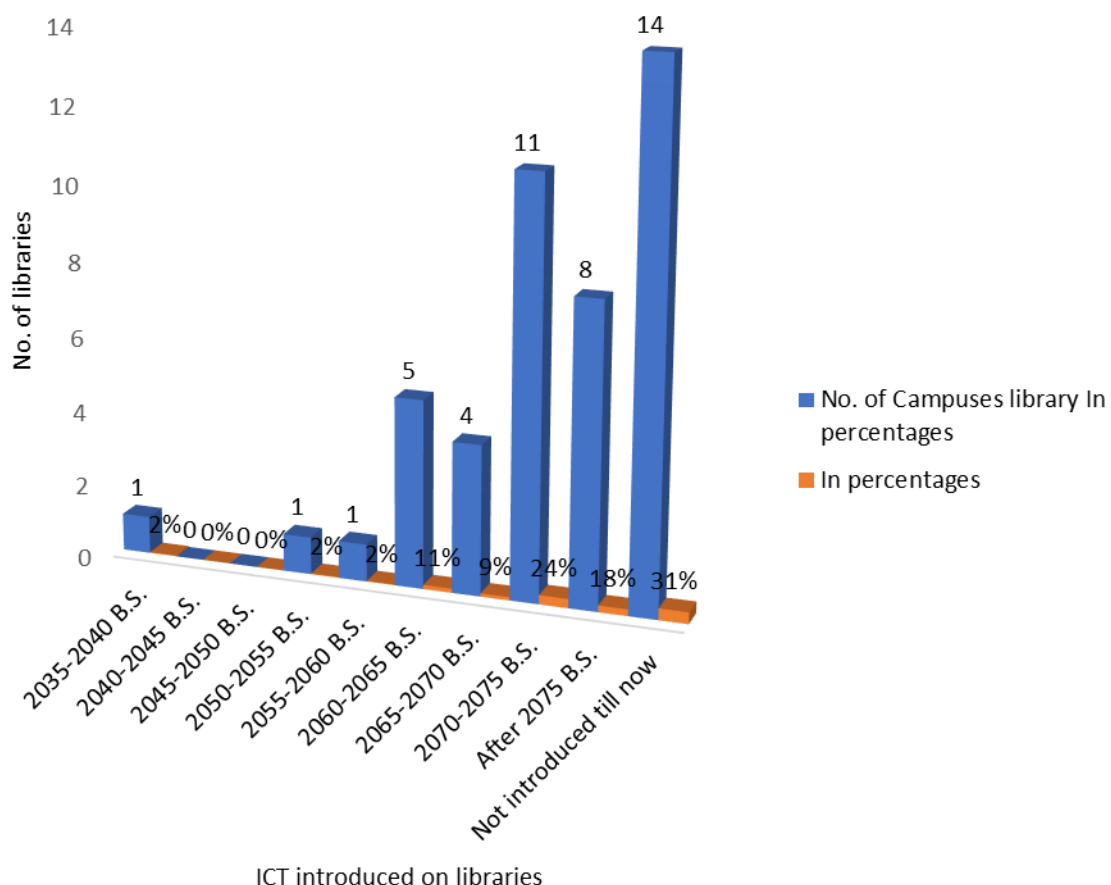


Figure 4 Introduced ICT on libraries

Source: Online survey

According to the data provided, 31% of the 45 campuses reported that ICT has not yet been introduced to their library. Among the respondents who have introduced ICT, the majority (25%) did so between 2070-2075 B.S., and 18% introduced it after 2075 B.S. Only 11% introduced it between 2060-2065 B.S., while 9% introduced it between 2065-2070 B.S. Interestingly, there were no campuses that introduced ICT before 2035 B.S. or between 2040-2045 B.S. and 2050-2055 B.S., suggesting that the adoption of ICT in libraries has been a more recent trend in Nepal. While this data provides insights into the adoption of ICT in libraries in Nepal, it's important to remember that it's based on a limited sample size and may not be representative of all libraries in the country.

Table 4 Automation introduced on libraries

Automation introduced on Libraries	No. of respondents/ campuses	Percentages
2055-2060 B.S.	2	4%
2060-2065 B.S.	5	11%
2065-2070 B.S.	4	9%
2070-2075 B.S.	8	18%
After 2075 B.S.	15	33%
Not introduce till now	11	25%
Grand Total	45	100%

Source: Online survey

The data represents the year of introduction of automation in the libraries of 45 campuses. Only 4% of the respondents reported that automation was introduced in their libraries between 2055-2060 B.S. 11% of the respondents reported that automation was introduced in their libraries between 2060-2065 B.S. 9% of the respondents reported that automation was introduced in their libraries between 2065-2070 B.S. 18% of the respondents reported that automation was introduced in their libraries between 2070-2075 B.S. 33% of the respondents reported that automation was introduced in their libraries after 2075 B.S. 25% of the respondents reported that automation has not been introduced in their libraries till now.

From the data, it can be inferred that the majority of the campuses have introduced automation in their libraries after 2075 B.S.

5.6 Types of Library Software is Being Used

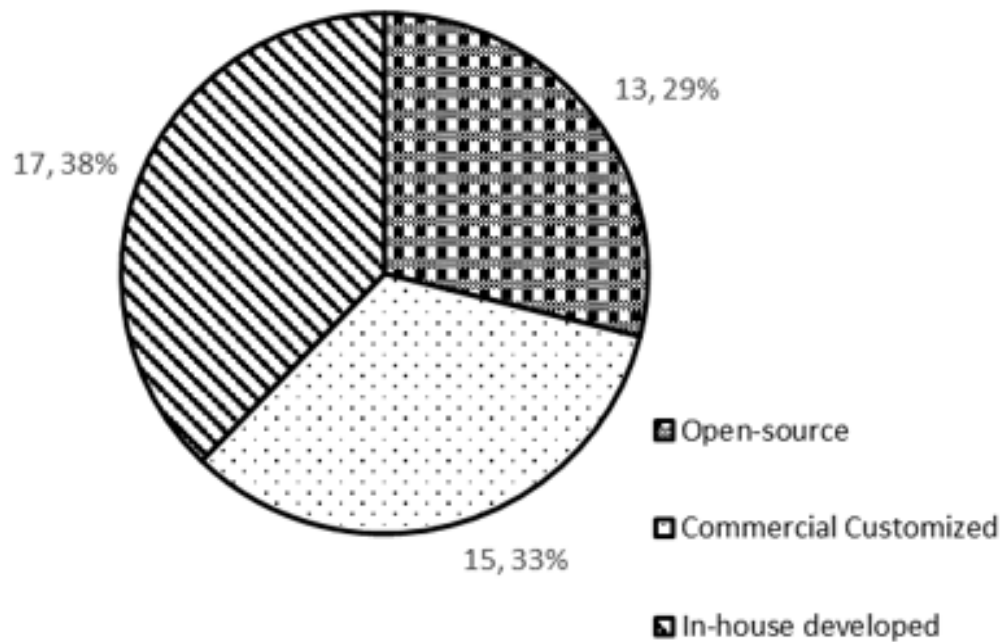


Figure 5 Type of software is being used in campus library

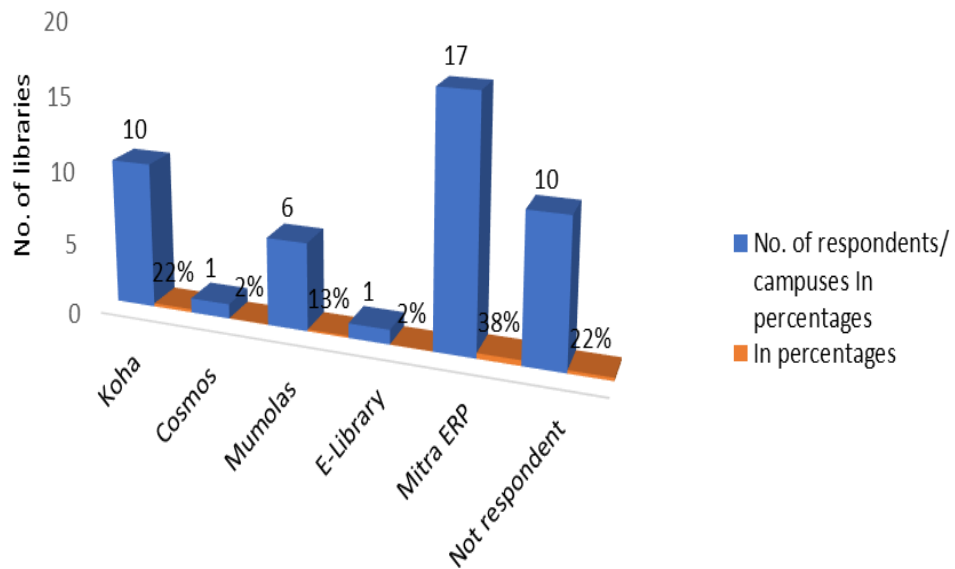
Source: Online survey

Figure 5 shows that, presents data from a sample of 45 campuses regarding the type of software being used in their campus library. Out of these 45 campuses, 13 (29%) campuses have used open-source types of software. Open-source software is characterized by its unrestricted access to the source code, enabling individuals to utilize, alter, and distribute the software without limitations.

The data also shows that 15 (33%) campus libraries have used commercial customized types of software. Commercial customized software is software that is developed and sold by a company for a specific purpose and can be customized based on the needs of the user.

Finally, the data shows that 17 (38%) campus libraries have used in-house developed types of software. In-house developed software is software that is developed by the campus library's own IT department or by a contracted software development company specifically for the needs of the library.

5.7 Used and Installed Library Software



Used and installed library management software

Figure 6 Before installed libraries software

Source: Online survey

Out of the 45 surveyed campuses, Mitra ERP was the most installed library software (38%), followed by Mumolas (18%) and Koha (17%). Only one campus each had Cosmos and E-library installed. However, 22% of campuses reported having no library software installed, which could be due to a lack of resources or preference for manual systems. Further research is needed to understand the reasons behind these choices and the effectiveness of these software systems.

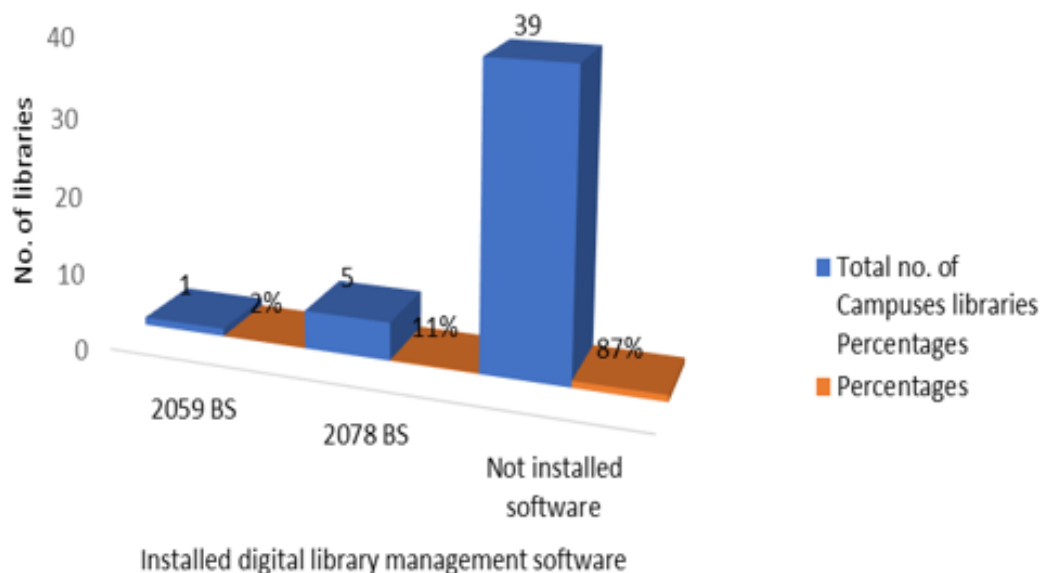


Figure 7 Installed digital library software

Source: Online survey

The data provided shows the installation status of digital library software, specifically DSpace, in a sample of 45 campuses. Out of the 45 campuses, 39 (87%) have not installed any software, while DSpace has been installed in 6 (13%) of the campuses. Among the campuses that have installed DSpace, 1 campus (2%) started using it in 2002, while 5 campuses (11%) started using it in 2078 (Nepali calendar year). This data suggests that there is still a low adoption of digital library software in these campuses, with a small proportion of them opting for DSpace as their software of choice.

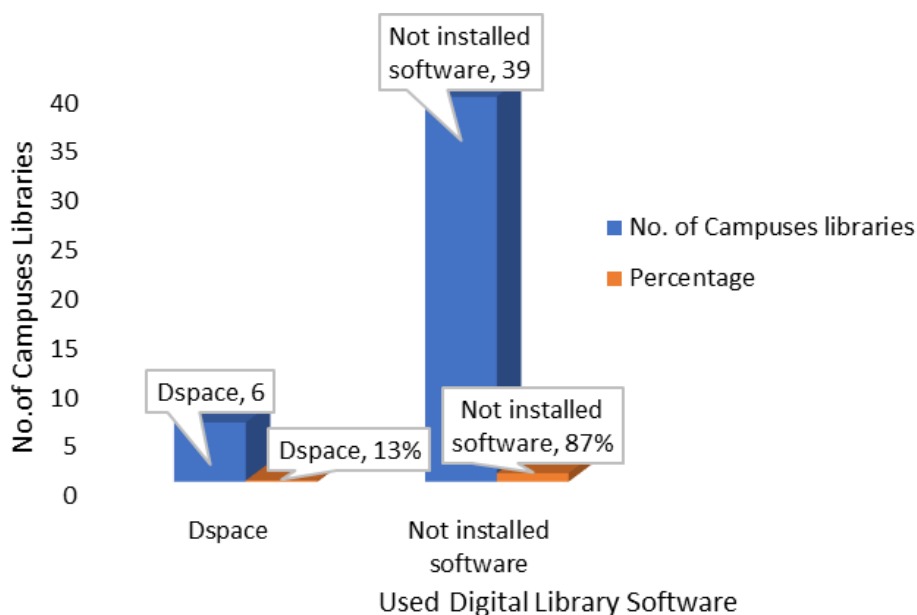


Figure 8 Used digital library software

Source: Online survey

The data indicates that only 13% of the surveyed campuses have installed DSpace, while the majority (87%) have not installed any digital library software. This highlights the urgent need for universities to prioritize the installation of digital library software, such as DSpace, to improve access to research materials and information for students and personnel. The study reveals the potential benefits of implementing such software, including efficient information management and sharing. However, it also indicates the need for greater awareness and resources to support its implementation.

5.8 Decision for Selection Library Software

Table 5 Makes decision regarding the selection of software

Decision regarding the selection of software	Number of Campuses	Percentage
Librarian	12	27%
Office authority	22	49%
Professionals	1	2%
Not selection software	10	22%
Grand Total	45	100%

Source: Online survey

Table 5, shows that collected data from a survey of 45 campus libraries regarding software selection decision-making. The findings indicate that while 27% of campuses have librarians making software selection decisions, 49% of campuses have decision-making power held by higher administrative authorities. Only 2% of campuses reported professional librarians making software selection decisions, potentially limiting their authority. 22% of campuses reported no software selections due to a lack of installation, potentially reflecting limited resources. The data highlights the importance of collaboration between librarians and higher-level administrators to ensure software selection meets the needs and priorities of the library.

5.9 Software Installation, Development, Implementation in Library

Table 6 Software Installation, Development, Implementation in Library

Responsible for installation, development and implementation of software	Number of Campuses	Percentage
Library staff	5	11%
ICT department attached with the library	7	16%
Outsourcing	11	24%
Both A and B	12	27%
Not response	10	22%
Grand Total	45	100%

Source: Online survey

Table 6 presents data from 45 campuses on responsibility for automation and software projects in campus libraries. Only 11% have library staff responsible, while 24% outsource. 27% involve both library staff and ICT department, indicating collaboration. However, 22% report a lack of installation, highlighting resource and role clarity needs. Findings underscore the importance of library-technology staff collaboration for successful technology implementation and maintenance in campus libraries.

5.10 Maintenance of Library Software

Table 7 Maintenance of library software

Status of Easily Availability of Technician for Maintenance	No. of Campuses	In Percentage
Available	10	22%
Not available	25	56%
Not responses	10	22%
Grand Total	45	100%

Source: Online survey

The provided data presents the status of easily available technicians for maintenance in a sample of 45 campuses. The analysis shows that only 10 (22%) campuses have technicians available for maintenance, while 25 (56%) campuses do not have technicians available. 10 campuses (22%) did not provide any response regarding the availability of technicians. Based on these results, it is evident that universities should place a considerable emphasis on allocating resources and providing adequate support for the upkeep of their technological infrastructure. This will help enhance the efficiency and efficacy of their digital library systems.

5.11 Provision of MARC Data Import and Export

Table 8 Provision for data import/ export

Provision for MARC data import and export in software	Number of Campuses	Available	Not available	Percentage
Koha	8	8		18%
Mitra ERP	17		17	38%
Mumolus	8		8	18%
E-library	1		1	2%
Cosmos	1		1	2%
Not respondent	10			22%
Grand Total	45			100%

Source: Online survey

The analysis of the provided data reveals that all the mentioned software systems (Koha, Mitra ERP, Mumolus, E-library, and Cosmos) are available for MARC data import and export in the respective campuses where they are deployed. However, further information is needed to understand the overall landscape of MARC provision in software systems, as the data lacks context such as the selection criteria and total number of campuses surveyed.

The adoption rates vary among the software systems, with Mitra ERP being the most widely adopted, available in all 17 campuses (38% of the total). Koha and Mumolus have a similar adoption rate, with availability in 8 campuses each (18% of the total). E-library and Cosmos are available in a single campus each (2% of the total).

It is important to note that 10 campuses did not respond to the survey or provide information, representing 22% of the total campuses. The non-responsiveness of these campuses introduces uncertainty regarding the software systems they use and their

MARC compatibility. Further investigation into the reasons behind the non-responsiveness could shed light on potential factors influencing the availability of MARC data import and export functionality.

In conclusion, while the data suggests the availability of MARC provision in the mentioned software systems, additional analysis and context are necessary for a comprehensive understanding of the MARC capabilities across all campuses.

5.12 Use of Data Import and Export Work

Table 9 Using MARC data import and export from library software

MARC data import and export provision of software	Number of Campuses	Percentage
Yes, has provision	8	18%
Not has provision	27	60%
Not response	10	22%
Grand Total	45	100%

Source: Online survey

Among the surveyed campuses, only 18% reported having provision for MARC data import and export, while 60% did not have this provision. A significant percentage (22%) did not provide a response, indicating potential lack of awareness. The low adoption of MARC data import/export suggests a gap in digital resource management. Further research is needed to understand the reasons behind this and its impact on library services.

5.13 Refresher Training on Library Software

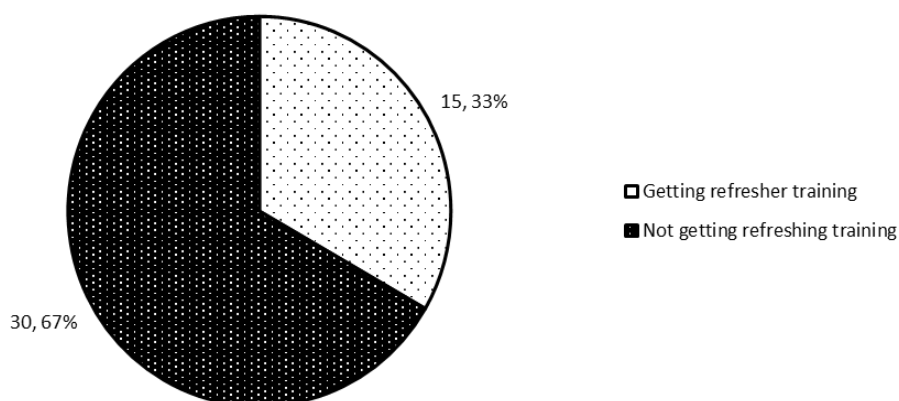


Figure 9 Getting refresher training about the software

Source: Online survey

Figure 9 shows that results of a survey conducted on 45 campuses to assess the availability of refresher training for library personnel on software usage. According to the data, 33% of the campuses have received refresher training on their software, while 67% of the campuses have not.

The data suggests that a significant number of campuses may not be prioritizing the ongoing training of their personnel on software usage. This could result in personnel not being fully equipped to utilize all available provisions of their software, potentially leading to inefficiencies in data management and utilization, decreased productivity, and security breaches.

5.14 Purpose and Used of Software

Table 10 Purpose of library software use and installed for

Purpose of Library Software use and installed for	No. of Campuses library	In Percentage
House-keeping operations	5	11%
Book Circulation & Maintain record	16	36%
Cataloguing, Circulation, etc.	5	11%
Library automation	9	20%
Not installation library software	10	22%
Grand Total	45	100%

Source: Online survey

Library software is being used for various purposes in surveyed campus libraries. The most common purpose is book circulation and maintaining records, used by 36% of the libraries. Library automation and housekeeping operations are the next most common purposes, used by 20% and 11% of libraries respectively. A smaller number of libraries use software for cataloguing and circulation. Notably, 22% of surveyed libraries do not use any library software.

5.15 Features of the Software

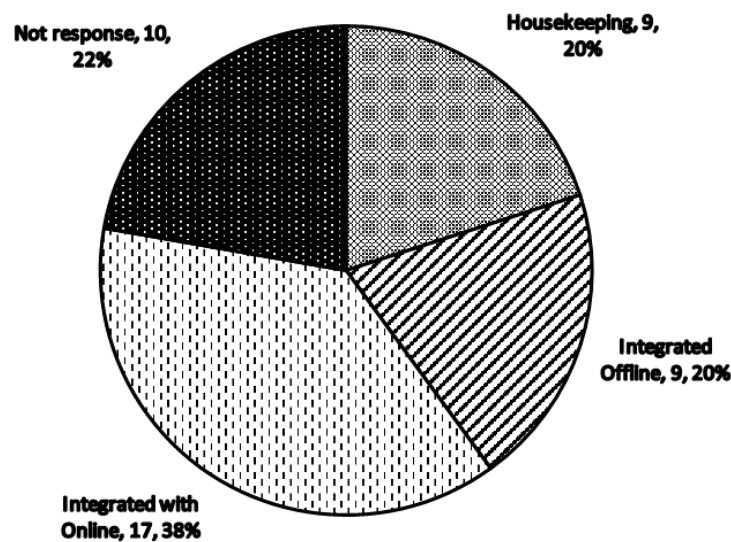


Figure 10 Available features in library software

Source: Online survey

Figure 10, shows that A survey conducted on 45 campuses indicates that a significant number of them may not have access to the latest technological advancements in library software, which could result in inefficiencies and security breaches. Therefore, campuses need to prioritize the availability of these features in their software to ensure smooth data management.

The finding that 22% of the campuses did not respond about the features available in their software highlights the need for universities to allocate resources to ensure that their libraries are keeping up to date with the latest technological advancements. This includes investing in resources to ensure that their libraries have the necessary

infrastructure and personnel to support their academic programs and access to the latest software features.

5.16 Satisfaction Level with Software

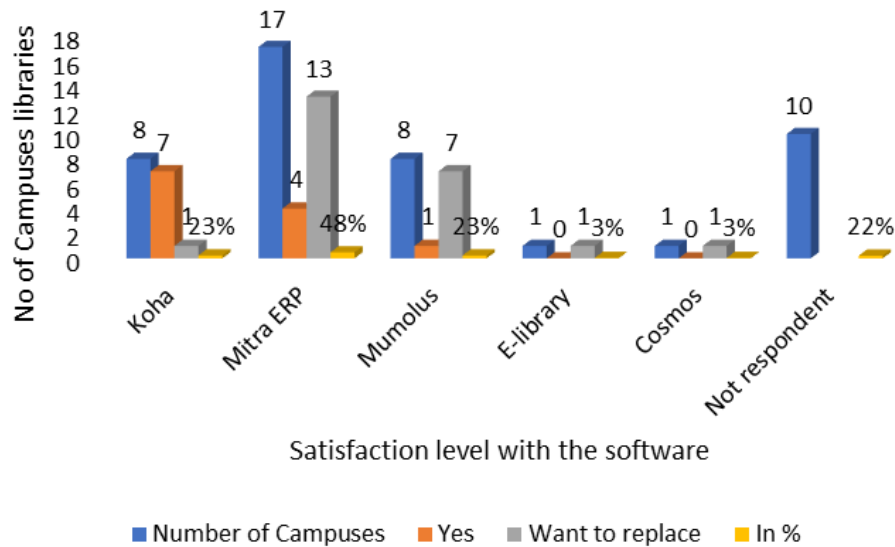


Figure 11 Status of satisfaction with the library software

Source: Online survey

Figure 11 shows that sample size consists of 45 campuses, which is relatively small and may not represent all campuses or institutions accurately.

Only 10 campuses (22%) reported being satisfied with the software, indicating a minority of content campuses.

A majority of 25 campuses (56%) expressed a desire to replace the software, indicating a significant level of dissatisfaction.

10 campuses (22%) did not respond, and their opinions are missing from the analysis, which could impact the overall representation of satisfaction levels.

Overall, the data suggests that a significant portion of the surveyed campuses is dissatisfied with their software and wants to replace it. However, due to the small sample size and non-response rate, it is challenging to draw broader conclusions about overall satisfaction levels across all campuses. To obtain more reliable insights, a more extensive and representative survey would be necessary.

5.17 Problems of Library Software

Table 11 Campus facing the problems with library software

Type of problems facing with software	Number of Campuses	Percentage
Updating	16	36%
Maintenance	7	15%
Reinstallation	3	7%
Handling	9	20%
Not response	10	22%
Grand Total	45	100%

Source: Online survey

Table 11, shows that presents data from a survey of 45 campuses to assess the problems faced by libraries in using their software. The data reveals that many campuses are facing challenges, including updating problems (36%), maintenance problems (15%), reinstallation problems (7%), and handling problems (20%). These issues indicate the need for universities to allocate resources to support their libraries in overcoming challenges such as providing technical support, expertise, and training to personnel. Furthermore, the finding that 22% of the campuses did not respond about the problems they are facing with their software highlights the importance of regular evaluation and communication due to lack of software installation.

5.18 Useful Library Software

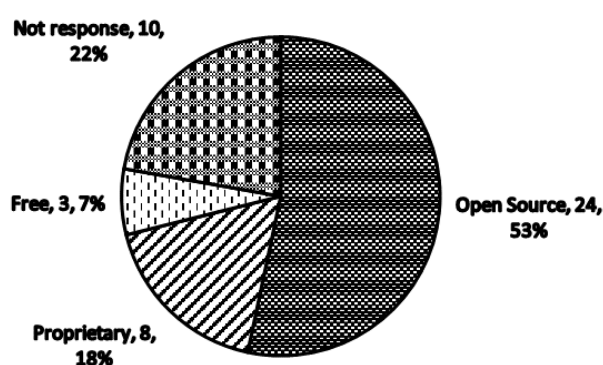


Figure 12 Useful campus library software for its durability

Source: Online survey

Figure 12 shows that information, a survey conducted on 45 campuses found that 53% of the campuses prefer Open-source software, 18% prefer Proprietary software, and 7%

prefer free software due to its cost-effectiveness. The data suggests that libraries value the flexibility, customization, and cost-effectiveness of Open-source software, while Proprietary software may offer unique features or support. However, the selection of free software may have limited support and updates. The finding that 22% of the campuses did not respond highlights the need for better communication between libraries and universities about software selection and implementation. Additionally, 22% of the campuses did not respond about the type of software they prefer due to lack of software installation.

5.19 Software Hosting in Library

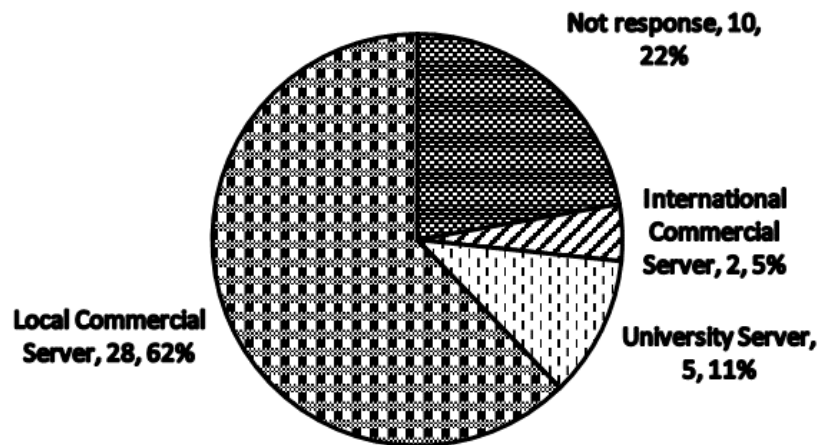


Figure 13 Campus library software hosted from

Source: Online survey

Figure 13 shows that out of 45 sampled campuses, only a small proportion of campuses (11%) have hosted University Servers in their libraries, while the majority of campuses (62%) have hosted Local Commercial Servers. A very small percentage of campuses (5%) have hosted International Commercial Servers, and about one-fifth of campuses (22%) have not provided any information on the software hosted in their libraries.

Overall, it can be inferred that a significant proportion of campuses have hosted Local Commercial Servers in their libraries, indicating the importance of such servers in the academic environment. However, the relatively low percentage of campuses hosting University Servers and International Commercial Servers suggests that these types of

servers may be less commonly used in academic libraries. The lack of information on the software hosted in some libraries highlights the need for better communication and transparency regarding library services and resources.

5.20 Status of Library Software Training Offer Availability

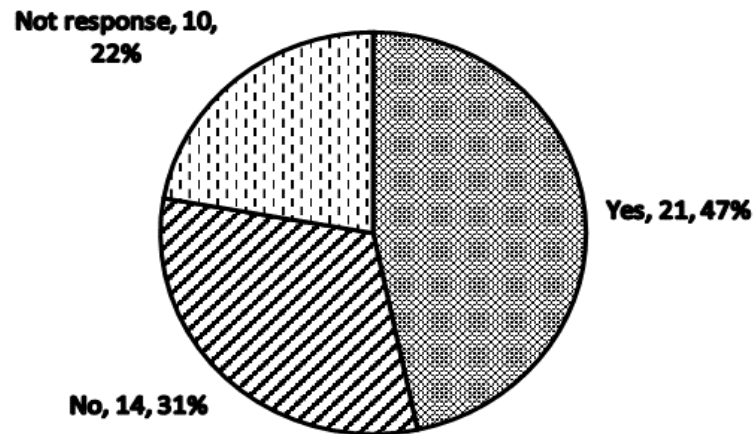


Figure 14 Availability of training offer on library software use to the library users

Source: Online survey

The figure 14 shows that out of 45 sampled campuses, nearly half of the campuses (47%) have provided training on library software use to their users. In contrast, about one-third of campuses (31%) have not provided such training. A small proportion of campuses (22%) did not provide any information on whether they had offered training on library software use.

These findings suggest that many campuses recognize the importance of providing training on library software use to their users. However, there is still a significant percentage of campuses that have not provided such training, which may result in lower levels of user proficiency with library software.

Table 12 Status of frequency offers for the library software training

Frequently offer the training	Number of Campuses	Percentage
Very frequently	5	11%
Frequently	7	16%
Rarely	23	51%
Not response	10	22%
Grand Total	45	100%

Source: Online survey

Table 12 shows the frequency of training offered by libraries on library software in a sample of 45 campuses. The majority of the sampled campuses (51%) provide rare training on library software, and a significant number of campuses (22%) did not respond about the frequency of training offered. The data highlights the need for more consistent and frequent training on library software in campus libraries, and emphasizes the importance of communication and organization within these libraries to ensure that training is provided effectively.

5.21 Professionals Personnel Refresher Training

Table 13 Status of workshop/training/conference on new technologies in library

Status of workshop/training/conference on new technologies in library	Number of Campuses	Percentage
Yes	21	47%
No	14	31%
Not respond	10	22%
Grand Total	45	100%

Source: Online survey

Table-13 presents data from a sample of 45 campuses on whether Library and Information Science (LIS) professionals were allowed to attend workshops, training or conferences on new technologies in the library sector. Nearly half of the campuses allowed LIS professionals to attend such events, while just over a quarter did not allow them. However, 22% did not respond, making it difficult to draw definitive conclusions. The small sample size and lack of contextual information on reasons for allowing or disallowing attendance should also be noted.

5.22 Satisfaction Level of Library Software Different Modules

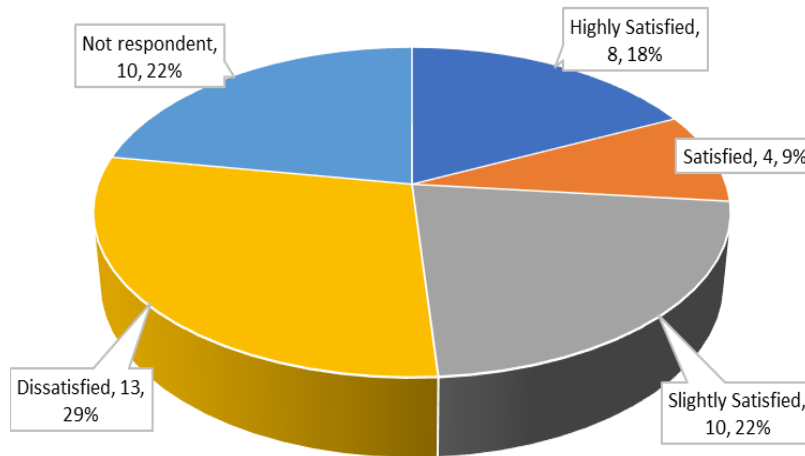


Figure 15 Satisfaction level of acquisition on library software

Source: Online survey

Figure 15 presents the analysis of the data on satisfaction levels in the acquisition process with software across campuses reveals the following key points:

The sample size consists of 45 campuses, providing a basis for evaluating satisfaction levels in acquisition. Among the surveyed campuses, a significant percentage expressed dissatisfaction with the software in the acquisition process (29%).

The levels of satisfaction varied, with 18% highly satisfied, 9% satisfied, and 22% slightly satisfied. A non-response rate of 22% was observed, potentially impacting the overall representation of satisfaction levels. It is challenging to draw definitive conclusions about the overall satisfaction levels in acquisition due to the small sample size and non-response rate.

Based on the available data, it is evident that a substantial portion of the surveyed campuses is dissatisfied with the software in the acquisition process. To obtain more accurate and representative insights, a larger and more comprehensive survey involving a broader range of campuses would be necessary. This would provide a more complete understanding of satisfaction levels in the acquisition process with software across institutions.

Table 14 Satisfaction level of Processing work modules of the using software

For Processing work modules of the software	Number of Campuses	Percentage
Satisfied highly	5	11%
Satisfied	22	49%
Satisfied Slightly	5	11%
Dissatisfied	3	7%
Not response	10	22%
Grand Total	45	100%

Source: Online survey

Table 14 presents data on the satisfaction level of the modules of the library software currently used for processing work from a sample of 45 campuses. The results show that 59% of the campuses reported being either satisfied or 11% highly satisfied with the software, while only 7% reported being dissatisfied. However, 22% of the campuses did not respond to the inquiry. It is important to note that this data is based on a small sample and may not be representative of the larger population of campuses. Additionally, there is no information provided on the satisfaction level of campuses that have not installed the library software.

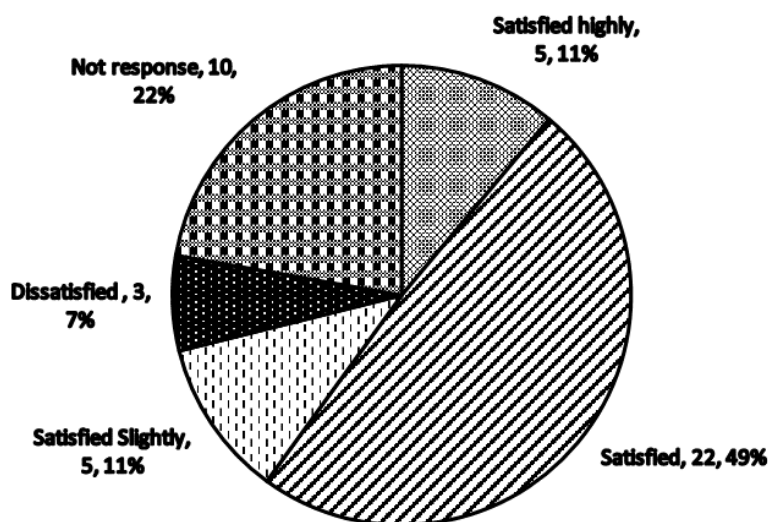


Figure 16 Satisfaction level of circulation work modules of the using software

Source: Online survey

The data from a sample of 45 campuses indicates that a majority (69%) are either satisfied or highly satisfied with the modules of the software currently used for

circulation work. However, a small percentage (4%) are dissatisfied with the software. The lack of response from 22% of the campuses makes it challenging to draw any conclusive insights. The absence of information from these campuses may be due to a lack of software installation or interest in the software. It may be useful to investigate the reasons for the dissatisfaction or slight satisfaction reported by some campuses and address any issues to improve overall satisfaction levels. Additionally, efforts should be made to engage with campuses that did not respond to gather feedback and improve the overall usage of the software.

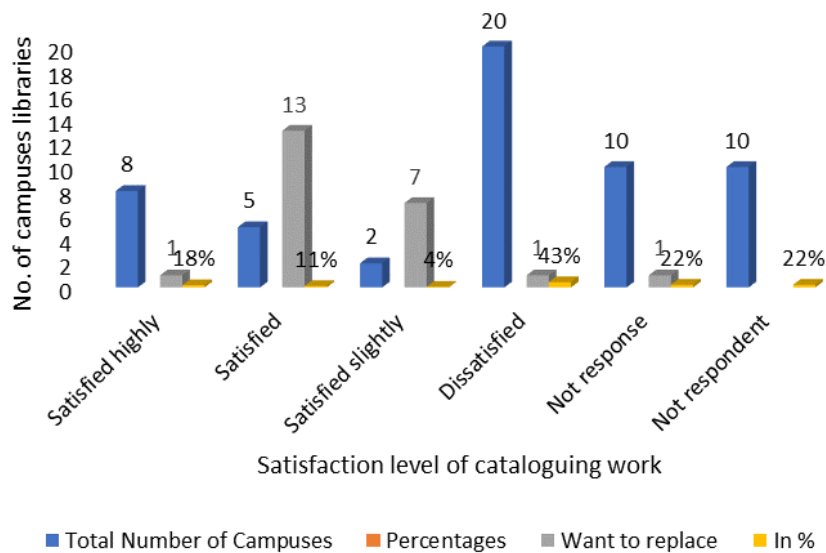


Figure 17 Satisfaction level of cataloguing work modules of the using software

Source: Online survey

Figure 17 The data shows that a majority of the campuses (44%) are dissatisfied with the cataloguing work module of the software. Only a small proportion of campuses reported being highly satisfied (18%) or satisfied (11%). Additionally, 4% of campuses reported being slightly satisfied with the cataloguing work module.

It is worth noting that 22% of campuses did not respond, which could indicate a lack of interest or knowledge about the cataloguing work module.

Overall, the data suggests that there is a need for improvement in the cataloguing work module of the software, as the majority of campuses are dissatisfied with it. Further research could be conducted to understand the specific reasons behind this dissatisfaction and identify ways to improve the module.

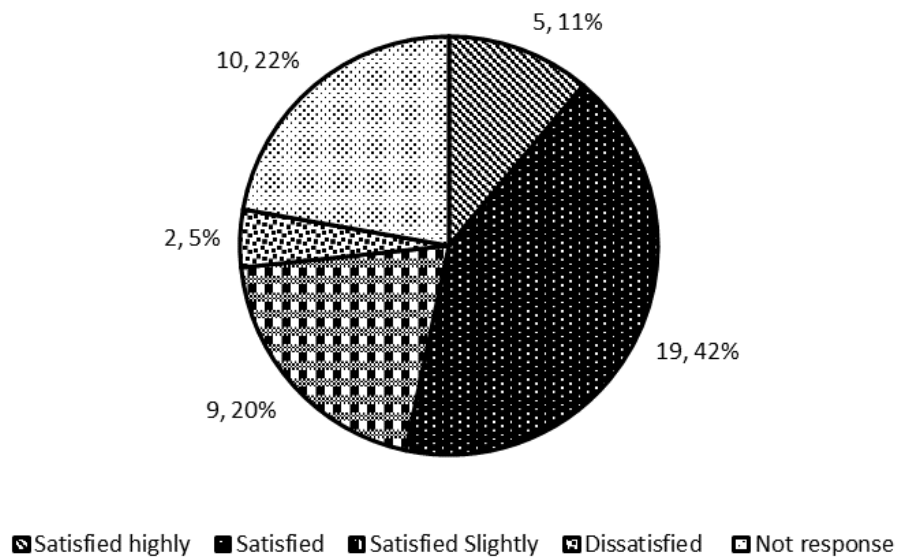


Figure 18 Satisfaction level of reference work modules of the using software

Source: Online survey

Figure 18 shows we can see that out of the 45 sample campuses, the majority of them (51%) are satisfied with the modules of the software currently being used for reference work. Additionally, 7% of campuses reported being highly satisfied with the software.

However, there are also a significant number of campuses that are either slightly satisfied (11%) or dissatisfied (9%) with the software modules for reference work. This indicates that there may be software room or included of feature or types of software for improvement in the software in order to meet the needs of these campuses. A significant portion of campuses (22%) did not provide a response regarding their satisfaction or not with the software, which could indicate a lack of installation library software or interest in the software.

5.23 Need and Maintenance of Library Software

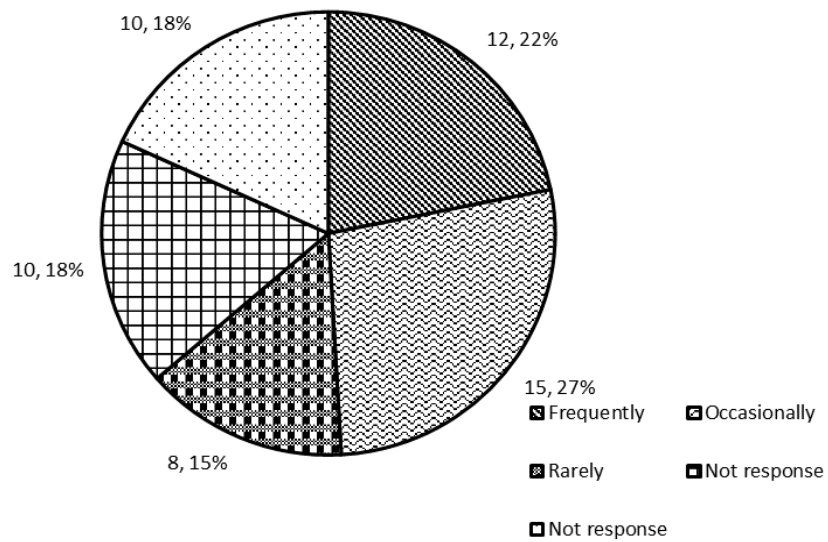


Figure 19 Level of frequency need of maintenance / updating the software

Source: Online survey

Figure 19 shows that 60% of the 45 sample campuses require some level of maintenance or updating of their library software, either frequently (27%) or occasionally (33%). A significant proportion (18%) reported rarely needing maintenance or updating, which could indicate more advanced or stable software. However, 22% did not respond, indicating a lack of awareness or engagement. Improving the software's functionality and efficiency may require investigating and addressing the reasons why some campuses require maintenance or updating.

The study revealed that in TU Constituent Libraries in Nepal, Windows OS is predominantly used, with limited use of Unix-based systems. The low availability of servers may affect electronic resources. Additional research is required to understand automation decisions. Technical support relies on library staff, but there is a shortage of professional and IT personnel. ICT adoption is recent, and challenges exist in software maintenance. Open-source software is preferred, and training on library software use needs improvement. Only a small number of campuses host University Servers, primarily relying on Local Commercial Servers.

CHAPTER - 6

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary of Findings on Library Management Software in Tribhuvan University (TU) Campus Libraries in Nepal:

6.1 Summary:

Adoption of Technology: The study found that several campus libraries of Tribhuvan University in Nepal are in need of improvement when it comes to adopting library management software. Many libraries have not fully embraced technology to enhance their operations and services.

Online Presence: The research highlighted the importance of online presence for libraries. It revealed that some campus libraries lack a robust online presence, including websites and digital catalogs. This limitation hampers their ability to reach and serve a wider audience.

Book Collections: The study identified areas for improvement in book collections. It indicated that certain campus libraries need to enhance their book collections to cater to the diverse needs of their users. This suggests a need for greater emphasis on acquiring a wider range of relevant and up-to-date materials.

Journal Subscriptions: The research also emphasized the need for improved journal subscriptions. It indicated that some campus libraries have limited access to journals, which can hinder the research and academic activities of faculty and students. Strengthening journal subscriptions is crucial to enhance the quality of education and research in these institutions.

Underutilized Resources: The study revealed a lack of interest and usage of specific resources such as audio-video tapes, photographs, maps, and microfiches in academic institutions across Nepal. This suggests a need to reassess the relevance and accessibility of these resources, as well as explore ways to promote their usage.

Technology Progress: While some campus libraries have made progress in adopting technology, the study found that a significant number of libraries still lag behind. This

indicates a digital divide within the library systems, highlighting the need for equal access to technology and resources across all campuses.

Staffing Shortage: The analysis of data from 45 campus libraries uncovered a shortage of professional staff, technicians, and IT personnel. This shortage can negatively impact the efficiency and effectiveness of library services. Addressing this staffing gap is essential for improving the overall library management and operations.

In conclusion, the study identified several areas that require improvement in the library management software of Tribhuvan University's constituent campus libraries in Nepal. It emphasized the importance of technology adoption, online presence, diversified book collections, enhanced journal subscriptions, and the utilization of underused resources. Additionally, addressing the staffing shortage was identified as a critical factor in improving the efficiency and effectiveness of library services.

6.2 Conclusion:

Staffing Adjustments and Training: Conduct further research on the staffing needs of campus libraries in Nepal and recommend adjustments to ensure an adequate workforce. Additionally, develop training programs to enhance the skills and capabilities of library staff, including librarians, technicians, and IT personnel.

Factors Influencing Automation and Adoption of Open-Source Software: Investigate the factors that influence decision-making processes related to library automation and the adoption of open-source software. Identify barriers and facilitators and provide recommendations to encourage the adoption of flexible and cost-effective solutions.

User Training and Software Updates: Emphasize the importance of providing training to library users on how to effectively utilize library management software. Additionally, highlight the significance of regularly updating the software to incorporate the latest technological advancements and improve its functionality.

Investment in Technology and Online Presence: Advocate for investment in technology infrastructure, including hardware and software, to meet the demands of the

digital age. Encourage the development and maintenance of online platforms, such as websites and digital catalogs, to enhance the accessibility and reach of campus libraries.

Expansion of Book Collections: Recommend strategies for expanding book collections in campus libraries to cater to the diverse needs and interests of users. Conduct further research to identify areas where specific subject areas or genres require improvement.

Access to Journals and Periodicals: Develop recommendations to improve access to journals and periodicals in campus libraries. Advocate for increased subscription resources and explore partnerships or collaborations to broaden the range of available academic literature.

Campus-Specific Strategies: Recognize the importance of addressing the unique needs and challenges of each campus library within Tribhuvan University. Recommend the development of campus-specific strategies to enhance library management software, taking into account the individual characteristics and requirements of each campus.

Further Research: Encourage researchers to conduct comprehensive studies to gain deeper insights into the observed trends and challenges in library management software adoption. Investigate the underlying reasons for the limited adoption of ICT in libraries in Nepal and provide evidence-based recommendations for future strategies in this area.

6.3 Recommendations:

Online Presence:

- Encourage investing in a strong online presence for campus libraries in Nepal.
- Develop user-friendly websites and digital catalogs to facilitate communication with stakeholders and enhance access to library resources.

Customized Book Collections:

- Advise each campus library to assess and address its specific book collection needs.
- Conduct further research to identify subject areas or genres requiring expansion.

- Recommend strategies for acquiring relevant and up-to-date materials to meet user demands.

Scholarly Communication:

- Promote scholarly communication by encouraging campus libraries to actively engage in publishing and subscribing to journals and periodicals.
- Highlight the significance of providing access to a wide range of academic literature for faculty and students.

Further Research:

- Propose conducting additional research to gain deeper insights into identified trends.
- Explore potential areas for improvement in library management software and resource allocation.
- Consider the unique needs and challenges of campus libraries in Nepal for tailored recommendations.

Evaluation of Underutilized Resources:

- Conduct an evaluation of underutilized resources such as audio-video tapes, photographs, maps, and microfiches.
- Determine their relevance and potential for future use.
- Provide recommendations on managing, preserving, or repurposing these resources.

Staffing Adjustments and Training Programs:

- Address the need for staffing adjustments and training programs to enhance the skills of professional staff, technicians, and IT personnel.
- Recommend appropriate staffing levels and develop training initiatives to improve library management and operations.

Open-Source Software Adoption:

- Encourage the adoption of open-source software for library management.

- Highlight the benefits of flexibility and cost-effectiveness.
- Ensure uniformity in software usage across constituent campus libraries.

User Training and Software Updates:

- Emphasize the importance of providing training programs to library users on effective use of library management software.
- Recommend regular software updates to incorporate the latest technological advancements and maintain optimal functionality.

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ANNEX-1

(STRUCTURE QUESTIONNAIRES)

Myself Mahendra Prasad Adhikari, a library officer of Birendra Multiple Campus, TU, Bharatpur Chitwan. I wish to conduct research on the topic "**Use of Library Software in Constituent Campuses Libraries of Tribhuvan University**" for the mini research project. This research aims to explore types of library software being used in constituent campus library and problems faced. The following is the set of questionnaires on the use of library and information management software study prepared for my research work please kindly cooperate by answering the questions voluntarily and provide a consent to generate data for my research work. It will take approximately 10- 15..... minutes to complete this questionnaire. I want to assure you that the information will be kept confidential.

1. About the Institution and the Library

- a) Name of the Library: *
- b) Year of Establishment of the Library *
- c) E-mail : *
- d) Telephone/cell number: *
- e) Website (if any):

02. What is the automation status of your library?

- a) Fully automated b) Partially automated c) Not yet d) To be automated soon/ on process

3. Information Communication Technology

A) Number of Server (if any):.....

B. When was ICT introduced in your library?

C. Mainly which operating system is being used by your library? *

- a) Windows b) Macintosh c) Unix e.g. Linux d) Others

4. Who provides the technical supports for ICT or automation services? *

- a) IT staff within the organization b) IT staff from outside (Outsourcing)
- c) Library staff

5. Staff Information

- a) Total Library Staff give the number of Staffs with their designation

- b) Number of staff with general ICT knowledge * c) Number of Library Staff with Library Software Knowledge (e.g. KOHA, PMB, EMIS, etc.) * d) Number of Library Staff with Digital Library Software Knowledge (e.g. Greenstone, DSpace etc.) * e) Number of staffs with LIS background *
- f) Number of staffs with Computer Science background * g) Others
6. When automation program was first introduced in your library?
7. When digitization program was first introduced in your library? *
8. What type of software is being used in your library?
- a) Open-source b) Commercial Customized c) In-house developed
9. Which library software is installed for your library? (Name of software) -----*
10. Name of the DL software you are currently using (Please tick)-
- a) Greenstone b) DSpace c) Fedora d) E-Prints
- f) In-house developed (Please write the name here)
- g) Commercial DL software (Please write the name here)
11. Who makes decision regarding the selection of software?
- a) Librarian b) Office authority c) Professionals
12. Who are responsible for the installation, development and implementation of automation and software project? *
- a) Library staff b) ICT department attached with the library c) Outsourcing d) Both A and B
13. Are the technician easily available to maintain your software/database?
- a. Yes b. No
14. Is there any provision for data import and export in your software? *
- a. Available b. Not available c. Possible after customization d. Not working e. Other:
15. Are you using data import and export provision of software? * a. Yes b. No
16. Did you get refresher training about the software? *
- a. Yes b. No
17. For what purpose library software is being used? *
18. What are the features available in your software? *
- a. Housekeeping /automation b. Integrated /offline c. Integrated with online
19. Are you satisfied with the software? * a. Yes b. Want to replace
20. What type of problems are you facing with your software? *
- a. Updating b. Maintenance c. Reinstallation d. Handling

21. In your opinion, what type of library software is useful in campus libraries for its durability?

- a. Open-source b. Proprietary c. Free

22. Where does your software hosted?

- a) University Server b) Local Commercial Server c) International Commercial Server

23. Do you offer training on library software use to the users of your library?

- a) Yes b) No

24. How frequently you offer the training? *

- a) Very frequently b) Frequently c) Not frequently d) Rarely

25. Does your authority allow LIS professionals to attend workshop/training/conference on new technologies in library sector?

- a) Yes b) No

26. Please indicate the satisfaction of different modules of the software you are currently using

a) For Acquisition work *

Satisfied highly, Satisfied, Satisfied Slightly, Dissatisfied

b) For Processing work *

Satisfied highly, Satisfied, Satisfied Slightly, Dissatisfied

c) For Circulation work *

Satisfied highly, Satisfied, Satisfied Slightly, Dissatisfied

d) For Cataloging work

Satisfied highly, Satisfied, Satisfied Slightly, Dissatisfied

e) For Reference work *

Satisfied highly, Satisfied, Satisfied Slightly, Dissatisfied

27. Need of maintenance / updating of your library software – *

- a) Frequently b) Occasionally c) Rarely

28. Please mention your suggestions and recommendations for the solution to the existing problems and for the development of the automation

Name of the Respondent: *

Designation: *

Date: *

Thank you for your co-operation

ANNEX-2

NAME LIST OF RESPONSIBLE LIBRARY PERSON OF CONSTITUENT CAMPUSES OF TU

Staff of constituents' campuses libraries of TU	
Library Staff Designation	Code
Deputy Librarian	DL
Library Officer	LO
Section Officer	SO
Mu.Ka.Sa(Head Assistant)	MKS
Library Assistant	LA
Office Assistant	OA
Sr. Book Cheker	SBC
Book Checker	BC
Book Binder	BB
Assistant Computer operator	AC
Mimographer	MR
Lab boy	LB
Thekka Contact	TC
Helper	HR
Security Guard	SY
Volunteer	VR
Account assistant	AOC
AV reader	AR
Driver	DR

Source: Telephone survey

Staff and their designation of constituent campus libraries in TU, Nepal		SN	Campus	Librarian	Libn Mobile	Total	DL	LO	SO	MKS	LA	OA	AOC	SBC	BC	BB	AC	MIR	LB	HR	SV	VR	TC	DR	AR
1	Amrit Campus		Ramesh Niraula	9849029625	4	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
2	Trichandra Campus		Bachuram Wagle	9841393042	11	0	1	0	0	0	6	0	0	0	1	0	0	0	0	3	0	0	0	0	
3	Nepal Commerce Campus		Kalpana Karki		6	0	0	1	3	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	
4	Public Youth Campus		Sudip Dhakal	9851167434	4	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	
5	Mahendra Ratna Campus, Tahachal		Bimal Khanal	9842850221	5	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
6	Shankar Dev Campus		Anup Ranjit	9841557784	8	0	0	0	2	0	4	0	0	0	0	0	0	0	0	2	0	0	0	0	
7	Sano Thimi Campus		Huma Dhakal	9842118701	7	1	0	0	1	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	
8	Mahendra Morang MIMAMC Biratnagar		Ajaya Yadav	9863002021	8	0	0	1	1	0	1	0	0	0	0	0	1	0	0	4	0	0	0	0	
9	Purbanchal Dharan		Ambar BdrThapa	9842064086	6	0	1	0	0	0	0	0	0	1	0	0	0	0	0	3	1	0	0	0	
10	Kendriya Prabidi Dharan		Om Nath Khatiwada	9841055957	3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	
11	Gorkha Shiksha Campus		Shushila Thapa	9846188851	4	0	0	0	0	0	1	0	0	2	0	0	0	0	0	1	0	0	0	0	
12	Lamjung Krishi Campus		Menuka Mishra	9846246516	5	0	0	0	1	0	1	0	0	0	0	1	0	0	2	0	0	0	0	0	
13	Nursing Campus Pokhara		Gyan Kumari Parajuli	9856051048	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
14	Tribhuvan Campus, Palpa		Ekadashi Udaya	9857060197	5	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0	
15	Butwal Multiple Campus		Sharada Pageni	9847092145	9	0	0	1	1	0	1	0	0	0	1	0	0	0	0	5	0	0	0	0	
16	Gauradaha Krishi Campus		Arjun Niraula	9842973130	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
17	Bhairahawa Multiple Campus		Bishnu Gajurel	9847111706	4	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
18	Surkhet Campus		Dambar Dhakal	9848039996	6	0	0	0	1	0	0	0	0	2	1	0	0	0	0	2	0	0	0	0	
19	Mechi Multiple Campus		Pujan Acharya	9842677382	7	0	0	1	0	2	1	0	0	0	0	0	0	0	0	2	0	0	0	0	
20	TUCL		Sagar Raj Subedi	9841364473	31	2	1	2	8	4	0	0	0	0	2	1	0	0	0	9	0	0	1	1	
21	Thapathali Campus		Seema Thapa	9849028688	6	1	0	0	1	0	0	0	0	1	0	0	0	0	0	2	1	0	0	0	
22	Krishi Campus, Khaireni		Ramita Thapa Basnet	9849800663	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23	Forestry Campus, Pokhara		Surya Kshetri	9846034322	5	1	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
24	PN Campus, Pokhara		Kishor Subedi	9849120436	14	0	1	1	2	0	6	0	0	0	0	0	0	0	0	4	0	0	0	1	
25	Paschimanchal engineering, Pokhara		Sita Khanal	9846119611	8	0	0	1	1	3	0	0	0	0	0	0	1	0	0	2	0	0	0	0	
26	Thakuram Campus, Birgunj		Kishori Chaudhari	9845583588	8	0	0	1	0	0	2	0	0	0	0	0	0	0	0	3	0	2	0	0	
27	Birendra M. Campus		Mahendra Prasad Adhikari	9855049575	10	0	1	0	1	0	2	1	0	0	0	0	0	0	0	3	1	0	1	0	
28	lalitkala Campus		Shyam Krishna Shresth	9841560973	3	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	
29	Pulchowk Engineering		Gobinda Raj Bista	9849296925	8	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3	0	2	0	0	
30	PK Campus, Kath		Roshani khayar Goli	98492203082	6	0	0	1	1	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	
31	Patan Samukta Campus		Laxman Bohara	9841255914	9	0	1	0	0	0	3	0	0	0	0	0	0	0	0	2	0	4	0	0	
32	Nepal Law Campus		Bijaya Kumar Pokharel	9849096675	6	0	1	0	0	0	2	0	0	0	0	0	0	0	0	2	1	0	0	0	
33	Bhaktapur Multiple Campus		Shyam Raj Subedi	9851188297	3	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	
34	Maharajgunj Teaching Campus		Indira Aryal	9841512600	11	1	0	1	1	0	1	0	1	0	0	0	0	0	2	0	0	0	0	0	
35	Maharajgunj Nursing Campus		Champa Gurung	9803044248	6	1	0	1	2	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
36	Nursing, Birgunj		Satish Tamang	9845098047	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	
37	Mahendra Multiple Campus, Dang		Gopal Rana	9847845673	4	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	
38	Nursing Campus, Biratnagar		Pawan Dhakal	9852033934	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
39	Bhojpur Multiple Campus, Bhojpur		Manju Bhattarai (Ghimire)	9842225188	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	
40	Chitwan Engineering Campus, Rampur		Shusma Bhattarai (faculty)	9841134107	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
41	Debeldhura Campus		Harina Awasthi (Hemu)	9848802183	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	Siddhath Bigyan Campus, Mahendra Nagar		Dal Bahadur Kathaayat	9848703435	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
43	Mahendra Ratna Multiple Campus, Ilam		Dinesh Raya	9842744378	6	0	0	0	1	0	1	0	0	0	2	0	0	0	0	2	0	0	0	0	
44	Aayurbeed Campus, Kirtipur		Aaradhana Basnet	9843560471	5	0	1	0	1	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	
45	Ramsworup Ramsagar Campus, Janakpur		Dev Narayan Shah	9844051947	6	0	0	1	1	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	

Source: Telephone survey