

**FACTORS INFLUENCING STUDENT USER SUCCESS IN AN  
ACADEMIC DIGITAL LIBRARY ENVIRONMENT**

A Thesis

Submitted to the Central Department of Library and Information Science,  
Tribhuvan University, Kirtipur, Kathmandu, Nepal  
in partial fulfillment of the requirements  
for the Master Degree of  
**LIBRARY AND INFORMATION SCIENCE**

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## LETTER OF RECOMMENDATION

This is to certify that **Ms. Kabita Karki** has prepared this dissertation entitled “FACTORS INFLUENCING STUDENT USER SUCCESS IN AN ACADEMIC DIGITAL LIBRARY ENVIRONMENT” under my supervision and guidance. I recommend this dissertation for final approval and acceptance.

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## LETTER OF ACCEPTANCE

The thesis here to attached, entitled “FACTORS INFLUENCING STUDENT USER SUCCESS IN AN ACADEMIC DIGITAL LIBRARY ENVIRONMENT” prepared and submitted by **Ms. Kabita Karki** in partial fulfillment of the requirements for the Master Degree of Library and Information Science is hereby accepted and approved.

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## **ABSTRACT**

The thesis entitled “**Factors influencing student user success in an academic digital library environment**”. The Information and Communication Technologies (ICT) has brought dramatic changes in efficient control for information storage, processing and dissemination in library system environment.

The purpose of this study is to find out student user uses of digital library services offered by TUCL and also to know are they familiar with searching of new technology. Survey method was used for the study. A purposive sampling technique was applied for the study. Only those users were selected to fill-up the questionnaire who were the members of digital library. A close ended questionnaire were distributed to them. A thirty six sets of questionnaire were distributed to users out of which nineteen is completely responded by respondents.

The findings of this study indicate that most of the users view their library as an electronic resourceful library. The most of the student users are in favour of digital library environment (94.74%), and agrees that digital library environment helps them to get academic success. The most used search engine by users are google (68.42%) and Mozilla Firefox (31.58%). Although users have positive attitude towards digital library services but the users are unaware of all the services offered by digital library to them. So, they need proper guidance on how to access available resources and they also need more collection of national and international e-resources. Majority of the users visit digital library for research purpose and want to access thesis, journals, articles and reports. So, the digital library should collect research report, scholarly journal and related materials of the latest date to satisfy the information needs of the users.

**Kabita Karki**  
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## **PREFACE**

The Information and Communication Technologies (ICT) has brought dramatic changes in efficient control for information storage, processing and dissemination in library system environment. There is a growing use of ICT at national and international level, which has increased access to wide range of scientific and technical databases, at a greater speed through information repackages. The commercial online information system provides integrated and faster information system and facilitates enhanced user satisfaction. Thus the academic libraries should adopt these emerging technologies and provide a variety of internal information services and external access to global information.

Digital library is an information system that integrates different kinds of digitized local and remote electronic library resources distributed across networks accessible through a single web interface by many users from many sites at anytime from anywhere. Digital libraries are a set of electronic resources and associated technical capabilities for creating searching and using information. In this sense they are an extension of information storage and retrieval systems. Due to changes in technology has brought dramatic changes in libraries, especially institutional libraries, in terms of how they collect, organize and disseminate information. Today's many academic libraries offer electronic information resources to their users in order to satisfy their information need.

The study has been divided into five chapters. They are: Introduction, Review of literature, Research methodology, Data collection and analysis, and Summary of findings, conclusion and recommendations. It also includes bibliography and questionnaire (appendix).

**Kabita Karki**  
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## ABBREVIATIONS

CD	: Compact Disc
CD-ROM	: Compact Disc Read Only Memory
CDS/ISIS	: Computerized Documentation System/Integrated Set for Information Systems
CME	: Computer-Mediated Environment
E-book	: Electronic Book
EBSCO	: Elton B. Stephens Company
E-journal	: Electronic Journal
GSDL	: GreenStone Digital Library
HCI	: Human Computer Interaction
HELLIS	: Health Literature Library and Information Service
HINARI	: Health Inter Network Access to Research Initiative
HLMC	: Health Learning Material Centre
HTML	: Hyper-Text Mark-up Language
ICIMOD	: International Centre for Integrated Mountain Development
ICT	: Information Communication and Technology
INASP	: International Network for the Availability for Scientific Publication
IS	: Information System
IT	: Information Technology

JSTOR	: Journal Storage
M .Lib .Inf. Sc	: Master in Library and Information Science
MCMS	: Multimedia Content Management System
NepJOL	: Nepal Journal Online
NGMPP	: Nepal-German Manuscript Preservation Project
OPAC	: Online Public Access Catalogue
PDF	: Portable Document Format
PERI	: Program for Enhancement of Research Information
RONAST	: Royal Nepal Academy of Science and Technology
TAM	: Technology Acceptance Model
TUCL	: Tribhuvan University Central Library
UIS	: User Information Satisfaction
UNDP	: United Nations Development Programme
UNICEF	: United Nations International Children's Emergency Fund
WHO	: World Health Organization
WWW	: World Wide Web

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

In the era of Information Technology, any activity in any sector is affected by IT. The terms Information Technology (IT) is a generic term used to denote activities having computer based processing, storage and transfer to information connection. Its composition includes computers, electronic media, satellites, telecommunications and storage device. Thus IT technology is the study or use of process, especially computers, telecommunications, e-mails, internet, online searching, storing, retrieving and disseminating information of all kinds.

As the information explosion, generation of large amount of information is unavoidable hence the ability to collect, store and disseminate the data needs the application of new technology. Information and Communication Technology (ICT) is one of the new technologies which should be applied in the library. ICT provides various benefits and advantages to library users, they are: speedy, easy access of information from different sources; provides more up-to-date information; reformatting and combining of data from different sources; automation (online public catalogue, cataloguing, acquisition, periodicals control, circulation and reference) etc.

In application of ICT introduced to have efficient control for information storage, processing and dissemination has changed the information environment in library system. There is a growing use of ICT at national and international level, which has increased access to wide range of scientific and technical databases, at a greater speed through information repackages. The commercial online information system provides integrated and faster information system and facilitates enhanced user satisfaction. Thus the academic libraries should adopt these emerging technologies and provide a variety of internal information services and external access to global information.

### **1.1.1 Digital Library**

A digital library is a special library with a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, microform, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection. Digital libraries can vary immensely in size and scope, and can be maintained by individuals, organizations, or affiliated with established physical library buildings or institutions, or with academic institutions. The digital content may be stored locally, or accessed remotely via computer networks. An electronic library is a type of information retrieval system.

### **Functional Components of Digital Library**

Most digital libraries share common functional components. These include:

#### **I. Selection and Acquisition**

The typical processes covered in this component include the selection of documents to be added, the subscription of database and the digitization or conversion of documents to an appropriate digital form.

#### **II. Organization**

The key process involved in this component is the assignment of the metadata (bibliographic information) to each document being added to the collection.

#### **III. Indexing and Storage**

This component carries out the indexing and storage of documents and metadata for efficient search and retrieval.



## **IV. Search and Retrieval**

This is the digital library interface used by the end users to browse, search, retrieve and view the contents of the digital library. It is typically presented to the users as Hyper-Text Mark-Up Language (HTML) page.

### **Benefits of Digital Libraries**

Digital libraries bring significant benefits to the users through the following features:

#### **I. Improved Access**

Digital libraries are typically accessed through the Internet and Compact Disc-Read Only Memory (CD-ROM). They can be accessed virtually from anywhere and at anytime. They are not tied to the physical location and operating hours of traditional library.

#### **II. Wider Access**

A digital library can meet simultaneous access requests for a document by easily creating multiple instances or copies of the requested document. It can also meet the requirements of a larger population of users easily.

#### **III. Improved Information Sharing**

Through the appropriate metadata and information exchange protocols, the digital libraries can easily share information with other similar digital libraries and provide enhanced access to users.

#### **IV. Improved Preservation**

Since the electronic documents are not prone to physical wear and tear, their exact copies can easily be made, the digital libraries facilitate preservation of special and rare documents and artifacts by providing access to digital versions of these entities.

### **1.1.2 Digital Library Initiative in Nepal**

The Internet was introduced in Nepal in 1994, and was quickly recognized as an exciting means of accessing information resources, appropriate for technologically advanced society. This paper identifies and characterizes Nepal's digital library initiatives in science and technology, research, education, literature, humanities history and politics. Donor agencies funding support and government policy was critical for the implementation of Nepal's Digital Libraries. Institutions with a strong background in advanced technology had an advantage when entering digital library field. Cooperative projects have also had significant impact (Pradhan, 2004).

The Digital Library initiatives can be roughly classified into 5 categories and will be elaborated in sequence

- a. Preservation of manuscripts;
- b. Establishment of locally generated digital libraries;
- c. Provision of foreign research digital libraries;
- d. Telecentres;
- e. Integration of conventional and digital libraries.

#### **A) Preservation of Manuscripts**

Preserving manuscripts in their digital format has aroused international attention. The digitalization work of manuscripts was done with German help. On February 16, 1970 an agreement between Nepal and German Research council was signed as a Nepal-German Manuscript Preservation Project (NGMPP). The first photographic unit of the NGMPP was established in the National Archives in Kathmandu in 1970. From 1970-1975 a team of Nepalese and German scholars filmed the entire manuscript collection of the National Archives; Nepalese specialists were responsible for developing and reproducing the microfilms. The NGMPP has microfilms more than 180,000 manuscripts containing some five million folios. Approximately one fifth of these are

Tibetan manuscripts, and the rest fall under the Indological section. Although the majority of the texts in the Indological section are works in Sanskrit, this section also includes works in other languages-in particular, Nepali and Newari. The filmed textual material includes, in addition to literature representing the traditional fields of Indological and Tibetological studies, such as belletristic, religious and philosophical literature, also more than 47,000 documents in Sanskrit, Newari, Nepali and Tibetan.

In 1987, a new section of the NGMPP was setup at the Institute of Indian and Tibetan studies at the University of Hemburg (Germany) which has mainly been responsible for the preparation of preliminary title list of the texts in the indological section. The preparation of basic Catalogue records for the Tibetan manuscripts and block-prints began in 1994. The "Preliminary list of Microfilmed by the NGMP: Part I (excluding Tibetan material and historical (Documents))" has been published in June 2003.

## **B) Establishment of Locally Generated Digital Libraries**

The considerable amount of information produced in Nepal related to its own development is not consistently collected or made available to its users. The majority of development programs and R & D projects report their results in very limited quantities. These documents which accurately chart Nepal's development efforts experiences and priorities need to be preserved. Since these documents are not indexed in international journals and are not available through commercial channel, as a whole, much valuable, locally produced information goes uncaptured and its irretrievable.

The various tools used for creating local digital libraries are:

- i) WWW in HTML format
- ii) Database
- iii) CD-ROM

### **C) Provision for Foreign Research Digital Libraries**

In this section, focus is made of support from individual organizations that has made digital libraries with international research content available to the research and academic community in Nepal. For clearing the term, 'electronic resources' are used to denote digital libraries with international research content.

#### **Information Environment in Nepal**

The concept of modern information and communication technology to provide diverse information services within the field of Health Sciences is a comparatively recent development in Nepal. The Institute of Medicine Library of Tribhuvan University with the largest collection of materials in the health sector was founded in 1972 and most parent institutes of current health libraries were established within the last ten years.

In Nepal, the development priorities are to solve the problems associated with basic needs of better health, education, food production, clothing, housing and security as identified in the government's basic needs, programme. The provision of funds for basic collections of information has been minimal. This has been most unfortunate since it is through well-organized information services that the ideas may be generated that will provide answers to the problems with which Nepal is now confronted. Other nations have passed through or are passing through the stage in which Nepal is now situated and the concepts and solutions they achieved are readily available in the world's varied information banks.

It can be understood that in a nation, which has recently emerged into the modern world of Science and Technology, there is no tradition of using technical know-how as in developed nations. There is however, a new and growing community of information users as Nepalese scholars return from abroad and join various Government Departments and other agencies and more are qualifying each year. In addition, graduates and post-graduates from Medical Colleges of Nepal are joining the stream regularly every year. It will be apparent that the professional community is growing every year.

Developments have been taking place in Nepal but until recently much of the associated work and information background were provided by international experts who presented solutions to problems and not the methodological information base so important for the solution to the next problem. External experts will continue to operate in Nepal but now they are joined by a national group of scientific and technological workers whose information needs are placing pressures upon the existing health information system.

Information is required about a wide range of health subjects i.e. water borne diseases, tropical diseases and respiratory diseases, etc. and at all levels from the technical to the administrative and political. The accent is on current information, which is not necessarily to be found in the traditional book media of libraries but within journals and reports.

To cope with this situation, academic libraries started providing electronic resources to their patrons. However, electronic resources have the following problems:

- a. expensive subscription fees;
- b. complicated licensed agreements; and
- c. scarce technical staff for solving network and computer related problems.

These issues could not be solved by any single library in least developed countries, international organizations like WHO, Geneva, INASP, UK and satelLife, USA related thinking about the possibility of providing electronic resources cost effectively. Attempting to achieve its goal, the following international organization has adopted the strategies under the following programmes:

**i) Health Inter Network Access to Research Initiative (HINARI)**

HINARI is a new initiative to provide free or nearly free access to the major journals in biomedical and related social sciences, to public institutions in developing countries. Starting in Jan 2002 with over 2000 journals from the world's leading biomedical publishers. HINARI provides access to some 1500 journals from 6 major publishers: Blackwell, Elsevier Science, the Harcourt worldwide STM Group. Walters

Klumer International Health & Science, SpringerVerlag and John Wiley, and will continue for at least 3 years. Twenty-two additional publishers joined in May 2002, bringing the total number of journals to over 2000.

## **ii) INASP, UK**

INASP is a cooperative network of partners. It's mission is to enhance the flow of information within and between countries, especially those with less developed systems of publication and dissemination. Under the PERI program, it provides access to scientific and scholarly information through electronic means. Includes over 10,700 full text online journals, current awareness databases. In Nepal, it was started from July 2003. The publishers are Blackwell EBSCO, Emerald, Cochrane Library and Oxford University Press.

## **iii) SatelLifeInc, USA**

Over the past fourteen years, SatelLife is involved in developing solution to the everyday information needs of health professionals working in communities where AIDS and malaria are common place, but medical journals and the Internet are an unaffordable luxury. It provides network facilities and information resources through its project HealthNet. HealthNet Nepal was established in 1995. It provides access to locally generated information resources, electronic conferences and website hosting. SatelLife provides its information content through 40 peer-reviewed journals through HealthNet News compiled weekly. Health News, AIDS compiled bi-monthly, and HealthNet News-Community Health compiled weekly, Health News, AIDS compiled monthly. Apart from this it provides disease specific links and 5 discussion group.

## **D) Telecentres**

In developing countries, a strategy has been adopted for applying ICTs to alleviate poverty through telecentres. One of the major objective of telecentre is meeting information needs of rural community in repackaged format with emphasis is local language. Two rural telecentres projects are under way in Nepal. One small-scale project and the other is a national pilot project involving around 15 rural telecentres.

To meet the information needs, rural community's information needs were identified through a study commissioned by UNDP Nepal on the feasibility of online services in rural areas. The information needs are related to crops, fertilizers, plant diseases, family planning, terrorism, sanitation techniques.

### **E) Integration of Conventional and Digital Libraries**

In Nepal, only a portion of the library has been digitized, so the information needs have to be fulfilled in a diversity of formats and from local and remote resources. The electronic resources will continuously play an important role for assisting users to obtain the needed information that is not owned by the library itself. The challenge is bringing a range of technologies and services together for creating an interlibrary loan and document delivery service meeting the requirement of users and the librarians.

### **1.2 Statement of the Problem**

ICT have revolutionized the concept of libraries. Libraries are gradually getting digitized with comprehensive and free scholarly resources than the one that some websites could provide. Students who need to do research will benefit from an effective digital library as it will provide a combination of digitally delivered content with learning support and services. The central purpose of libraries is to provide information services that are useful and accessible to the users. With the current development in ICT, libraries are provided with options to providing services in electronic format. Academic library is one that offers information resources in a digitized format to the users. Today's academic libraries provide students with access to a wide range of electronic information resources. However, it is yet to be determined if students are really familiar with such services, are students really making effective use of it?

### **1.3 Definition of Terms**

**IT:** Information Technology (IT) is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by combination of computing and telecommunication.

**Digital Library:** A digital library is about to manage and organized collections and user services. In the digital library, these are computerized, rather than physical. This means that information is available in a digital format, and that services are provided over computer networks. Users can access these services from their computers by using an Internet connection.

Digital library may be defined as “a managed and organized collection of information resources, preserved for a long time, with associated user services, where the information is stored in digital format, and accessed over a computer network”.

**Electronic Resources:** An electronic resource is any information sources that the library provides access to in an electronic format. An electronic resources may be full-text journals, newspapers, e-books, dictionaries, encyclopedia, digital images, etc.

**User:** User are those who use library available resources and services through electronic devices with the help of Internet.



## **1.4 Objectives of the Study**

This studies hopes to achieve the following objectives:

- To find out the student's user using habit of electronic resources
- To find out whether student are familiar with new technology for searching resources
- To determine the types of electronic resources most frequently used by the students.
- To find out the student's use of search engine like google, Mozilla Firefox etc. as reference source

## **1.5 Research Questions**

This thesis intends to find out answer to the following research questions:

- ❖ Do student users view their library as an electronic resourceful library or not?
- ❖ How frequently does the students search for information in electronic resources?
- ❖ Do the students feel that electronic resources could get them academic success?
- ❖ What are the different electronic searching tools they use while looking for information?

## **1.6 Significance of the Study**

The concept of digital library is growing day by day. Most of the library users prefer to work in a digital environment and love to have access digital content via web. The main advantage of digital content is, it can be accessed from anywhere at any time. This study aimed to find out users uses of digital library services and usefulness of digital resources in their academic work. It also aimed to know whether student users are familiar with new technology for searching information. Thus, this study will be significantly helpful to the entire service provider, authority of parent body and the users to widen their knowledge about the concept of academic digital library.

## **1.7 Scope and Limitation**

This study has been prepared for fulfillment of the partial requirement of M. Lib. Inf. Sc. thesis. There are enough possibilities to extend this thesis by consulting other resources. Every study has some limitations. This study is no exception.

Due to lack of time and resources, the focus has been concentrated only on Tribhuvan University Central Library (TUCL). This study was conducted on the basis of opinion expressed by the student users of TUCL of IT section, Kirtipur, Kathmandu. This study dealt with information aspect only.

## 1.8 Conceptual Framework

A conceptual framework is drawn for this study and represented in Figure 1. The figure shows that information searching skill of student user which helps them to retrieve needed information, Institutional factors, such as adequate of ICT use facilities and student user factors such as subject background.

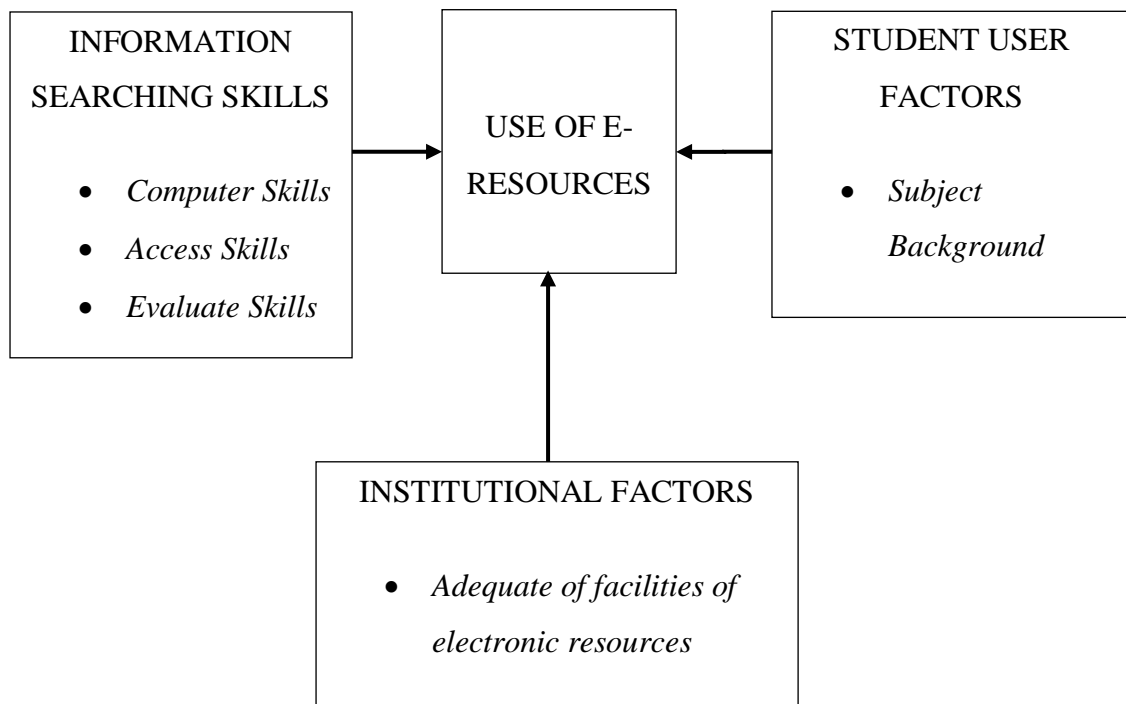


Figure 1: Conceptual Framework on Factors Affecting Use of Electronic Resources

## **1.9 Organization of the Study**

The study has been organized as follows:

The first chapter deals with background of the study, statement of the problem, definition of terms, objectives of the study, research questions, significance of the study, scope and limitation of the study, conceptual framework and the study has been organized in the same way.

The second chapter deals with review of literature which include introduction under which digital library as an information system, collections in a digital library, functionalities offered by a digital library, processes and interaction involved in a digital library, information system success, user satisfaction, user satisfaction in digital library environment are explain and it also review of related literature.

The third chapter deals with research methodology which includes research design, sources of data, population of the study, sampling procedure, study area, designing the questionnaire, study design map, data collection procedure and data analysis procedure.

The fourth chapter deals with data collection and analysis of those data which shows in tabular form.

The fifth chapter deals with finding of the study, which are presented in summarized and concise form. With some concluding remarks the study has its recommendations for the future improvement of the digital library, and quality services to the users.

Finally, bibliography and appendix (questionnaire) were also included in this study.

## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

#### **2.1 Introduction**

The literature review is an essential part of any research work. In this particular study, relevant literature has been studied to present various aspects of digital library. Digital library as an Information Systems (IS) and Information System Success

##### **2.1.1 Digital library as an Information System**

A digital library is an information system that integrates different kinds of digitized local and remote electronic library resources distributed across networks accessible through a single Web interface by many users from many sites at any time in the world. Noerr (2003) posits that “ the really important point is that a digital library has material stored in a computer system in a form that allows it to be manipulated (for instance, for improved retrieval) and delivered (for instance, as a sound file for playing on a computer) in ways that the conventional version of the material cannot be”.

Digital libraries are a set of electronic resources and associated technical capabilities for creating searching and using information. In this sense they are an extension of information storage and retrieval systems that manipulate digital data in any medium (text, images, sounds, static or dynamic images) and exist in distributed networks. The content of digital libraries includes data, metadata that describe various aspects of the data... and metadata that consists of links or relationships to other data and metadata. Whether internal or external to the digital library (Borgman et al. “Introduction” par.4)

While these definitions share some characteristics, they all reflect a slightly different focus. Perhaps at its most basic level, a digital library may be defined as a collection

of digital resources selected according to certain criteria and made accessible for retrieval over computer networks. Various types of digital information may be incorporated into the collection including both retrospectively converted printed materials that exists only in digital form, as well as a broad range of material formats, including books, journals, sound recordings, pictures, and video.

There are many definitions of a “digital library.” Terms such as “electronic library” and “virtual library” are often used synonymously. The common elements of a digital library definition identified by the Association of Research Libraries (1995) are more acceptable to researchers of digital libraries thus:

- The digital library is not a single entity.
- The digital library needs technology to connect the resources of many networks.
- The linkage amongst the many digital libraries and information services are clear to end users.
- The goal is to provide universal access to digital libraries and information services
- Digital library collections are not restricted to document surrogates: they include digital artifacts that can-not be embodied or disseminated in printed format.

#### **2.1.1.1 Collections in a Digital Library**

A library that maintain all or a substantial part, of its collection in computer-accessible form as an alternative, supplement, or complement to the conventional printed and microfilm materials that currently dominate library collection. Used in this context, the term “collection” denotes the documents that a library acquires or maintains (Saffady, 224).

A digital collection is - “A digital library,” as defined by Slovney (2005), “also known as a data warehouse, electronic library, or virtual library, is a collection of digital representations of numerous types of media, such as documents, images and sounds that are stored in an information repository and are available through a local computer

network or anywhere via the internet” Slovney notes that most digital libraries support or work conjunction with traditional libraries, rather than replacing them.

It seems that digital libraries and digital collections within libraries are cropping up across the nation. The American Memory Project from the library of Congress is a prominent example of digital library collections. Academic library online resources, institutional repositories, corporate image collections and local public library genealogical databases are all examples of digital collections. All types of libraries are harnessing technological resources in order to offer collections of digital materials.

The focus on digital materials is not solely due to current technology. Obviously, the growth of the internet has been an influence. But there are other benefits to digital collections, such as multi-user access, increased speed and retrieval times, improved search functionality, and the ability to support a variety of content formats (Lee 2002). Offering collections online also increases accessibility, previously, a physical library item could only be used in the library, or possibly sent via interlibrary loan to another location. Offering digital material online increases the ability for patrons to utilize the material anywhere, without having to physically enter the building or wait for an interlibrary delivery. In the academic world, distance education opportunities are on the rise. More students are conducting research online (Albanese and Oder 2002), necessitating an increase in digital resources collaboration. In addition to these patron-shared benefits, libraries are also finding digital collections to be more cost-effective (Albanese 2001).

An institutional repository is published online and is basically open to the public. While most academic journals articles are available only to subscribers and not retrievable by general search engines, such as Google, research papers in an institutional repository are fully accessible by the public free of charge and are accessible by general search engines. Popular software such as DSpace, EPrints and Bepress are also open sources. As of January 2009, there are about 1,239 institutional repositories in the world. The four main objectives for having an institutional repository are:

- To create global visibility for an institution’s scholarly research;
- To collect content in a single location;

- To provide open access to institutional research output by self-archiving it;
- To store and preserve other institutional digital assets, including unpublished or otherwise easily (“grey”) literature (for example, theses or technical reports)

### **2.1.1.2 Functionalities Offered by a Digital Library**

Digital library applications are document intensive applications where possibly heterogeneous documents and their metadata have to be managed efficiently and effectively. The main functionalities required by DL applications can be embedded in a general purpose Multimedia Content Management System (MCMS).

Many digital library projects have mainly aimed at defining general purpose services that should be provided by a digital library. Typical services are for example, repository services, collection services, authentication services, etc. However these definitions were limited to a very high abstraction level. Very little effort has been devoted to define and investigate specific solutions for efficiently realizing these services, or to investigate the existence of technologies, proposed in other fields, that can be used to cope with these issues. In addition, sometime these digital library services were defined as a consequence of requirements of specific digital library applications, while their generality, innovation, and real importance to generic digital libraries was never proved. For example, while it is clear that any digital library should have a repository service that manages documents and/ or metadata storage. It is not also obvious that all digital library applications really need complex custom user authentication/ authorization services, which can be anyhow obtained relying upon services offered either by employed operating systems, application servers, or even database system.

#### Function of Digital Library

- Access to large amounts of information to users wherever they are and whenever they need it.
- Access to primary information sources.



- Support multimedia content along with text
- Network accessibility on Intranet and Internet
- User-friendly interface
- Hypertext links for navigation
- Client-server architecture

### **2.1.1.3 Processes and Interactions Involved in a Digital Library**

The processes involved during the interaction between the user and a digital library system that significantly affect information retrieval from the heterogeneous collections harvested in the digital library system. Several related studies also found interactions between the system and the human processes working at the same time the “Person in The Loop, or PiTL.” (Kantor, 1994). Belkin (1999), Marchionini (1995) and Ruthven (2003) found that users are not static in relation to the system. They formulate and reformulate queries, refine the searches, browse the whole or partial site, jump from one site to other sites, etc.

In an attempt to measure a specific information problem that requires a solution, Stettheimer (2000) identified “four primary forces namely the individual (user), the problem (task), the potential solution (system) and the organization”. According to her, these are the recognized forces and she described “six possible interactions among them as follows:

- User-system: this interaction has historically been related to the field of Human Computer Interaction (HCI) and can be globally represented by a measure of system satisfaction
- User-task: this interaction can be represented by a measure of information requirement.
- User-organization: an interaction which encompasses not only the user’s particular place within the organization, but also the user’s attitudes; job satisfaction is linked to this interaction.
- System-task: an interaction that has only recently received formal attention, this can be characterized through a measure of task-technology fit.

- System-organization: an interaction that involves the degree to which the organization champions, endorses, or requires use of a system, i.e. the organizational support for this system.
- Task-organization: this interaction describes the value an organization places on a particular activity or information and typically reflects the impact the task has on the organization's continued existence.

Aligning with these interactions, users' skills and knowledge to implement a specific task also depend on their cognition, behavior, etc.

### **2.1.2 Information Systems Success**

According to Molla & Licker (2001), "It appears that IS success is one of the controversial issues that has eluded IS researchers. The problem is compounded because success is a multidimensional concept that can be assessed at different levels (such as technical, individual, group, organizational) and using a number of not necessarily complementary criteria (such as economic, financial, behavioral and perceptual)".

As an information system, the same is true for measuring user success in a digital library. There are so many interrelated variables at different levels working together that sometimes it is hard to even define success in digital library context. Traditional measures of precision and recall in assessing an information retrieval system like digital library will not be applicable as stated earlier in measuring overall digital library user success. In addition to Arms (2003), Su (1992) also concludes that "such traditional success measures as precision and recall were not significantly correlated to overall success." Instead, Su (1992) determined that a user's satisfaction with completeness of the search result was the best single indicator of user success in the system. Stettheimer (2000) also stated the same fact in analyzing the above mentioned interaction as "the confluence of all primary forces: user, system, task, and organization---this interaction, while difficult to quantify, can best be conceptualized as an overall user satisfaction measure centered within a specific situational context".

### **2.1.2.1 User Satisfaction**

The success dimension user satisfaction constitutes the user's level of satisfaction when utilizing an IS. It is considered as one of the most important measures of IS success. Measuring user satisfaction becomes especially useful. When the use of an IS is mandatory and the amount of use is not an appropriate indicator and the amount of use is not an appropriate indicator of systems success. Widely used satisfaction instruments are the ones by Ives et al. (1983) and Doll et al. (2004). However, these instruments also contain items of system, information, and service quality, rather than only measuring user satisfaction. Accordingly, other items have been developed to exclusively measure user satisfaction with an IS.

### **2.1.2.2 User Satisfaction in Digital Library Environment**

With earlier computerized information resources technologies, such as on-line or CD-ROM databases, the user and information source (i.e. , the database) are generally separated by a query mechanism that serves as an intermediary. This mechanism, part of the user interface, allows input of a query in some structure format (for example, a query language). The system validates the format of the structured information request, process the query, and presents the result of the query back to the user through the intermediary. If the query is found to be incomplete or improperly structured, the user may have the opportunity to refine and resubmit the request. (Some user interfaces may provide prompts or assists in developing or reshaping a query.). However, each information request (or re-request) is a distinct transaction. The individual user is not directly exposed to the systems' process of interpreting the query in order to isolate the requested information, nor is the user able to manipulate or navigate search paths. The user may be said to be in "search" mode, seeking a response to an information request. Once the output provided by the system meets the user's requirement, the user is satisfied.

In a digital library environment characterized as a hypermedia computer-mediated environment (CME), however, the user and the information source (the Web) are not separated but rather are "mediated" by the computer. By mediation, we mean that the

person acts “through” the computer, which provides direct exposure to -- and perhaps control of – navigational techniques utilized in order to locate desired information. The dynamic between the user and information system is changed as the user becomes his/her own intermediary. As the user pursues a desired information result he/she is able to refine his/her own search process. The user may be in either “search” or “browse” mode, or may in fact blend “search” and “browse,” trying various paths, placing bookmarks, retracing paths already traveled, and so on. That interaction “within the medium” is perhaps the most radical departure from traditional environments.

In a digital library environment, users themselves interact directly with a digital library system to obtain the information they want and, in the process, they experience every interaction of navigational activity for themselves. Thus, the notion of “experimental” satisfaction characterizing the personal interaction through and within the digital library system is important. It may be the dimension that was missed in the original UIS measure.

Thus, user information satisfaction in a digital library domain differs from the concept of user information satisfaction in earlier computerized information system environments in two interrelated dimension – the perceived directness and variety of experience of UIS, and the content of UIS activities. The dynamic event created by multimedia information objects make it easier for users to experience a variety of activities, changing the content of UIS activities. These differences in UIS arrangements have implications for the definition of the UIS in a digital library domain.

## **2.2 Review of Related Literature**

The development of digital libraries in developing countries has proven to be very advantageous, as they provide vast knowledge to students and they promote collaboration between research projects (Ghosh, 2009). A study conducted by Park et al (2008) under the heading “User Acceptance of Digital Libraries in Developing Countries” with the aid of Technology Acceptance Model revealed that one of the

factors that influenced the usage and adoption of the digital library was how easy it is to access the system. The study further revealed that digital library system that met the user's requirements as well as providing customized provision of academic library were likely to be adopted and accepted specifically in the developing countries where there are limited research resources. This study applied TAM model to investigate the use and acceptance of digital library, and adopted UTAUT to investigate the effective usage of digital libraries in higher learning institutions.

Sheeja (2010) investigate the perceptions of digital libraries by undergraduate students in India and the results of the survey outlined that there is a high acceptance of digital library by the students. Furthermore, the study revealed that almost all students used digital libraries mainly for learning and for obtaining question papers, syllabus and other scholarly materials required for their studies. Digital libraries are very essential in improving the standards of education.

The use of digital resources has contributed to reshaping information retrieval process and access to information by the post graduate students. In the past, information was transferred from librarians to the user, but presently, most of the communication and transfer of information is between the users and the computers and this is due to the existence of digital library and its management. Students who need to do research would benefit from a more effective digital library as it would provides a combination of digitally delivered content with learning support and services. The digital library provides more choices, enhances flexibility and will provide the learner with instant feedback. It allow students to select learning materials and is convenient to access at any time and at any place. (Lee, 2005).

Tella et al (2007) argue that the students' ability to find and retrieve information effectively is a transferable skill useful for their future life as well as enabling the positive and successful use of the electronic resources whilst at school. They noted that in this digital era any student at the higher level who intends to better achieve should have the ability to explore the digital environment. Students are increasingly expected to use electronic information resources whilst at the university. To make use of the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them (Okello-Obura and Magara 2008). Skill learning is essential in a technology driven environment but can be enhanced tremendously

through the use of innovative learning strategies. Okello-Obura and Magara also suggested that the skills required to access the maximum potential of electronic resources are much greater than those required for searching printed sources. These skills include knowledge of the structure of the database and the instructions which must be input into the computer by the searcher- as well as an understanding of the ways in which the instructions are linked to one another.

Academic libraries also serve as a prime motivator for academic success. The scholarly environment of libraries encourages students to spend time independently or collaboratively for learning, studying, and completing assignments. Based on survey responses from over 500 students across ten campuses nationwide, students noted that the library setting was conducive to completing tasks such as assignments, job applications, and recreational projects while also helping them stay focused. Students also stated that they could rely on the availability of technological equipment and expertise from librarians when they needed assistance. For many students academic libraries serve as a valuable “refuge” where they can go and focus on schoolwork or plan next steps towards a career (Head & Eisenberg, 2011).

Bagudu and sadiq (2013) identifies that university students are aware of and satisfied with digital library services, although their usage appeared to be weak due to up-to-dateness of some materials. On the other hand, Alajmi (2013) focused on identifying factors influencing digital library adoption. The study revealed that perceived relative advantage, visibility, result demonstrability, trialability and awareness of users have significant positive impact on the rate of digital library adoption. However, perceived ease of use, compatibility, and perceived image had insignificant effect on the users’ adoption.

Kumar, G.T., & Kumar Sampath (2008) conducted a survey entitled User of Electronic Information Sources by the Academic Community: A comparative study in which the use of electronic information sources is expected to increase in future. The students and faculty who participated in this survey were aware of electronic information sources and majority of them used these sources in support for their study and teaching and they were adopted at using these sources. Even though majority of academic community used electronic information sources, still most of the students and faculty prefer print sources as well as electronic information sources. The studied

showed that the traditional resources would continue to be necessary components of the academic community. Many of the students and faculty learnt about the electronic sources either by trial and error methods or by the advice of friends. So it is necessary that the academic library professionals should be proactive in working with academic community to develop training programs aimed at enabling them to use electronic information sources only.

Kaliammal, A (2007), 'Significance of Information and Communication Technologies in the New NAAC Standards for University Libraries' concludes that since the last decade, increasingly the libraries depend on electronics systems and network for offering information services. Most of the western Universities libraries now provide computer access to almost all students and teachers. Even in a few libraries of the developing countries, computer based services are available to all students and all users are ensured of the total electronic services.

Electronics resources are more used as learning tools and their use is widespread in the recent years. Students learn more quickly and with greater retention when learning with aid of electronic resources. Faculty members can draw information pertaining to curriculum, teaching and research in a more meaningful as well as effective way.

Thus, electronic information services are now widely implemented in the libraries and the current discussions are on how to draw comprehensive standards for electronics services to libraries. There are efforts at various levels on building electronics services in libraries.

Academics and researchers can easily access a variety of research references available worldwide regardless of their geographical area (Jayaprakash & Venkatramana, 2006). The main aim of digital libraries in education context is to support educational and research work conducted within the universities and colleges students and lectures (Cabrerizo et al., 2011). The digital library serves as an avenue for exchanging knowledge and skills in learning and development (Abubakar, 2012). Isfandyari-Moghaddam and Bayat (2008) indicate that the success and the survival of digital library are mainly depended on user's acceptance of and the increased use of the library resources.

Another method employed to engage students has been the expansion of scholarly communication through publishing services, including published journals and newspapers that have given voice to students. According to a 2011 survey of member institutions of the Association of Research Libraries, almost half have been developing their own publishing services and three-quarters have published journals, all while providing students with digital repository services, authoring and copyright guidance, digitization, management, and tracking services. These libraries are encouraging students to get involved in their publishing services, create their own content, and share their work with larger audiences through these newly set up channels (Association of College & Research Libraries Planning and Review Committee, 2012).

With the growing educational use of technology, academic libraries have looked design services around the needs of students. Libraries have made efforts to provide access to research databases, such as EBSCOhost, JSTOR, and Thomson Reuters through applications on personal devices. Academic libraries have realized the importance of mobile technology, as demonstrated by loaning programs for internet-ready mobile devices, laptops, e-book readers, and audio devices. Libraries have also looked to increase their collection of e-books as a mechanism for leading sustainability (Lippincott, 2010).

Zhang (1998) conducted a survey among college faculty and staff at the Olin Library, Rollins college, Florida, to study the use of electronic library and information technologies and evaluate user's information needs, expectations, and the quality of services. The University of Iowa created User Needs Assessment Projects to assess library user satisfaction with current information services and resources, to learn how undergraduates access library resources, to identify undergraduates perceptions of library resources and to learn how satisfied undergraduates are with library resources and services and to identify under graduate unmet needs. Amato and Stracia (1999) designed a user profile model responding users' information needs. They propose a profile scheme for digital library users.

Cornell University's library conducted a comprehensive user study to design the next generation electronic library system that provides access to over 600 information resources. Marchionini and Komlodi (1998) review literature on user interfaces



particularly in digital library environment and suggested to have task based digital library. Michelle discusses about a user-centered interface for information exploration in a heterogeneous Digital Library. Tennant identifies several skills including user interface design skill, needed to create and manage digital library collection and services.

Adam and Bonk (1995) conducted a series of studies to collect data from which access and delivery policies would be developed for electronic library users. These studies specifically focused on faculty needs, attitudes and expectations for library and information services. Wilkins, et al (1997) examined the work-related information needs of professionals and managerial staff of a large university. Hayes (1990) argues that the academic library must find ways to better service the professional staff in institutions of higher education, as the information needs of this user group expanded in recent year.

Upadhyaya (2011) in her studies recommended that in the digital libraries of Nepal, there is a need of processing highly demanded documents as early as possible to provide information promptly to the users and make the digital collection more attractive and useful. Due to its special features, GSDL (GreenStone Digital Library) software is suitable digital library software in the context of Nepalese libraries. Hence, libraries of Nepal must consider using this software for developing their digital library collection.

TUCL (Tribhuvan University Central Library) provide full text database to its users which can be freely accessible through TUCL Institutional Repository. A database of 94,000 records can be accessed from the library's TUCL OPAC. Recently, it started using Digital Library Software Dspace for full text PhD thesis and going to add more dissertation, report, text book and course of study etc. in this software. This type of database helps student users in their research for preparing thesis, dissertation and helps to get academic success.

TUCL is negotiated with INASP for online resources. Libraries have made efforts to provide access to research database, through JSTOR, Project MUSE. Similarly, NepJOL (Nepal Journal Online) is a database of Journals published in Nepal, covering the full range of academic disciplines. The objective of NepJOL is to give

greater visibility to the participating Journals, and to the research they convey. NepJOL is a service to provide access to Nepalese published research, and increase worldwide knowledge of indigenous scholarship. There are 108 journals listed on NepJOL. There are 771 Tables of contents listing 10,703 articles. 9952 of the articles are available in full text (PDF). The researcher and scholar can freely access abstract and full text. They can also download the full text. It is easily accessible from anywhere at any time.

### **2.3 Summary**

This chapter reviewed literature in this study. The first part present the introduction under which the concept of digital library as an Information System (IS) and collection in a digital library were discussed in detail. The functionalities, process, and interaction involved in a digital library were also discussed as well. The concept of Information System Success, which measure the user satisfaction and user satisfaction in digital library environment through User Information Satisfaction (UIS) were also explain in detail.

The second part present related literature review. Under which firstly, it explain the factors that influence student user to get benefit from a more effective digital library as it allows users to select learning materials and is convenient to access at any time and at any place. If user are capable of information searching skills like computer skill, access skill, evaluate skill, and use skill, it helps them to retrieve needed information as soon as possible. A digital library main aim in education context is to support educational and research work for student user. Academic libraries have made efforts to provide access to research database through JSTOR, Project MUSE, NepJOL etc.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

The various tools and techniques are applied to collect the primary and secondary data. This is the study which is based on descriptive type regarding the study of Factors Influencing Student User Success in an Academic Digital Library Environment. It was studied and surveyed, using questionnaire method as the principle sources of data collection.

#### **3.1 Research Design**

It is the plan and strategy of investigation conceived for the collection and analysis of data. It also helps to guide the researcher in proper direction in order to obtain goal. The design may be a specific presentation of the various steps in research process. Hence, a combination of different methods is being used to collect the relevant facts, figure and data. The survey instruments used for data collection is quantitative method. For collection of data through quantitative method – Likert-type (appendix) was used. Similarly, for collecting data through quantitative technique, closed-ended questionnaire was used.

##### **3.1.1 Measurement Scale**

The scales used to measure attitude and opinion is Likert-type scale.

In a Likert-type scale, the respondent is usually asked to 5 point scale to measure attitude as:

1. Never
2. Rarely
3. Sometimes
4. Usually
5. Always

When an individual responds to these statements he/she expresses his/her attitude on a scale of 1 to 5.

### **3.2 Sources of Data**

The data in this study was collected by different sources, including primary as well as secondary sources. The primary data were collected through field survey using the questionnaire method. Dissertations, theses, articles, books, journals, reports, etc. were the sources of secondary data.

### **3.3 Population of the Study**

This study was conducted in Tribhuvan University Central Library of IT section. Survey method was adopted to accomplish the study. The total number of users visiting the IT section during the period from May 25<sup>th</sup>, 2016 to May 31<sup>st</sup>, 2016 was 36. This visit of the users in IT section was considered as total population for this research.

### **3.4 Sampling Procedure**

Population were selected from the student users of Tribhuvan University Central Library (TUCL) of IT section. A purposive sampling method was applied for this study. Those users were selected to fill-up the questionnaire who were the members of digital library. A close-ended questionnaire were distributed to them. Thirty six sets of questionnaire were distributed to the users, out of which nineteen were completely responded by respondents. So the sampling taken was 19 (53%) of the total population.

### 3.5 Study Area

IT section of Tribhuvan University Central Library located at T.U., Kirtipur, Kathmandu are the area for this study.

### 3.6 Designing the Questionnaire (Variables and Measures)

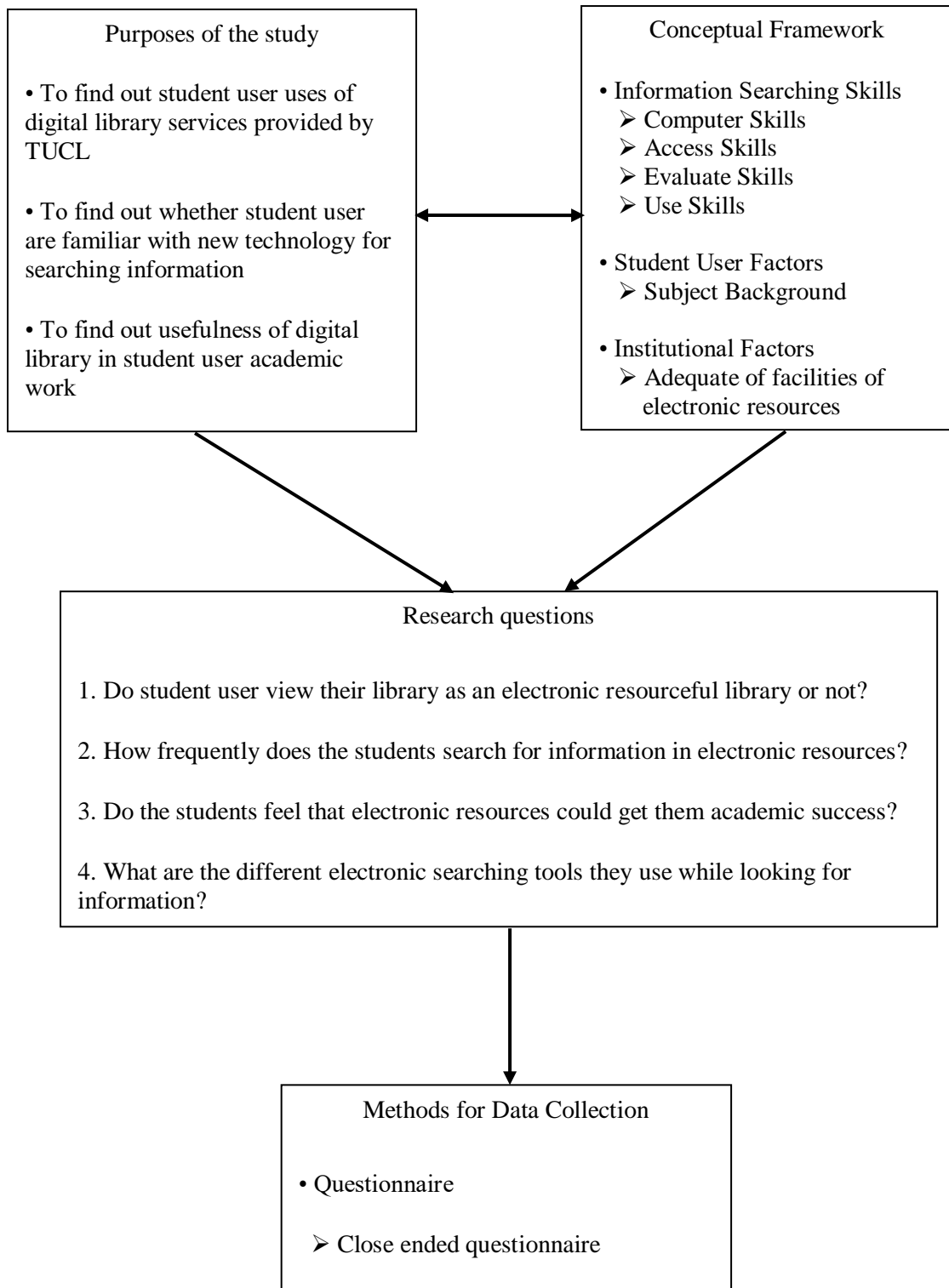
A set of questionnaire were designed for collecting data. A set (appendix) was used for collecting data. The first part of questionnaire aimed to collect information for general characteristics of users i.e. academic qualification, age, gender, experience in use of computer, and time in use of Internet. These were collected through single measures. The second part of the data were collected through Likert-type.

#### 3.6.1 Survey Questions Mapped to Research Questions

Research Questions	Survey Questions
1. Do student user view their library as an electronic resourceful library or not?	Q.6 to Q.13
2. How frequently does student search for information in electronic resources?	Q.7
3. Do the student feel that electronic resources could get them academic success?	Q.16
4. What are the different electronic searching tools they use while looking for information?	Q.6, Q.14,Q.15

*Table 1: Survey Questions Mapped to Research Questions*

### 3.7 Study Design Map



*Figure 2: Study Design Map*

### **3.8 Data Collection Procedure**

A data were collected through quantitative method. For this a close ended questionnaire were distributed to the members of digital library of TUCL of IT section. A purposive sampling method is applied for collecting data. Only digital library members were selected to fill-up the questionnaire. The total number of data collected through this method was 19. From the users, only quantitative data were collected.

### **3.9 Data Analysis Procedure**

Descriptive statistics was used to analyze and present the results of the research. These are displayed, as appropriate in tabular form. The sample size data from quantitative research was coded numerically and analyzed mathematically as summative approach features of quantitative method such as percentage. The collected data were analyzed using PSPP Open Source Software.

## CHAPTER 4

### DATA COLLECTION AND ANALYSIS

#### PART A: GENERAL CHARACTERISTICS OF RESPONDENTS

In the general characteristics academic qualification, age, gender, experience in use of computer, and use of internet, etc are given. Since every user have these characteristics, so it is named as general characteristics and interpretation in the respective table.

#### 4A.1: Academic Qualification of Respondents

Academic Qualification	Frequency	Percent	Valid percent	Cumulative percent
Undergraduate	3	15.79	15.79	15.79
Masters	12	63.16	63.16	78.95
PhD	4	21.05	21.05	100.00
Other	0	0	0	
Total	19	100.0	100.0	

*Table 2: Academic Qualification of Respondents*

Of the total users of digital library services, twelve 12(63.16%) users have Master degree educational qualification followed by PhD 4(21.05%) and Undergraduate 3(15.79%) degrees respectively.



#### 4A.2: Age of Respondents

Age group	Frequency	Percent	Valid percent	Cumulative percent
Below 30	13	68.42	68.42	68.42
31 – 40	4	21.05	21.05	89.47
41 – 50	2	10.53	10.53	100.00
Above 50	0	0	0	
Total	19	100.0	100.0	

*Table 3: Age of Respondents*

The majority of digital library users were below 30 age group (68.42%) followed by 31-40(21.05%) and 41-50(10.53%) respectively.

#### 4A.3: Gender

Gender	Frequency	Percent	Valid percent	Cumulative percent
Male	14	73.68	73.68	73.68
Female	5	26.32	26.32	100.00
Total	19	100.0	100.0	

*Table 4: Gender of Respondents*

The numbers of male responding the questionnaire were 14(73.68%) and the female responding the questionnaire were 5(26.32%). Thus, majority of the respondents were male.

#### 4A.4: Experience in Use of Computer

Experience	Frequency	Percent	Valid percent	Cumulative percent
0 – 1year	0	0	0	0
2 – 3years	0	0	0	0
4 – 5years	4	21.05	21.05	21.05
Above 5years	15	78.95	78.95	100.00
Total	19	100.0	100.0	

*Table 5: Experience in Use of Computer*

Of the total users, fifteen 15(78.95%) respondents have experience in use of computer more than five years and 4(21.05%) of respondents have experience in use of computer 4-5 years. It shows that respondents have maximum experience in use of computer.

#### 4A.5: Time in Use the Internet

Time	Frequency	Percent	Valid percent	Cumulative percent
Every day	15	78.95	78.95	78.95
Once in a week	0	0	0	78.95
Few days in a week	4	21.05	21.05	100.00
Once in a month	0	0	0	
Rarely	0	0	0	
Total	19	100.0	100.0	

*Table 6: Time in Use the Internet*

The number of respondents who use Internet everyday is fifteen 15(78.85%) and few days in a week is four 4(21.05%). It shows that the respondents use of internet is very high.

## PART B: USER USES OF DIGITAL LIBRARY SERVICES

### 4B.1: User Uses of Digital Library Services

(Total number of respondents N=19)

Variables	Never (%)	Rarely (%)	Sometimes (%)	Usually (%)	Always (%)	Total (%)
Visit library website	0	5.26	52.63	31.58	10.53	100.00
Use electronic resources	0	0	63.16	21.05	15.79	100.00
Sufficient information	0	21.05	47.37	31.58	0	100.00
Up-to-date information	0	26.32	52.63	21.05	0	100.00
Area of interest	5.26	21.05	47.37	26.32	0	100.00
Meet the requirements of all users	0	31.58	47.37	21.05	0	100.00
Download information	0	31.58	26.32	36.84	5.26	100.00
Information purpose	0	0	42.11	36.84	21.05	100.00
Use search engine	0	0	21.05	47.37	31.58	100.00

*Table 7: User Uses of Digital Library Services*

The above table shows that of the total respondents, 10(52.63%) respondents visit library website sometimes, 6(31.58%) visit library website usually, 2(10.53%) always and 1(5.26%) rarely visit the website. 12(63.16%) respondents use electronic resources sometimes, 4(21.05%) usually and 3(15.79%) always use electronic resources. The 9(47.37%) respondents responded that digital library provide sufficient information sometimes, 6(31.58%) usually and 4(21.05%) rarely. Similarly, 10(52.63%) respondents responded that digital library provide up-to-date information sometimes, 5(26.32%) responded rarely and 4(21.05%) usually. The respondents responded that digital library was able to meet their area of interest, 9(47.37%) sometimes, 5(26.325%) usually, 4(21.05%) rarely and 1(5.26%) never respectively.

9(47.37%) respondents responded that digital library meet the requirements of all users it serves, 6(31.58%) responded rarely and 4(21.05%) responded usually. The 7(36.84%) respondents download information from digital library in every visit usually, 6(31.58%) rarely, 5(26.32%) sometimes and 1(5.26%) always respectively. The respondents 8(42.11%) sometimes, 7(36.84%) usually and 4(21.05%) always use search engine for their information purpose. Similarly, 9(47.37%) respondents usually, 6(31.58%) always and 4(21.05%) sometimes use search engine.

#### 4B.2: Most Use Search Engine

Search engine	Frequency	Percentage	Valid percentage	Cumulative percentage
Google	13	68.42	68.42	68.42
Mozilla Firefox	6	31.58	31.58	100.00
Alta Vista	0	0	0	
Other	0	0	0	
Total	19	100.0	100.0	

*Table 8: Most Use Search Engine by Users*

The above table shows that maximum number of respondents thirteen 13(68.42%) were use google and 6(31.58%) use Mozilla Firefox search engine for their information purpose.

### 4B.3: Academic Success in Digital Library Environment

Academic success	Frequency	Percentage	Valid percentage	Cumulative percentage
Yes	18	94.74	94.74	94.74
No	1	5.26	5.26	100.00
Total	19	100.0	100.0	

*Table 9: Academic Success in Digital Library Environment*

Of the total respondents, eighteen 18(94.74%) agree that digital library environment helps them to get academic success whereas 1(5.26%) disagree. Thus, most of all respondents were in favour of digital library environment.

## CHAPTER 5

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Summary of the Findings

The purpose of this study was to find out student users uses of digital library services offered by Tribhuvan University Central Library (TUCL). For this purpose close-ended questionnaire were distributed to the digital library members of IT section of TUCL. A thirty six sets of questionnaire were distributed to the members of digital library, out of which nineteen sets of questionnaire was completely responded by respondents. The main goal of this study was to find out usefulness of electronic resources in the academic activities of student users. For this questionnaire were prepared on the basis of following research questions:

1. Do student users view their library as an electronic resourceful library or not?
2. How frequently does the students search for information in electronic resources?
3. Do the students feel that electronic resources could get them academic success?
4. What are the different searching tools they use while looking for information?

Findings of the research study are presented with the answer of the research questions in the following ways:

#### **Research Question 1: Electronic Resourceful Library**

By reviewing the electronic resourceful library, this research study found that users of digital library frequently visit library website (52.63%) sometimes followed by (31.58%) usually. Only (10.53%) users always visit library website. The (63.16%) users uses electronic resources in library sometimes followed by (21.05%) usually and (15.79%) always use electronic resources. The digital library users responded that

digital library provide sufficient information sometimes (47.37%) whereas (21.05%) responded that digital library rarely provide sufficient information. Similarly, the members of digital library responded that they get up-to-date information sometimes(52.63%) followed by rarely (26.32%) and usually (21.05%). Electronic resources provided by digital library according to the area of interest (47.37%) responded that sometimes they get needed materials according to their needs followed by usually (26.32%) and (5.26%) response that they never get needed materials in digital library. The users download information from digital library in every visit (36.84%) usually download information followed by rarely (31.58%), sometimes (26.32%) and always (5.26%) respectively. The (42.11%) users use search engine for information purpose sometimes and (36.84%) users use search engine for information purpose usually whereas (21.05%) always use search engine for information purpose. Thus, most of the users view their library as an electronic resourceful library.

### **Research Question 2: Searching Information**

The users search information in electronic resources sometimes (63.16%) followed by usually (21.05%). The users who always search information in electronic resources are (15.79%).

### **Research Question 3: Academic Success through Electronic Resources**

The users of digital library (94.74%) agree that the electronic resources provided by digital library helps them to get academic success whereas (5.26%) disagree.

### **Research Question 4: Electronic Searching Tools**

Among the various electronic searching tools available, the users visit library website sometimes (52.63%) followed by usually (31.58%) and rarely (5.26%). The users visit library website always (10.53%). The most used search engine by users are google

(68.42%) and Mozilla Firefox (31.58%). The users use search engine usually (47.37%) followed by always (31.58%) and sometimes (21.05%).

## **5.2 Conclusion**

From the above findings, a conclusion can be drawn. Web-based digital resources are now becoming more and more prevalent and encompass more than “surfing the net”. Student users often use the services provided by the digital library for their academic work and they also use different searching tools for searching information like Google and MozillaFirefox. Users view the services offered by digital library in a positive way, but there is a lack of knowledge on how to use them and users are often unaware of all the services that are available to them.

## **5.3 Recommendations**

Based on the above findings and conclusion the following recommendations has been given:

1. The digital library should provide adequate internet facilities.
2. The library staff should guide users about the services offered by digital library.
3. The student user visit digital library for information purpose. So, the digital library should provide adequate of facilities of electronic resources.
4. The digital library should provide sufficient collection of national as well as international e-resources.
5. The digital library should collect research report, scholarly journals and related materials of the latest date to satisfy the needs of the users.
6. The digital library should provide up-to- date information to fulfill the information needs of the users according to their area of interest.



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## **APPENDIX**

### **QUESTIONNAIRE**

The purpose of this questionnaire is to find out student user uses of digital library services offered by Tribhuvan University Central Library (TUCL). The information given by you will be kept confidential and used only for the purpose of this study.

#### **Instruction**

Please try to respond to all items.

For each question only one response is expected. Please Tick mark [ ✓ ]

#### **PART 1 : General Characteristics**

Full Name :

1. Your current occupation

a) Undergraduate Student [ ]

b) Master's Student [ ]

c) Doctoral Student [ ]

d) Other [ ]

2. What is your age group?

a) Below 30 [ ]

b) 31 – 40 [ ]

c) 41 – 50 [ ]

d) Above 50 [ ]

3. Gender

a) Male [ ]                      b) Female [ ]

4. For how long have you used computer?

a) 0-1 year [ ]

b) 2-3 years [ ]

c) 4-5 years [ ]

d) Above 5 years [ ]

5. How often do you use the Internet?

a) Every day [ ]

b) Once in a week [ ]

c) Few days in a week [ ]

d) Once in a month [ ]

e) Rarely [ ]

**PART B**

[1=Never; 2=Rarely; 3=Sometimes; 4=Usually; 5=Always]

6. How frequently do you visit library website?

1 : 2 : 3 : 4 : 5

7. How frequently do you use electronic resources in your library?

1 : 2 : 3 : 4 : 5

8. Does digital library provide sufficient information?

1 : 2 : 3 : 4 : 5

9. Does digital library provide up-to-date information?

1 : 2 : 3 : 4 : 5

10. Does digital library able to meet your area of interest?

1 : 2 : 3 : 4 : 5

11. Does digital library able to meet the requirements of all users it serves?

1 : 2 : 3 : 4 : 5

12. Do you download information from digital library in every visit?

1 : 2 : 3 : 4 : 5

13. Do you use search engine for information purpose?

1 : 2 : 3 : 4 : 5



14. Which search engine do you use most?

a) Google

b) Mozilla Firefox

c) Alta Vista

d) Others

**[1=Never; 2=Rarely; 3=Sometimes; 4=Usually; 5=Always]**

15. How often do you use search engine?

1 : 2 : 3 : 4 : 5

16. Do you think that digital library environment helps you to get academic success?

Yes

No

***THANK YOU***