EMPLOYMENT OPPORTUNITIES FOR LIBRARY AND INFORMATION SCIENCE PROFESSIONALS IN INDIA: AN ANALYTICAL STUDY

Thesis

Submitted for the Award of the Degree of

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in

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Under the Supervision of

PROF. M. P. SINGH

Submitted by

OM PRAKASH

Research Scholar

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

SCHOOL FOR INFORMATION SCIENCE AND TECHNOLOGY

BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY

(A CENTRAL UNIVERSITY)

VIDYA VIHAR, RAEBARELI ROAD, LUCKNOW-226 025

UTTAR PRADESH, INDIA

Enrollment No. 1403/16 **Year 2020**

DECLARATION

I, hereby declare that the thesis titled **EMPLOYMENT OPPORTUNITIES FOR LIBRARY AND INFORMATION SCIENCE PROFESSIONALS IN INDIA: AN ANALYTICAL STUDY** has carried out by me under the supervision of **Prof. M. P. Singh,** DLIS, BBAU for the award of the degree of Doctor of Philosophy (Ph.D.) in Library and Information Science is an outcome of my efforts and with best of my knowledge, it is an original work. I, declare that the content of this thesis did not form a basis for the award of any previous degree or diploma to this or any other university. Further, I undertake that "the thesis is essentially free from all kinds of plagiarism" and the sources used in this study have been duly acknowledged.

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Date: 17/01/2020

Place: **Lucknow**

OM PRAKASH
Ph.D. Scholar
Enrolment No. 1403/16
Department of Library and Information Science
Babasaheb Bhimrao Ambedkar University
(A Central University) Lucknow-226025.

CERTIFICATE

This is to certify that the thesis titled **"EMPLOYMENT OPPORTUNITIES FOR LIBRARY AND INFORMATION SCIENCE PROFESSIONALS IN INDIA: AN ANALYTICAL STUDY"** submitted by **MR. OM PRAKASH** is an original research work and has not been previously submitted in part or full for the award of any other degree or diploma to this or any other university.

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Date: 17/01/2020

Supervisor

17/1/2020

Head of the Department

HEAD
Department of Library & Infomation Science
बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
Babasaheb Bhimrao Ambedkar University
विद्या विहार, रायबरेली रोड
Vidya Vihar, Rae-bareli Road
लखनऊ-226 025 (उ०प्र०)
Lucknow-226025 (U.P.)

COURSEWORK CERTIFICATE

बाबासाहेब भीमराव अम्बेडकर विश्वविद्यालय
(केन्द्रीय विश्वविद्यालय)
विद्या विहार, रायबरेली रोड, लखनऊ–226025

BABASAHEB BHIMRAO AMBEDKAR UNIVERSITY
(A Central University)
Vidya Vihar, Raebareli Road, Lucknow-226025

Letter No.-228/COE/BBAU/2017 Dated: 26/10/17

Ph.D. Course Work Certificate

This is to certify that **Om Prakash**, Enrollment No. 1403/16 Ph.D. Research Scholar, Department of Library and Information Science of the University has successfully completed his Ph.D. Course work in the examination held during May, 2017.

Controller of Examinations

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Date: - **(OM PRAKASH)**

PREFACE

The present study *'Employment Opportunities for the Library and Information Science Professionals in India: An Analytical Study'* aims to examine the job opportunities for Library and Information Science professionals in India. It also tries to identify the basic issues related to the findings of jobs in the LIS market. The study traces the growth patterns of the LIS jobs, identify different levels such as education, management, and pay scales, etc. The study also attempts to find out the hard and soft skills, traditional and non-traditional functions, designations titles, teaching, and the non-teaching ratio of jobs in India. The present study covered the LIS job opportunities in public and private sectors and different types of libraries at entry and mid-career level positions.

The foundation of this study is that many students are adopting the Library and Information Science profession as a career without knowing much about the scope of job opportunities. Many students, after completion of their degrees, are not certain about their career choices and unable to find job opportunities. The majority of the students usually unable to decide whether undergraduate, postgraduate, or both degrees are sufficient to get jobs in the library profession. They were also messy about few questions like what specialized courses of study, skills, and competencies help to find a job in the LIS field. They also need to know, what the hard skills set are in the demand by the employers and what sort of soft skills needed to get a job quickly in the LIS market. Librarianship is a multidisciplinary subject of studies focused on libraries and information management and retrieval. LIS professionals have vast job opportunities in almost all sectors and areas where record-keeping and information management related functions perform.

The history of Librarianship in India is wonderful and positive that achieved a reputed status at par with the academic. In India, the UGC played a significant role in the growth and development of the LIS profession which is more or less associated with the growth and development of libraries. The UGC has constituted several important committees and commissions that insured the growth of libraries and library education in the right direction. The opportunities for libraries professionals are expanding and new occupational areas are being opened in the field. Every higher level of education in librarianship leads to the next higher level of the profession.

There are so many LIS schools are opened for imparting LIS education in India, however, this mushrooming of the LIS institution may lead to denigrate and compromise with the quality of LIS education. The one professional also needs to get an education from such institutions. Another thing that may be worried about is the price of higher education day by day it is getting higher especially in the private sector it needs to be regulated. The ICT has brought dynamic changes in the functioning, roles, and responsibilities of the LIS professionals.

The high-tech changes also influenced on the libraries and the LIS education. The technology has resulted in the expansion of the librarianship. The UGC has set up the tone of library professionals. The scope of the librarianship is not limited to the academic sector, but it is found in every field, even, in the hospitals, media, and other special industries also required libraries. The demand for traditional LIS positions shows that in the age of Google, the need for librarians is not decreased rather it enhanced from its present positions. The LIS professionals also achieved the soft and skills along with the hardcore LIS skills to achieve the LIS goals. They also need to be so competent to serve the library users to get a job in the responsible level of management and the pay scales the desired in the profession.

The present study has been organized into the following six chapters. A brief description of the chapters is given as under:

Chapter 1: Introduction covers the basic information of the study dealing with the concepts of job advertisements and job opportunities, statements of problems, objectives, scope, hypotheses, etc. The introduction provides an entry to the study and helps to build an overview of the problems undertaken.

Chapter 2: Review of Related Literature describes the detailed review of the works which have already done in the area of this study. The core studies specifically related to job advertisements studies. During the review process, it was observed that only two studies (research articles) have been done in India with a limited scope and period.

Chapter 3: Research Design and Methodology covers the methodologies and tools adapted to solve the problem of the studies and complete this research work. It provides an outline of the administration of the data collection procedure, data

cleaning, coding, analysis, and its interpretations. The chapter also provides a detailed account of the advertisements limited from the data sources to process for the studies. It also explains the statistical tools, procedure, and tests adopted for testing of hypotheses of the study.

Chapter 4: Employment Opportunities in Librarianship provides a theoretical understanding of the problem covered in this study. It reveals the status of LIS professionals in India, librarianship as a career, LIS sources for job ads, and hard and soft skills required in the LIS job market. The chapter highlighted the level of LIS education, level of management, pay scales in the present day scenario according to the 7th pay commission. The chapter has given an overview of the major LIS schools imparting education.

Chapter 5: Data Analysis and Interpretation: deals with the analysis and interpretation of the data collected from the content analysis of the job advertisements published under the employment information sources covered under the study. The chapter also discussed the major issues concerned with LIS job opportunities.

Chapter 6: Findings, Conclusion, and Suggestions: gives an overall summary of the study in the form of findings and suggestions derived from the data analysis and interpretation. The chapter provides foresight on the major recommendations of the study. Finally, the scope of future research area on the basic tools and research methodology adopted in this study.

The study was undertaken to keep in mind various problems related to job opportunities in the changing scenario. A paradigm during recent years has been shifted from tradition to neo-traditional skills in LIS jobs. Nowadays, employers demanding multitasking LIS professionals who supposed to do traditional as well as neo-traditional jobs. It is expected that the study can be useful for the LIS students, LIS job seekers because they may get an overview and factual information about LIS job opportunities. Other hands, the study can also be useful for the LIS schools and policymakers to revise their syllabus and policies according to the new skills, job requirements, and demands of the employers.

Contents

LIST OF ABBREVIATIONS

TERMS	DESCRIPTION
6th CPC	The 6th Central Pay Commission
7th CPC	The 7th Central Pay Commission
AACR2	Anglo-American Cataloguing Rules second edition
ACRL	Association of College and Research Libraries, USA
AGP	Academic Grade Pay
AICTE	All India Council for Technical Education
AIIMS	All India Institute of Medical Sciences
ALA	American Library Association
ARL	Association of Research Libraries
AutoCAT	Australia Catalogue service
B. Lib. I. Sc.	Bachelor of Library and Information Science
B. Tech	Bachelor of Technology
BLISc.	Bachelor of Library and Information Science
Blog	Weblog
BSc	Bachelor of Science
CAS	Current Awareness Service
CDs	Compact Disc
CLIR	Council on Library and Information Science Resources
CRLN	College and Research Libraries News
CRLN	College and Research Library News
DBMS	Database Management System
DC	Dublin Core
DELNET	Developing Library Network
DLISc	Diploma in Library and Information Science
DOI	Digital Object Identifiers
DPL	Delhi Public Library
DV	Dependent Variable
DVDs	Digital Versatile Disc
E-Books	Electronic Books

E-Journals	Electronic Journals
EN	Employment News
E-Reference	Electronic Reference
et al.	and Others
etc.	Etcetera
GLAM	Gallery, Library, Archive, and Museum
HTML	Hyper Text Transfer Protocol
i.e.	That is
IBM	International Business Machines Corporation, USA
ICT	Information and Communication Technology
IIM	Indian Institute of Management
IIT	Indian Institute of Technology
ILA	Indian Library Association
ILL	Inter Library Loan
INFLIBNET	Information and Library Network
IRC	Information Resource Centre
ISBN	International Standard Book Number
ISO	International Standard Organization
IT	Information Technology
IV	Independent Variable
JRF	Junior Research Fellow
Lib	Libraries
LIS	Library and Information Science
LISA	Library and Information Science Abstract
LS	Library Services
M. Lib. I. Sc.	Master of Library and Information Science
M. Tech	Master of Technology
M.Phil.	Master of Philosophy
MARC	machine-readable cataloguing
MCA	Master of Computer Application
MHRD	Ministry of Human Resource Development
Mid-Career	Middle of Career
MLIS	Master of Library and Information Science

MLISc.	Master of Library & Information Science
MS-Office	Micro-Soft Office
MSU	Maharaja Sayajirao University of Baroda
MTS	Multi-Tasking Staff
NGO	Non-Governmental Organization
NISCAIR	National Institute of Scientific Communication and Information Resources
NIT	National Institute of Technology
NZ-Libs	New Zealand-Libraries
NZ-Libs-Jobs	New Zealand-Libraries--Jobs list servers
PG	Post Graduate
PGDCA	Post Graduate Diploma in Computer Applications
PGDLAN	Post Graduate Diploma in Library Automation & Networking
Ph.D.	Doctor of Philosophy
Rs.	Rupees
SDI	Selective Dissemination of Information
SLIO	Senior Library and Information Officer
SPSS	Statistical Package for Social Sciences
SRF	Senior Research Fellow
STATA	Software Package for Social Science
UAE	United Arab Emirates
UGC	University Grant Commission
UK	United Kingdom
UN	University News
URL	Universal Resource Locator
US	United States
USA	United States of America
Wiki	Wikipedia
XML	Extensible Markup Language

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ALA	American Library Association
ARL	Association of Research Libraries
AutoCAT	Australia Catalogue service
B. Lib. I. Sc.	Bachelor of Library and Information Science
B. Tech	Bachelor of Technology
BLISc.	Bachelor of Library and Information Science
Blog	Weblog
BSc	Bachelor of Science
CAS	Current Awareness Service
CDs	Compact Disc
CLIR	Council on Library and Information Science Resources
CRLN	College and Research Libraries News
CRLN	College and Research Library News
DBMS	Database Management System
DC	Dublin Core
DELNET	Developing Library Network
DLISc	Diploma in Library and Information Science
DOI	Digital Object Identifiers
DPL	Delhi Public Library
DV	Dependent Variable
DVDs	Digital Versatile Disc
E-Books	Electronic Books

E-Journals	Electronic Journals
EN	Employment News
E-Reference	Electronic Reference
et al.	and Others
etc.	Etcetera
GLAM	Gallery, Library, Archive, and Museum
HTML	Hyper Text Transfer Protocol
i.e.	That is
IBM	International Business Machines Corporation, USA
ICT	Information and Communication Technology
IIM	Indian Institute of Management
IIT	Indian Institute of Technology
ILA	Indian Library Association
ILL	Inter Library Loan
INFLIBNET	Information and Library Network
IRC	Information Resource Centre
ISBN	International Standard Book Number
ISO	International Standard Organization
IT	Information Technology
IV	Independent Variable
JRF	Junior Research Fellow
Lib	Libraries
LIS	Library and Information Science
LISA	Library and Information Science Abstract
LS	Library Services
M. Lib. I. Sc.	Master of Library and Information Science
M. Tech	Master of Technology
M.Phil.	Master of Philosophy
MARC	machine-readable cataloguing
MCA	Master of Computer Application
MHRD	Ministry of Human Resource Development
Mid-Career	Middle of Career
MLIS	Master of Library and Information Science

MLISc.	Master of Library & Information Science
MS-Office	Micro-Soft Office
MSU	Maharaja Sayajirao University of Baroda
MTS	Multi-Tasking Staff
NGO	Non-Governmental Organization
NISCAIR	National Institute of Scientific Communication and Information Resources
NIT	National Institute of Technology
NZ-Libs	New Zealand-Libraries
NZ-Libs-Jobs	New Zealand-Libraries--Jobs list servers
PG	Post Graduate
PGDCA	Post Graduate Diploma in Computer Applications
PGDLAN	Post Graduate Diploma in Library Automation & Networking
Ph.D.	Doctor of Philosophy
Rs.	Rupees
SDI	Selective Dissemination of Information
SLIO	Senior Library and Information Officer
SPSS	Statistical Package for Social Sciences
SRF	Senior Research Fellow
STATA	Software Package for Social Science
UAE	United Arab Emirates
UGC	University Grant Commission
UK	United Kingdom
UN	University News
URL	Universal Resource Locator
US	United States
USA	United States of America
Wiki	Wikipedia
XML	Extensible Markup Language

Chapter 1
Introduction

Chapter 1

INTRODUCTION

1.1 BACKGROUND

Since the late 19th Century, the Library and Information Science (LIS) profession have established a solid professional identity and developed important values to guide their actions and goals. However, the growth in the profession occurred slowly and incrementally and consequently, the role of librarian remained relatively constant. Historically, one of the most stable elements was the association of the librarian with the physical library. Even now, one does not usually think of librarians without also thinking of the libraries. But, the identity of the library professionals inseparably not linked to this physical entity (Albitz, 2002). The LIS profession has deep roots in the society which is worldwide recognized.

In India, the Library and Information Science (LIS) profession are more than a century old which is developed as a full-fledged profession that achieved academic status. The libraries are to continue to evolve and the new benchmark is being set up in librarianship. Libraries have broadened the traditional 'model' which focuses on the management of physical resources and activities (Singh & Moirangthem, 2011).

The Librarianship now during a revolutionary change, when the stable conditions of the past have been replaced by a dynamic environment in which the contents and functions of libraries and the librarian's role are being revised and modified by technological changes. In the digital era, especially, the emergence of search engines like Google, where everyone has digital access to information at their doorstep, the questions are being asked, whether the libraries will disappear? Will there be librarians without libraries? Will the term 'Librarian' disappear? Or it is transforming into Information Scientists, Information Consultants, Information Specialists, Information, or knowledge managers as the demand of such professionals with LIS degrees have emerged in librarianship.

Despite some pain, there is no evidence that libraries or librarians will be disappeared in the future. Chowdhary and Chowdhary (2001) pointed out that the deployment of digital technology has many consequences for the organizational structure of a library- staff skills, types of resources, nature of services, and existing practice have been changed. Gold and Grotti, (2013) also emphasized that the incorporation of digital technology required restructuring staff roles and responsibilities to support changing needs. However, Grab and Sturges (2005) states that staff allocation and hiring of skilled personnel is one of the biggest challenges before the libraries in the changing role of library professionals.

Traditionally, the LIS professionals are reference librarians, catalogers, and serial librarians but now they are transforming as system analysist, metadata librarian, project coordinators, curators, digital librarian, repository manager, informatrician, web-manager, etc. (Park, et al, 2009; Kim, J. et al., 2013; Singh, 2003; Gold & Grotti, 2013). The individuals, those considering LIS as a career need to be adaptable, persistent, constant in a time of uncertainty and they also need to keep acquiring new skills and knowledge throughout their career. The libraries continue hiring staff for the management of services however, it is not clear up to what extent the staff requires specialized skills. The job aspirants expected that special knowledge, in addition to hard skills gives them better job opportunities. Therefore, it is important to examine the changing demand for employment.

This chapter focus on the theme of the study that deals with employment opportunities for LIS professionals about the Indian environment. It provides conceptual coupling that combines the objectives, hypotheses, key definitions of the terms used and the organization of the research work carried out. But before going one by one, let's understand the concept of the study.

1.2 THE CONCEPT

After a discussion on the Library and Information Science (LIS) profession, it is essential to understand what constitutes a profession in general? What are the features of a professional? Are professionals are different from other individuals? Do the professionals have special responsibilities towards society? Is there any difference between *profession, professional* and *professionalism,* because many times the terms

are roughly used to means many things at a time. Let's try to find the answers to the above questions.

1.2.1 **Profession:** The Oxford Online Dictionary (Profession, 2019, accessed on September, 12) defined profession as a type of job that requires special training, skill, qualification or a high level of education. For example, the medical, legal or teaching profession. The profession is closely related to the word 'work' that somebody does in exchange for payment. Over a while, the 'work' turned as a profession. The synonyms of the profession may include as:

a. *Work:* The job that somebody does to earn money.
b. *Career:* The job or service that has a particular area of work.
c. *Occupation:* A profession consists of several subfields of specialization. For example, one may the occupation as 'Government Service' but he/she may be a doctor, lawyer, or a teacher in government service.
d. *Employment:* The situation in which an individual works.
e. *Trade:* a job that involves working with hand after formal or informal training or skill.

1.2.2 **Professional:** The Oxford Online Dictionary (Professional, 2019, accessed September, 12) defined professional as someone connected with a job that needs a high level of qualification and skills for which one gets money rather than as a hobby. For example, a sportsperson gets remuneration for the participation in sports events for which they acquired a high level of academic training or qualifications unless they remain amateur and play just as a hobby. A professional perform his/her duties on a prescribed set of standards and practice. Hence, the professional get money for performing high quality and specialized jobs in a particular field.

1.2.3 **Professionalism:** The Definition of *professionalism* from the Oxford Advanced Learner's Dictionary (Professionalism, 2019, accessed 12 September) defined in terms of the high standard that expected from a trained professional in performing their jobs with commitment, great skills and the ability for a particular job. For example, a doctor is expected to showcase his/her professionalism in the critical situation of the patients.

Now the question raised whether the Library and Information Science is a profession? As earlier mentioned that the LIS profession has achieved the status at par with the teachers yet it is in the midst of its development process. Certain features constitute LIS as a full-fledged profession:

a. The LIS profession is service-oriented and noble in its orientation in place of profit-making.
b. The commitment to serve the interest of the customer, in particular, and the welfare of society as a whole.
c. Expertise in terms of knowledge and skills contains a body of theory and principles of growth and self-regulation in work.
d. LIS requires a specialized skill set, practices, and performances unique to the profession.
e. A professional community responsible for the oversight and monitoring of quality in both practice and professional education (Gardener and Shulman, 2005. P.14)

LIS professionals serve the public good by bringing people in contact with knowledge. In doing so, LIS professionals also support fundamental democratic values by ensuring that all people have equal access to that knowledge. The future role of the librarian is unknown because the ICT environment in which LIS professionals operate is uncertain. The expert perceived that the traditional roles would not be replaced by a virtual one, however, these may undergo significant changes particularly to access information remotely. Lankes, (2011) discussed the emerging role of the librarians as 'participatory' and argued for a re-conception of LIS profession a 'New Librarianship' that promotes conversation to produce and infuse knowledge (p. 2)

Indian higher education system is the 3rd largest in the world followed by the USA and China. India is also composed to be the youngest country in the world by 2020 (Sardar, 2019, p. 17). The young human resource which constitutes nearly 60% of the population is the most significant factor. Empowering young minds is gainful for a nation of young people, though without employment they can be a threat to the economy and society of a nation. In case one nation fails to provide employment and necessary skillsets for jobs then it may turn out to be the demographic disaster.

Before going into details, it also needs to understand the concept of employment, employability, and unemployment and un-employability:

a. **Employment:** as mentioned earlier, it is a situation in which an individual works.
b. **Employability:** refers to an individual's capabilities of gaining an initial job, maintaining, and obtaining a new job if needed to change (Sardar, 2019, p. 19). It is a set of skills, achievement, understanding and personal attributes that closely ensure to get employment.
c. **Unemployment:** is a state where people have educational eligibility, capability, and suitability but the scarcity of employment opportunities.
d. **Un-employability:** arises when individuals have educational eligibility but lack of capabilities and suitability to execute the job despite the availability of employment.

In the context of India, the employment opportunities are very crucial, because of the large population and shortage of job opportunities. The librarianship is in the midst of its development where it has to reach milestones to become on the ways. The scope of Librarianship is opened doors in every sector of society. The librarianship has achieved adequate recognition, yet the role of librarians has to revive in the changing scenario.

This study is based on the content analysis of LIS job advertisements published job opening in India. There are several studies have been conducted based on the job advertisements in other countries, but as far as India is concerned only a few studies have been found. The concept of job advertisements is also needed to be explained.

1.3 STATEMENT OF THE PROBLEM

The rationale of this study is based on the fact that more than 10000 students (Singh & Moirangthem, 2011) pass out every year from the LIS schools in India. This can be considered as a valuable and important human resource for a developing country like India. After completion of the degrees, the next steps involve to find look for their career options in librarianship and finding a suitable job. Students are usually not able to decide whether bachelor, master or both degrees are sufficient to get a job in the

LIS field. The students also look for higher qualifications like M.Phil. Ph.D. or other specialized courses like PGDLAN, PGDCA, foreign language, managing manuscripts, etc. for getting their jobs.

The job advertisements have served as an important source to diagnose real-time demand for jobs and competency requirements along with providing a tool to structure curricula to meet the current needs of the job market. In Library and Information Science (LIS), job advertisements have also proven to be an appealing and useful source for research.

A paradigm has shifted from traditional to non-traditional skills in LIS jobs in recent years. Nowadays, employers demanding multitasking LIS professionals who supposed to do traditional as well as neo-traditional jobs. The problems are undertaken in this study '*Employment opportunities for library and information science professionals in India*' in which a content analysis of LIS job advertisement has been carried out.

The study was undertaken to keep in mind various problems associated with LIS job opportunities such as what are the new functional areas? What skills and qualifications preferred by the job providers? How is the growth- pattern for LIS jobs in India? What are the regions, what types of libraries and which sector generate most LIS jobs? Are knowledge and application of ICT and computer is important for the LIS job aspirants? Whether advanced and interpersonal skills are essential? At what level of management, LIS job aspirants have better opportunities whether at entry-level or in the middle career? Finally, what is pay scales and a range of salaries are offered by the employers despite a prescribed set of pay scales? Is the experience play a significant role in getting a job in librarianship?

However, it is observed during the preliminary survey of the literature that so far, no such study has been conducted in the LIS departments in India therefore, this study can be useful for the LIS students. The LIS job seekers may get an overview of LIS job opportunities and factual information about the growth in changing requirements of employment. Another hand, the study can also be useful for the LIS schools and policymakers to revise their syllabus and policies according to the new skills, job requirements, and changing demands of the employers.

1.4 SIGNIFICANCE OF THE STUDY

The job advertisements have been viewed as a valuable guide for both employees and employers those provide opportunities for the job aspirants. It gives employer guidelines to recruit, promote, train, and supervise employees with maximum effectiveness. The ads help employees to understand what the job requires, and those who want to be competitive in the job market can tailor their preparation to meet the employer's expectations. Kim, and Agnakoon (2016) described that job advertisements are announcements about specific job openings. The job advertisements are also termed as '*job ads,*' '*job announcements*,' '*job postings*,' '*position announcements*,' or '*position descriptions*,' these are written statements that describe the responsibilities and duties of an available position; the experience, education, skills, knowledge, and/or other attributes required for the job; and the hiring organization, salary range, and other benefits. The content of a job ad reflects the employer's expectations of prospective employees. As part of a wider recruitment process designed to attract suitably qualified candidates for a job, job ads have been the most commonly used means of recruiting personnel in a job market.

In India, every year more than 10000 LIS students pass out from LIS schools, (Singh & Moirangthem, 2011) therefore, this study intended to find out the various factors those needs to be considered by the LIS job aspirants, the employers look from the prospect LIS job seekers and the LIS schools need to incorporate in their LIS curriculum. The present study is an attempt to find out the important factors like skills, qualifications, pay scales, experience and other important traits advertised in the LIS job advertisements in India.

1.5 REVIEW OF LITERATURE

Review of Literature is a comprehensive survey of the works which aims to review the critical points of current knowledge published in a field of study, or related to a particular topic of research, usually in the form of a bibliographic essay or annotated list of references in which attention is drawn to the most significant works. It involves thorough study and analysis of the available literature on the problem under study. For this study, a comprehensive review of the related literature has been carried out which is given in *chapter 2.*

1.6 OBJECTIVES OF THE STUDY

The study has the following objectives:

1. To trace the Growth-Pattern of LIS job opportunities in India on the basis of traditional and non-traditional positions, functional areas, and different regions in India.
2. To examine the LIS job opportunities on the basis of level of education, level of management, and level of pay scales.
3. To find out the gap of LIS job positions among different types of libraries in public and private sectors in India.
4. To explore job opportunities for the teaching and non-teaching LIS profession in India.
5. To find out the most desirable hard and soft skills in changing scenario of LIS job openings.

1.7 HYPOTHESES OF THE STUDY

A hypothesis is a shrewd guess intended to explain certain facts or observations on the topic of study. For the present study, the following hypotheses are proposed to be tested.

1. There is no significant relation between the LIS job opportunities in private sector and the UGC eligibility criteria for LIS professionals in India.
2. There is no significance relation between emergence of positions in Public Libraries in India and LIS job opportunities in current scenario.
3. There is a significant relation between Lower level Management positions and LIS job opportunities in India.
4. There is no significant relation between LIS job opportunities and working experience of LIS professionals in India.
5. There is a significance relation between entry-level job positions and job opportunities for LIS professionals in India.

1.8 SCOPE OF THE STUDY

The study covered job advertisements for the Library and Information Science professionals that appeared in the three major data sources of job advertisements in India from January 2012 to December 2017. The study includes job advertisements from all types of libraries vis-à-vis academic, public, and special libraries in both private and public sectors. The public sector was further separated into central and state governments for finding opportunities for LIS professionals.

The study is comprehensive in terms of its nature because all the Indian states and regions were considered for LIS job opportunities. The scope of this study also covered all types of positions that appeared in the data sources either for teaching or non-teaching irrespective of its subdivisions. The data related to the level of management and qualifications for entry and mid-career LIS positions were also included in this study. The study also provides an overview of the traditional and non-traditional LIS positions in all types of libraries. The study also throws light on the advanced skills and job responsibilities appeared in the LIS job advertisements in India.

1.9 DATA SOURCES USED FOR THE STUDY

The job opportunities for the LIS professional are published in numbers of offline as well as online sources in the form of job advertisements. The study covered analysis of job advertisements published in the sources mentioned below for a period of six years i.e. from January 2012 to December 2017. For the study, the most authentic and well-established sources have been used for the collection of the data.

Table 1.1: Information Sources for Data Collection

S. No.	Source Covered	Web Address
1	Employment News	www.employmentnews.gov.in
2	University News	www.aiu.ac.in/university/universitynews.asp
3	Lis-links	www.lislinks.com

The further details of data sources used for data collection are given in *chapter 3*.

1.10 Limitation of the Study

The study covered an analysis of job advertisements published in the above-mentioned sources for a period of six years i.e. from January 2012 to December 2017 in Hindi and English only. The advertisements appeared for short term jobs like library trainees, internship, apprenticeship, third party job offers, short terms data entry jobs, research assistant or associate, or project fellows and such other LIS jobs were excluded. The study proposes to include job announcements for the permanent and regular positions in government and private sectors. The study has also excluded the job advertisements which are repeated, overlapped, or incomplete.

1.11 RESEARCH DESIGN AND METHODOLOGY

The analysis of job advertisements has been regarded as an established approach to illustrate emerging job market trends, identify the evolution of the library workforce over time, and further predict possible future trends (Rachel, 12010, p. 67). The study intended to examine the job advertisements for all types of libraries, information centers, research institutes, and other organizations in the public and private sectors.

This study is based on a job retrospective (2012–2017) online as well as an offline content analysis of the job advertisements for LIS professionals appeared in three major sources of job advertisements. The detailed account of the research design, methodologies, and procedure for data collection, and statistical tools & tests, etc. used for the study are given in *Chapter 3.*

1.12 OPERATIONAL DEFINITIONS OF KEY TERMS USED IN STUDY

i. **Advertisement:** a notice or announcement in a public medium promoting a product, service, or event or publicizing a job vacancy. In this study, the term is used for the Job notice asking a particular vacancy, especially for LIS qualification.

ii. **Computer Skills**: The hardware and software skills to physically operate and efficiently use of computer programs and applications. A certain level of computer education i.e. certificate and/or degree is required to submit as proof to apply for a job.

iii. **Content Analysis:** a technique of analyzing text using systematic and replicable methods using a schema to assign codes to data

iv. **Employability Skills:** eligibility criteria by which one can apply for a job.

v. **Employability:** refers to an individual's capabilities of gaining an initial job, maintaining, and obtaining a new job if needed to change. It is a set of skills, achievement, understanding and personal attributes that closely ensure to get employment.

vi. **Employment:** is a situation in which an individual works.

vii. **Entry Level Positions:** lowest grade in a job position hierarchy; suitable for recent graduates and those with No or little relevant experience e.g. Library Assistant, Assistant Librarian, etc.

viii. **Functional Area** is a section or department which carries out a particular job or function to achieve organizational goals, for example, finance, administration, or customer service. In this study, the functional areas are categorized as traditional and non-traditional functions e.g. cataloging, classifications, reference, etc.

ix. **Hard Skills:** a skill, knowledge, and ability to perform a specific job for example to the installation of automation software, computer knowledge is the hard skill. It also referred to as a cognitive or professional competency generally measurable via tests or able to be validated by qualifications.

x. **Hiring Criteria:** list in a job advertisement of required or preferred skills, qualifications, experience, and other personal qualities; designed to increase recruitment efficiency by attracting suitable applicants.

xi. **ICT Applications:** Information and Communication Technologies refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT) but focuses primarily on communication technologies. For this study, it includes the application of the Internet, wireless networks, cell phones, and other communication mediums to perform the library services for the users.

xii. **Job advertisement:** a vacancy reflecting employer expected skills and competencies about prospective employees often listing key organizational values, job responsibilities, and hiring criteria. For this study, the term interchangeably used as 'Job opportunity' job announcement, job post, job ads, job opening.

xiii. **Level of Management:** supervisory job position including executive, middle and first-line management; job titles with "manager" in them were included in this analysis and any senior level of management such as director positions were excluded

xiv. **Library & Information Science:** a branch of knowledge in a specific field of the subject concerned with skills and qualifications fit for the librarians, libraries, and dealing with the information and knowledge management. The study synonymously used the term with the librarianship, information science, library & information science.

xv. **Mid-level positions:** a job position associated with a certain level of skills, qualifications, and experience; for this report considered to be any librarian position above library assistant but under library manager in the job position hierarchy.

xvi. **Pay Scales:** The level of pay scales set up by the government of India/MHRD/UGC in the 6th Central Pay Commission (CPC) implemented from 1st January 2006.

xvii. **Professional:** someone connected with a job that needs a high level of qualification and skills to perform duties on a prescribed set of standard practice and specialized jobs in libraries. The librarians and associated professionals required LIS degree and qualifications.

xviii. **Qualification:** a particular level of education or an academic degree required to perform a specific job in given employment. The study covered almost all levels of LIS education i.e. Certificate to Diploma and Under Graduate to Ph.D.

xix. **Soft skills:** referred to as personality traits, non-cognitive and socio-emotional skills; includes all skills such as communication skills and other interpersonal skills not captured by measures of abstract reasoning.

1.13 ORGANIZATION OF THE STUDY

The present study organized into six chapters. A brief account of all chapters is given below:

Chapter 1: Introduction covered basic information of the study dealing with the concept of the study, job advertisements, and employment opportunities, statement of problems, objectives, hypotheses, the definition of key terms used in the study, scope, limitation, and organization of the study, etc. The chapter works as the key to the study that throws lights on the complete conceptual and physical structure.

Chapter 2: Review of Related Literature as name implies describes detailed review of related literature and the works which have already been done in the area of this study. The core studies specifically related to the job ads were identified. A critical analysis of the major concepts appeared in the job ads studies have been carried out which is presented in this chapter. A brief analysis of the methodological approach i.e. content analysis have also been covered in this chapter.

Chapter 3: Research Design and Methodology covers the methodologies and tools adapted to complete this research work. It provides an outline of administration of the data collection procedure, data coding, analysis, and its interpretations. It also explains the statistical tools for data analysis and test adopted for testing of hypotheses of the study.

Chapter 4: Employment Opportunities in Librarianship provides a theoretical understanding of the problem covered in this study. It revealed the status of LIS professionals in India. LIS sources for job ads, and current trends in LIS job market based on literature, empirical experience, and data collected through the content analysis.

Chapter 5: Data Analysis and Interpretation: deals with analysis and interpretation of the data collected from the content analysis of the job advertisements covered under the study.

Chapter 6: Findings, Conclusion, and Suggestions: gives an overall summary of the study in the form of findings and suggestions.

Finally, five appendices such as checklist, pay scales given in 6th and 7th Central Pay Commissions, Minimum Qualifications of the Library professionals as per UGC regulations for direct appointments -2018, the publications during the period of research work and the plagiarism check report, bibliography, and webliography, etc. have been provided.

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Chapter 2
Review of Related Literature

Chapter 2

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

The purpose of conducting research is to produce new knowledge that fundamentally depends on past knowledge. Fink, (2014) describes the literature review as a systematic, explicit, comprehensive, and reproducible method of identifying, evaluating, and interpreting the existing knowledge. A good research demands engagement with topical, methodological, and theoretical literature which helps to explore the topic, refine the idea, articulate rationale, provides a deeper understanding and develop an appropriate path for conducting the research. The related literature is found in a variety of offline as well as online primary and secondary information sources like books, journals, and grey literature. The literature review is a very specific piece of argumentative writing designed to inform the readers to establish creditability of research and argue for the need, relevancy of the research (O' Leary, 2014, p. 103). According to Fink, (2014) the literature reviews are used for the following reasons to:

1. Write a proposal for degrees and funding
2. Describe and explain current knowledge to guide professional practices
3. Identify the subject experts for interpreting existing knowledge
4. Identify effective methodologies to provide context for the research in progress
5. Identify the unpublished sources of information
6. Satisfy personal curiosity

The literature review discusses what is known about a particular problem (research topic), identifies investigating tools and techniques for solving that problem and highlights what remains remain unknown for further research. The literature review is a synthesis (not a summary) of prior research, it means to identify and tie together key works and themes. It is not an explanation of everything about the researcher know about a research area, but it is a narrower set of literature based on the research question.

The literature review provides a linkage between key themes based on the similarities and differences of views on a particular topic. Broadly, the literature review helps to know what has been done and what needs to be done. The research requires engagement with literature at every stage of the process. A formal or comprehensive literature review usually based on a critical analysis of findings and gaps in the past and contemporary debates in the literature. The presentation of the literature review can be categorized as follows:

1. **Chronological order**: The review is arranged for their publication years either in descending or ascending.
2. **Annotated bibliography**: provides a summary or statement of individual articles without linking them to each other**.**
3. **Conceptual framework**: the similar concepts, methods, and tools of the individual article links together. It brings similar works done by various authors under an umbrella.

The literature review is a time-consuming process for a researcher. The searching relevant literature, locate evidence from published and unpublished sources, getting online access, stick with ethics, keep unbiased and synchronization of different statements are the major problems a researcher usually faces. The researcher always confuses about the length and number of articles that require a health review. Wentz, (2014) states that the length of a review depends on the discipline traditions or university-specific rules that guide the format and length. Further, Wentz suggests that 5 to 10 references probably are not sufficient and 200+ may be too many for a proposal. Similarly, 1 to 2 pages of text for the literature review are not enough and 50+ pages may be too many. So, it is daunting to decide about its size and length because the amount of literature sometimes seems endless and sometimes researchers unable to find even a single article. The literature review consists of a systematic process based on the following five meta-steps as described by O' Leary (2014).

1. **Identifying keywords and references:** involves creating a bibliography of relevant topics, recent and well-known studies and articles
2. **Creating an annotated bibliography:** a summary that describes what was investigated, what was found, and how it is related to the current research.
3. **Organize and synthesize**: It requires a deeper understanding, thinking, and creativity of the researcher. It describes what story the literature tells,

means it discuss the main idea and concept of the articles and relates to the research question. The step consumed the maximum time and involve hard work.

4. **Write and rewrite:** The purpose of the literature review is to provide a structured and critical examination of the relevant literature, but it is always difficult to determine what is relevant. So it is a challenge before the reviewer to arrange the material into a coherent document. It is the stage of writing the draft into the piece or broad sections.

5. **Review and revise:** it is important to go through the write-up for proofreading so that it could make sense. Secondly, the feedback from the supervisor and expert to the field also requires to incorporate.

For the present study, several online database sources like Science Direct, Project Muse, Emerald, and Oxford University Press, Google Scholar, Research Gate, etc. are used to find related literature for the study. The relevant articles collected from a variety of primary and secondary information sources like journals, books, reports, grey literature, and other offline and online sources. More than 180 articles were identified as relevant to the study, though only 120 precise studies were found suitable for this study. The review of literature is categorized under the following conceptual framework.

2.2 HISTORICAL GROWTH IN JOB ADS ANALYSIS APPROACH

Several research articles focused on library position announcements have traced changes within professional specializations and documented shifts and trends affecting the profession as a whole. In most cases, these articles address a specific set of requirements one might find in an announcement for a particular type of position. They also tend to discuss trends and variances, as well as changes in position requirements that may have occurred as a result of such external forces as technological innovation. Responding to the evolving nature of the information formats offered to library users, academic library administrators created the "electronic resources librarian" position.

2.2.1 Trends Before 1990

The studies using job advertisement analysis is not a new phenomenon in LIS research. The history of such studies can be traced as early as the 1970s. The early studies (Frame, 1972; Palmer, 1978 and Genaway, 1978) in LIS covered the period of announcements from the 1950s. Starr, (2004) has rightly described such studies as "time-honored methodology.'' However, these studies were limited and specific in terms of purposes, period coverage, large geographic scale, and global aspects. Initially, for two decades the growth of job ads studies was slow and steady. A major motivation for such studies was to examine the changing nature of skills and competencies required to perform a particular task at the workplace. The main issues of discussion among these studies were the changing skills and their demand for changing the technological environment. According to Frederiksen, (2008) as early as 1977 the academic libraries began posting job advertisements for access service librarians. Further, she identifies a total of 217 job advertisements that contained ''access service'' published in College and Research Libraries News (CRLN). Through a content analysis of job ad contents, she found both general and unique characteristics in access services. It is also observed that many studies (Frederiksen, (2008) focuses on traditional roles of the librarian which includes public services, circulation, references, Inter-Library Loan, periodical room and collection maintenance and security, etc. However, the number of positions slowly but steadily increased over time with the emergence of new libraries in different sectors. The job advertisements can be seen as a reflection of the overall goals and objectives of institutions. Apart from this, the development in job ads studies also reflects how libraries define and present themselves to achieve the organizational goals through what kind of competent manpower in demand. The majority of studies have noticed a change over time along with the prediction of future trends of the job market.

2.2.2 Trends in the 1990s

A review of the literature provides a context for a discussion of position announcements for electronic resources librarians. This review helps one understand and evaluate the various processes and methodologies employed in previous studies that examined position advertisements, and many such studies are available. As White, (1999) observed in an article examining academic subject specialist position

announcements, "The analysis of position announcements is a relatively common type of study in the field of librarianship." But while these studies may be common, they follow different methodologies for gathering and presenting the data contained within announcements. In a qualitative study examining the shifting responsibilities of serials cataloguers, Copeland, (1997) focused on the impact of external factors on these positions. During the fifteen years that her study covered, Copeland found such factors as the adoption of Anglo-American Cataloguing Rules second edition (AACR2), the automation of cataloging, and the implementation of national cooperative initiatives forcing changes in the responsibilities of serials cataloguers and, consequently, in the job announcements for these positions. Copeland's study, broadly analyzing trends within serials cataloging, followed a qualitative methodology. She explored the historical context in which these position ads were placed and drew direct correlations between changes in the profession and changes in position requirements. Two studies, (Xu, 1996; Zhou, 1996) used a different approach to analyze data in position advertisements. Xu and Zhou explore specific traits or elements they found in these ads and then examined the announcements for trends related to these elements rather than examining specializations within librarianship. In these articles, the principal examined element was the need for computer skills within the profession. Xu focused on reference and cataloging positions over a twenty-year (1974-1994) period and concluded that while the requirements for computer skills and previous work experience had become similar and combined to be successful. Zhou, (1996) examined position advertisements in all areas of librarianship but used only those announcements posted every five years between 1974 and 1994. Examining trends over time, Zhou was able to focus on specific types of positions that require computer skills, what these skills are, and how the requirements change. Both authors relied on quantitative methodologies to gather data and present their findings. Foote, (1997) blended the quantitative with the qualitative in her review of systems librarian position announcements. Because several previous studies had addressed the same topic, her study served as an update of a well-established body of work. Over four years, Foote examined many different elements within position announcements, including responsibilities, degree requirements, reporting lines, salaries, and titles. Her data established the contemporary climate, while she relied on the previous studies to provide the narrative context for her results. Further, White, (2000) applied a methodology similar to Foote's to analyze position advertisements for academic

subject specialists and reference department heads. The elements White focused on include salaries, position responsibilities, skill and educational requirements, and experiential background. Albitz, (2002) surveys position announcements for Electronic Resource Librarians that appeared in College and Research Libraries News from January 1996 through December 2001. Utilizing a mixture of qualitative and quantitative methodologies, the author reviews reporting structures, responsibilities, and professional experience requirements for these positions then he places these observations within their larger organizational and professional contexts.

2.2.3 Trends During the 2000s

Research on librarians' roles and responsibilities often takes the form of content analysis of job advertisements found in aggregators such as print journals and websites. Whether these ads help us better understand librarianship depends on how representative the source data is for each study. The trends of job analysis studies show that print sources dominate even in studies published after 2000. Applegate, (2010) examines where reasonably representative job advertisements for academic libraries may be found by starting at the origin: the institutions themselves. The study finds that commonly used print sources provide only a small fraction of available positions. Taking job ad samples directly from institutions is time-consuming but provides more representative data. Smaller colleges pose a particular challenge for finding ads as few of them have openings at any one time and few of their ads appear in national aggregators.

2.2.4 Current Trends After 2010

Studies reviewed commonly relied on a single source of data aligning with findings from Kim and Angnakoon (2016) that 43% of similar studies used data from a single source. Longitudinal studies were also common with some spanning over 20 years (Triumph & Beile, 2015; Wang, Tang, & Knight, 2010). Some studies involved conducting interviews with library employers to triangulate findings and improve study robustness (Raju, 2014; Wise et al., 2011). Statistical software was used in some studies to perform more in-depth analysis such as multivariate cluster analysis

(Gerolimos, Malliari, & Iakovidis, 2015; Wise et al., 2011). There were job ads conducted longitude studies included, the country wide studies covered the libraries in the United States of America (Christopher, 2010) and South Africa (Raju, 2014) were also found in the literature on LIS job studies. In Indian context, (Yadav, Bankar and Prerana 2016; Kumar, 2010, Sinha & yadav (2015) and Sawant & Sawant 2018) were found major studies based on the LIS job advertisements appeared after 2010. The studies (Robert & Trudi, 2010; Partridge, Menzies, Lee, & Munro, 2010; Lovaglio, Cesarini, Mercorio, & Mezzanzanica, 2018; Lopatovska & Baribeau, 2010.) that identify the specific qualifications of the librarians through the content analysis of job advertisements. Many studies on LIS job ads analysis were found in the literature that covered academic Libraries (Reeves & Hahn, 2010); special libraries (Cooper & Crum, 2013) on the different aspects of the LIS professionals. The majority of studies after 2010 included academics librarianship and its surrounded aspects. In addition, much work have also been carried out on various 'functional' area of LIS where specific LIS positions have been discussed. The Literature reveals that the cataloging among the most studies area on which many studies (Hasia, Chen & Suliman, 2018; Perk, Caimei, & Laaro, 2018) were found in the literature.

The literature also revealed that the specialized LIS positions like reference service librarians (Wang, Tang, & Knight, 2010), few studies conducted on the general library instructions (Gold & Grotti, 2013) however, the traditional functions and routines of the library professionals have not been covered in this period. The period after 2010 covered major themes such as Knowledge Management (Oyedokun, Oyewumi & Laaro, 2018; Hasia, Chen and Suliman, 2018; and outreach librarianship also covered by Ferguson, Hider & Lloyd, (2018) studies.

The LIS studies covered subject areas to emerge in LIS positions. The subject librarian is also a position that has been investigated on technology and engineering (Meier, 2010), business librarian (Nielsen, 2013), and music libraries (Clark, 2013), have also been carried out based on the job advertisements. Hirudayaraj & Baker, (2018) for technical skills were found to know the specialized skills set published and demanded by the employees in changing scenario. The studies also covered the qualifying degrees in librarianship.

2.3 METHODOLOGICAL ASSESSMENT OF JOB ADS STUDIES

An electronic survey through survey monkey was conducted by Eckard, Rosener, and Hoekstra (2014) to identify the factors that enhance the probability of jobs in academic libraries through ACRL 2013 conference attendees. A questionnaire contains in 7 parts i.e. basic information, job search, professional efficiencies, professional development, services, technical competence, and previous career was distributed online to the numerous avenues. Hence, the response rate was not possible to calculate. Kaba, (2017) conducted an online survey to investigate the status of library employment in UAE by which Kaba covered perception of academic libraries towards job satisfaction, employment opportunities, challenges and the future action needed to improve employment opportunities for libraries in UAE. 120 identified responded holding up managerial positions out of which 65 respondents participated in the study.

The study considered a case study therefore the result of the same cannot be generalized because the sample of the study was limited. Sinha and Pandey (2014) analyses the job advertisements published in Employment News, Lis- links and LIS job portal representing both offline and online sources for one year i.e. 2011 to give an overview of the status of job opportunities for LIS professionals in India. Choi and Rasmussen (2009) reveal the trends in desired qualifications and skills through content analysis of job advertisements published in College and Research Library News (CRLN) from 1999 to 2007. They selected the word 'Digital' in 363 job ads covering nine years. Yadav and Bankar (2016) also examine the employment trends for LIS professionals through published job ads in the daily newspaper Times of India. Kim and Angnakoon (2016) conducted a methodological assessment of research using job ads to solve many problems in selecting, collecting, analyzing, and presenting the data contained in job ads. The study reveals that there is a lack of literature reporting sufficient details on the methodological approaches and procedures employed in such studies. The study carried out with two research questions in mind i.e. methodological practices and progress in job ads studies and its implications for the practice of the future direction for job ads studies.

Kim and Angnakoon divided their study into the following categories:

1. Changing skills
2. Types of library
3. Functional Areas: like cataloging and classification, etc.
4. Specialization,
5. Emerging positions and
6. The specialized skills set required a job as a foreign language.

Twell, (2012) reveals that job ads can be found primarily through a wide range of online sources. He adopted a content analysis of 25 job aggregators at the national, regional, and local levels. Applegate, (2010) adopted an inductive procedure to find a valid source for job ads in LIS. He identified various studies in the available literature based on the job ads from the period of 2000-2008. He proceeded from individual institutions to ads and then ads to the aggregators. The author has gone through the websites of random institutions to examine the ads for the 'Librarian' positions. Grimes and Grimes, (2008) examined job ads for finding the role of a Master's degree in American libraries from 1975 to 2005. The authors adopted job ads sampling years as 1975, 1980, 1985, 1990, 1995, 2000, and 2005 published in College and Research Libraries (CRLN) to identify the academic library job market. Jeevan, (2003), adopted job ads analysis published in employment news a weekly publication, of Govt. of India covered 1998 to 2001 to find out the perspective in LIS in India.

Triumph and Beile (2015) conducted a job ads survey for knowing the trends in the academic job market through a period of 2001 advertisement compared with a study of 1998. The study supplemented the data through the websites of journals i.e. American libraries, CRLN, Chronicles of higher education. The study not included list serves local papers or online job boards.

2.4 CONTENT ANALYSIS IN JOB ADS STUDIES

The term content analysis as a research methodology is nearly a century old but it may rightly be acknowledged that its history dates back to human history itself, to the beginning of human use of symbols and language. As of now the content analysis is no longer characterized by its traditional application of the understanding meaning of messages. It, has, over the years, expanded into a methodology in its own right and

permits the researcher to plan, communicate, and critically evaluate a research design independently of its results. Busha & Harter (1980) presents a brief history of content analysis and distinguishes it from other methods and exemplifies its domain of practical application and defined content analysis as “a procedure designed to facilitate the objective analysis of the appearance of words, phrases, concepts, themes, characters, or even sentences and paragraphs contained in printed or audiovisual materials.” The details of the point's covers under the content analysis of job advertisements are given under subsequent headings.

2.4.1 Data Collection

List servers are often used to source data for longitudinal studies to allow "retrospective historical analysis"; studies with a shorter sampling period often use serial publications (Kim & Angnakoon, 2016). New Zealand studies relied on nationwide list servers with online archives as sources of data (Innes, 2007; Ralph & Sibthorpe, 2010). Sampling archives which only recent data available can be challenging (Kinkus, 2007). *TradeMe Jobs* and *Seek* websites lacked accessible archives and sampling would have needed to be carried out in real-time. *NZ-Libs* and *NZ-Libs-Jobs* list servers were appropriate data sources due to their accessible archives, focus on the New Zealand library industry and cross-sector scope. Aggregate databases, which are used to search multiple list servers (Han & Hswe, 2010; Ralph & Sibthorpe, 2010), were not considered necessary. While *NZ-Libs* and *NZ-Libs-Jobs* may not meet the gold standard of statistical representativeness they are thought to fairly represent the library job market in New Zealand. Using multiple sources would have increased representativeness but the timeframe for sampling was limited (Kim & Angnakoon, 2016). Job advertisements from 2007 and 2016 were accessed and downloaded from the respective digital archives of *NZ-Libs* and *NZ-Libs-Jobs*. The text was copied from the default file format into *Microsoft Word* to allow for editing. Job advertisements sourced from *NZ-Libs* had to be manually extracted from general discussion posts.

2.4.2 Sampling Techniques

Convenience sampling taking advantage of readily available units of data was employed in this study. Non-random sampling was employed by applying the following selection criteria.

1. Posted in 2007 on *NZ-Libs* or posted in 2016 on *NZ-Libs-Jobs*;
2. Advertised a librarian or related role;
3. Represented an entry, mid or management level role; and
4. Placed in the public, academic, or special library sectors.

Consistency in the content analysis was emphasized by many authors including Kim and Angnakoon (2016). Sampling criteria were applied with care however preconceptions around the term *librarian* may have influenced selection. Roles with responsibilities similar to that of librarians were included, such as various business researcher roles in professional services firms and an administrator role around reference and cataloging based at an environmental agency. Other *Gallery, Library, Archive, and Museum* (GLAM) roles were excluded from this study except for museum libraries which were classed as special libraries and academic archives which were classed as academic libraries. School libraries, which rarely advertise on these list servers as they are likely to use other channels (Kim & Angnakoon, 2016), were excluded from this study.

A high diversity of librarian titles was observed during sampling including the following job titles: digital initiatives officer, knowledge specialist/facilitator, information analyst, information literacy coordinator, customer services specialist and community engagement coordinator. This has been investigated and discussed in depth by other authors (Kim & Angnakoon, 2016; Shahbazi & Hedayati, 2016).

2.4.3 Content Analysis

Content analysis is an established approach used by researchers to investigate library job market trends, organizational needs and changing librarian roles (Choi & Rasmussen, 2009; Clyde, 2002; Gerolimos et al., 2015; Park et al., 2009; Shahbazi & Hedayati, 2016). Methods include conventional and directed category formation (Kim & Angnakoon, 2016). The conventional content analysis defines categories during initial data collation allowing themes to emerge naturally from the text whereas

directed category formation relies on *a priori* categories developed in previous research. A hybrid approach was used for this study using terms defined in Innes (2006, 2007) and adapted from Tice (2001) and Cullen (2004). Requirement categories were compiled into coding schema and refined iteratively during preliminary analysis to achieve a "better fit" with the data at hand. Some experience categories from Innes (2007) were interpreted as skills. Collection development, project planning, and reference were re-classed as hard skills; cultural awareness and supervisory abilities (leadership skills) were re-classed as soft skills. Most advertisements did not differentiate between required/essential and preferred/desired attributes adding an element of linguistic uncertainty. In a preliminary analysis of 21 job listings from January 2016, all skills were implicitly required. In terms of qualifications, leniency was commonly shown towards applicants studying towards their degree. The experience was occasionally stated as an "either/or" condition with one option preferred. Inconsistent language and the need to maximize data capture provided a rationale for pooling data. Computer/IT skills frameworks from Mathews and Pardue (2009) and Shahbazi and Hedayati (2016) were consulted but found to be overly detailed for this study. Specific software was frequently listed in job advertisements but no common phrases were observed. Chen and Zhang (2017) have also acknowledged the difficulty of harvesting information from the generic job listing phrases. It was decided that the following overarching digital skills categories would be used:

1. General computing skills (basic online searching and Microsoft skills); and
2. Advanced computing skills (specialized proficiencies in library and content management software, programming or cloud technologies).

Logically, all tasks which required specialized knowledge of computers required at least some basic knowledge around computers. An advertisement stating both basic and advanced skills was tallied as requiring solely advanced computer skills. These two categories were therefore effectively mutually exclusive for this study and were graphed individually. Percentages were calculated and graphed using Microsoft Excel functions. Summary graphs of pooled samples for all job listings were provided as points of reference. Management graphs carried limited meaningfulness due to the small sample sizes associated with this data and were omitted from this report. Entry-

level graphs were not presented for skills and experience since associated job advertisements listed fewer requirements and yielded little information.

2.4.4 Limitation of the Content Analysis

The content analysis is a contentious task but using multiple coders may increase coding efficiency (Kim & Angnakoon, 2016). This study relied on a single coder which potentially introduced higher rates of error. Partially subjective decision making around phrase interpretation could also have influenced study reliability. Coding and tallying accuracy can be improved with specialized software such as *Provalis Simstat* and *WordStat* which make the analysis more manageable (Kim & Angnakoon, 2016). Such software also allows for mapping variable relationships via multivariate cluster analysis (Gerolimos et al., 2015; Park et al., 2009; Wise et al., 2011). Up to 70% of jobs are advertised online in the USA Carnesvale, Jaysendera, and Repnikov, (2014), as cited in Kim & Angnakoon, 2016).

A referral can be aided by social media such as *LinkedIn*, *Facebook*, and *Twitter*, which allow employers to reach target audiences more quickly (Kim & Angnakoon, 2016). According to empirical evidence personal contacts could be responsible for half of all jobs filled. Jobs spread solely through personal networks including school, community and volunteer library networks were excluded from this study. Job advertisements are summarized versions of job descriptions that provide greater insight into employer expectations and yield qualitatively richer data (Innes, 2007; Park et al., 2009; Ralph & Sibthorpe, 2010). However, for retrospective data, it was not possible to obtain job descriptions directly from employers limiting this analysis to data extracted from job advertisements.

2.5 MAJOR LIS SKILLS COVERED IN STUDIES

A skill or competency is continuous learning and adaptability of any individual in the changing environment rather than just simply possess the disciplinary knowledge. Raju, (2014) through the analysis of job ads found different types of knowledge and skillset requires for getting a job in the digital era in academic libraries in South Africa. Rahu focused on different generic skills and personal competencies in the digital environment. He categorized skills into discipline-specific knowledge and the personal characters of individual LIS professionals. He reveals that the

communication is the high ranked generic skill in the modern academic library system. The scholarly communication, e-resources collection development, and research supportive librarianship are throwing challenges before the professionals. A paradigm shifted towards finding a subject specialist for a subject-specific library however, in reality, it is hard to find such a combination among LIS professionals in India. The different emerging skillsets include skills such as data curation, big data, and research data management are a shortage of such skills and training. Raju (2014, p. 169) identify the following generic skills set

1. Managerial or supervisory skills
2. Communication
3. Interpersonal skills
4. Computer literacy
5. Teamwork and client services orientation.

He further noted a tendency towards the demand for the generic skill set over professional knowledge and skill to ensure efficacy. Pradhan, (2015) explores the employability skills and trends in the LIS students at MSU, Baroda in which she covered 79 students to identify the soft skillsets for getting employment in India. Her emphasis on the process and converting LIS students into professionals through seminars, presentations, topical assignments, group discussion, and teamwork-oriented projects. Apart from, she believes that the English language helps the students to get employment easily. Further, she adds the right professional attitude and IT skills also worth significant rather than a stereotype.

Choi and Rasmussen, (2009) attempt to find answers to the question about qualifications and skills required in a digital library position in the academic system through a content analysis of job ads. The analyses that the transition from the traditional model to digital model has affected the professional's role and activities in the academic libraries, hence a change in the demand for advanced skills in changing scenario of technology. More focus on web page designing and internet searching capabilities, interpersonal skills, and competition are the major skills set found as important. The role of librarians has shifted from the archivist, preservationist, and custodian to the digital librarian. Choi and Rasmussen, (2009) found that multiple qualification especially technology-related competencies along with communication and skills are essentially required. However, the study was limited in the sense of

coverage of job ad sources included different positions. Singh and Pinki, (2009) identify new skills for LIS professionals in a technology-intensive environment in changing the role of libraries and their services. The authors' emphasis on the ICT specific skills over generic skills of LIS skills of the students. Further, they calculated the impact of changing the environment in academic libraries and emphasis on multi-dimensional skills ability of virtual learning in changing user's expectations and needs. They also differentiated between skills and competencies as earlier is practical ability to act whereas the next underlines attributes and mental ability and theoretical knowledge. However, the findings limited only in the technological environment of libraries that covers three major kinds of sills namely generic, managerial and professional skills.

Chawner and Oliver, (2003) surveyed to find out the current and future skills for the academic reference librarians in New Zealand where they found that the reference librarians require technical and communications skills along with traditional reference skills. The authors also found that behavioral characteristics, interpersonal and IT skills are the key skills to a reference librarian. The study also reveals generics skills include, Customer services, Search skills, Knowledge of online reference sources and traditional reference sources are top-ranked. Whereas, online searching, software troubleshooting, social media, web maintenance including chat/IM are important technical skills and competencies as regard to interpersonal skills of references librarian the verbal communication and self-motivation are among the top rank competencies for the academic reference librarians. The authors recommend to build up the traditional interviewing skills along with the marketing skills which is important for an interpersonal relationship with the customers. Harnett, (2014) identify core competencies for the electronic resource librarians through the job ads analysis during 2000-2012. The findings reveal that a specific aspect of acquisition budget responsibility has a significant increase. The knowledge of licensing is another aspect associated with the acquisition of electronic resources. The competencies of metadata extensive knowledge particularly cataloging and classification to record the information (descriptive metadata) but also structured metadata and administrative metadata i.e. right management and preservation metadata. The computing hardware and mobile device and their operating system, database design, markup languages like

XML, HTML, Wiki, etc. require to supervise, train and motivate the LIS professionals.

2.6 CHANGING ROLE OF LIBRARIANS

Several studies have attempted to understand the changing role of academic librarians from a psychological perspective with the help of a comprehensive review of the literature. As a result, they found that there is a lack of literature on psychological theory and practical research which covered the role of academic librarianship. The article focus on the role of librarians and the psychological aspect of job stress, recruitment, selection, training, and development. The findings reveal that the academic librarian's role has become both dynamic and challenging where librarians are frequently included in outreach and embedded by providing physical as well as online systems. They emphasis librarians need to understand and use sophisticated, rapidly changing technology and navigate the explosion of information. Little, (2013) identifies the human connection in managing emerging technologies in academic libraries such as websites, streaming videos, social media, digital humanities, and smart applications. Little believes that young users are comfortable with new technologies therefore, they demand sophisticated library services. In a changing environment of innovation, the LIS professionals must ready to adopt change in technology, collection, and services. According to Little, (2013), everyone is talking about the technological skills and the mindset, mental flexibilities and intellectual curiosity which is very important are missing. So, everywhere the public services involve to collection development LIS professionals need technological competitiveness to cope up with the technological changes, Little suggested three ways, first self-directed information learning that enriched by job or education. Secondly, attend the conference on digital projects that consist of formal professional development opportunities that help librarians to learn and expand their technological skills. Finally, the technical education foundation course from any accredited for the recognized institution should involve. Tang, (2013) through a survey of job ads published from 2007 to 2010 in the US attempt to find trends and changes in distance education librarianship. The study focuses on numbers of positions, titles, ranking, salary, educational background, role, duties, and the qualification required for

distance education-related jobs for librarians. The findings reveal that technical skills, IT, and communication skills are the fundamental skill that demands the most. He identifies nine types of skills which categorized among four major parts:

1. Information Technology
2. Communication
3. Management
4. Others

Along with the skill sets, Tang also found certain duties and responsibilities where reference service, collaboration, and program development capabilities were among the top rank. A comparative meta-analysis conducted by Kim and Angnakoon (2016) looking at 106 relevant studies published from 1978 and 2014 identified five motivations that have been used to place studies discussed in a context such as a geography, sector, functional area, emerging roles, and skills requirements. Most studies were national in scope focusing on the USA and North America however two international studies by Gerlimos and Konsta (2008) and Shahbazi and Hedayati (2016) were identified. This was consistent with findings in the meta-analysis by Kim and Angnakoon (2016) that most similar studies were local or national likely due to a lack of global employment websites available for sampling. Studies from Australia and New Zealand available in the literature were limited in number (Innes, 2007; Pamment, 2008; Ralph & Sibthorpe, 2010; Wise et al., 2011).

Academic libraries were the focus of about half of the studies reviewed with five studies cross-sectoral. Both the New Zealand studies and a study by Cooper and Crum (2013) on healthcare libraries in the USA were focused on special libraries. No studies focused specifically on public libraries. Most studies in the meta-analysis by Kim and Angnakoon (2016) focused on academic libraries. This study aimed to address regional and sector-specific knowledge gaps by analyzing advertisements for public and academic library sector roles using recent New Zealand data.

Over half of the studies reviewed focused broadly information professionals (Chen & Zhang, 2017; Raju, 2014; Wise et al., 2011) or on librarians in general. The remaining studies looked at specific kinds of librarians including liaison librarians (Gold & Grotti, 2013; Okamoto & Polger, 2012) or emerging roles such as digital curation

librarians (Choi & Rasmussen, 2009; Kim et al., 2013) and metadata librarians (Han & Hswe, 2010; Park et al., 2009). Some studies focused on skills requirements such as IT skills (Mathews & Pardue, 2009; Shongwe, 2015).

2.7 EMERGING SKILLS OF LIBRARIANS

Computer affordability, advances in technology and increased internet accessibility have driven library service development (Goetsch, 2008; Kim et al., 2013). Digitization and digital innovations including open source software, open access, podcasts, blogs, crowdsourcing and tagging and have created a new librarian landscape. Many librarians have adapted to new library activities by acquiring non-traditional skills to meet user expectations and information-seeking behavior (Gerolimos & Konsta, 2008; Kim et al., 2013). Mathews and Pardue (2009) compared traditional library skills (including reference, cataloging, and inter-loan) with emerging non-traditional skills (including project management, operating system skills, and web design) in 100 randomly sampled job advertisements from the *American Library Association's ALA JobLIST* server. There was an overlap between non-traditional librarian skills and core IT (Information Technology) professional competencies indicating changing librarian roles.

It is well accepted that professional librarian practice is underpinned by discipline-specific skills such as collection, cataloging, and specialized computer skills however employers also emphasize generic skills such as critical thinking, interpersonal skills, flexibility, and creativity (Gerolimos et al., 2015; Pamment, 2008; Raju, 2014). Wise and colleagues (2011) argued that the predominance of interpersonal skills required by employers as evidence for a "shift to the generic." Wise and colleagues (2011) sampled about 440 information professional job advertisements posted on professional and job websites in Australia in 2010. Results were compared longitudinally with previous data (Kennan et al., 2006, 2006b, 2006c; Marion et al. 2005, as cited in Wise et al., 2011). Soft skills such as supervisory skills and adaptability were commonly cited. The two most highly ranked skills were interpersonal skills (75% of roles) and generic computer skills (52% of roles). Multivariate cluster analysis results also supported a shift to the generic (Wise, et. al. 2011). Programming and web design were identified as

potential emerging skills cited more frequently in 2010 than in 2004. The broad range of roles including non- librarian roles included in the analysis may have influenced these results.

The highest-ranked librarian skills by academic employers in the USA according to a study by Gerolimos, et. al. (2015) based on about 130 job listings on *ALA JobList* were communication and computer skills cited in 17% and 11% of listings respectively. Previously Gerolimos and Konsta (2008) had conducted an international study based on multiple data sources from the UK, USA, Canada, and Australia with communication skills cited in 65% of 200 librarian job advertisements sampled. A more recent international study spanning ten countries and sampling about 110 digital librarian job advertisements from the employment website *Indeed.com* found communication, teamwork, and problem-solving skills were the most required "behavioral characteristics" cited in 59%, 17%, and 15% of listings respectively (Shahbazi & Hedayati, 2016). Online searching, the reference interview, and database skills were required in 38%, 35%, and 31% of listings respectively.

Park, Lu, and Marion (2009) sampled about 350 cataloging professional job advertisements from *the AutoCAD* job list server in the USA and found communication skills were the most requested skill found in 75% of advertisements. Management and flexibility were also highly-ranking soft skills listed in 46% and 32% of listings respectively. The authors identified metadata creation, e-resource, digital project management, web development, and database skills as emerging digital skills. Han and Hswe, (2010) sampled about 85 job advertisements for metadata librarians in the USA finding communication skills increased from 20% to 63% between 2000 and 2008. Team skills and willingness to learn were other important soft skills. Discipline-specific skills such as Dublin Core (DC) and machine-readable cataloging (MARC) were in high demand required in 43% and 42% of job listings respectively.

Many studies reviewed by Raju, (2014) were consistent with the observation that employers were increasingly prioritizing generic skills (including Choi & Rasmussen, 2009; Gerolimos & Konsta, 2008; Reeves & Hahn, 2010; Wise et al., 2011). Supervisory and communication skills were the most cited generic skills

stated in 19% and 13% of about 70 advertisements respectively and each mentioned in 11% of interviews (Raju, 2014). Interpersonal, computer, customer service, and teamwork skills were also commonly cited. The top discipline-specific skills were traditional library services (33% of job listings and 46% of interviews). Employer expectations as communicated in interviews did not align exactly with those expressed in job listings, the extent to which they correlate may limit the validity of this study's findings.

2.8 QUALIFICATIONS OF THE LIBRARIANS

Few studies found special library employers rated qualifications highly (Innes, 2007; Ralph & Sibthorpe, 2010) in New Zealand. For 76% of non-management roles advertised in 2004 and 2005 applicants were expected to hold information or library qualifications (Innes, 2006). While it may not be possible to extrapolate to other sectors the broad scope of this study enabled a holistic overview of the value of qualifications in different facets of the New Zealand library job market. Most North American studies consistently found professional qualifications to be the gold standard in the academic library sector. Gerolimos and colleagues (2015) analyzed about 130 librarian job listings over five months in 2013 in the USA. About 92% of advertisements required a *Master of Library and Information Science* (*MLIS*) and the majority required accreditation from the *American Library Association* (ALA) professional body suggesting employers saw library qualifications as highly relevant. Okamoto and Polger (2012) analyzed about 150 advertisements for liaison, marketing, and outreach librarian roles on online and print platforms in the USA between 2000 and 2010. The majority of roles (96%) required ALA-accredited MLIS degrees indicating library qualifications were considered highly important for liaison librarian positions.

Kim, Warga, and Moen (2013) analyzed about 170 academic job advertisements for digital curator roles in North America for over six months. The majority of job listings required professional information qualifications. A Master's degree was cited in 85% of job listings, a Bachelor's degree in 3% and a Doctorate of Philosophy (*Ph*.D.) in less than 1%. An ALA-accredited Master's degree as specified in 75% of job listings. Some roles accepted ALA-accredited degrees in relevant areas as acceptable suggesting some flexibility around these criteria

because digital curation often requires domain-specific knowledge dependent on the data being managed. Some evidence suggests employers in the information industry may not consider specific information and library qualifications as important as library employers do. Wise and colleagues (2011) found information specific qualifications were required for about one fifth (21%) of information professional roles in Australia. However due to the inclusion of non-library roles the findings may not be specific to librarian roles. Similarly, Chen and Zheng (2017) analyzed 70 advertisements for data management roles based in US academic institutions over four months in 2015 and found about a quarter (27%) specified information qualifications. This study used broad criteria similar to Wise and colleagues (2011) sampling both the librarian and non-librarian positions. The authors speculated low requirements for such qualifications may have been due to their low recognition by employers or a lack of robustness in educational courses preparing graduates for employment (Chen & Zhang, 2017). Professional library qualifications have been the "basic specification" for librarian roles in the

North American region in recent times. However, employers in some countries may place less emphasis on library qualifications than in North America. In South Africa, Ocholla and Shongwe (2013) found an increase of library and information job advertisements which required unspecified tertiary degrees or non- library tertiary degrees between 2008 and 2012. This study looked at employer perceptions about the importance of library qualifications for New Zealand librarian roles to produce region and country-specific findings.

2.9 EXPERIENCE FOR THE LIBRARIANS

Work experience in combination with relevant qualifications was highly valued by special library employers in New Zealand (Ralph & Sibthorpe, 2010). Relevant experience in a similar organization may have been an important factor influencing the recruitment process. In the USA Triumph and Belie (2015) conducted a longitudinal analysis of almost 1000 job advertisements over 23 years for academic library roles advertised in the USA. Findings showed that experience became less requested and computer skills became more requested over this timeframe. For academic library employers in North America, it may be as important for applicants to

hold relevant work experience as it may be for them to hold relevant qualifications (Chen & Zhang, 2017; Okamoto & Polger, 2012). Chen and Zhang (2017) found most of the 70 data management roles sampled from USA academic institutes required at least one year of experience but did not require MLIS or equivalent postgraduate qualifications. However, it was acknowledged that the inclusion of non-library roles may have skewed the results.

Gerolimos and colleagues (2015) found that 81% of about 130 librarian roles in the US academic sector required previous experience. Of those stating experience was required about 39% requested one to three years, about 17% requested between three and five years and about 23% requested over 5 years' experience. This study also looks at the length and type of experience required for library roles including the importance of specific parent library sector experience.

2.10 SUMMARY

The job advertisements recognized as a valuable and primary source of employment information for every job aspirant in every field. It is why the employment information source like Employment News is still widely accepted and published in the current digital environment. The trend of employment information is now changed as the online format which is adopted by almost all the employment sources of information. Although, the job advertisements provide brief eligibility criteria, qualifications, yet it cannot represent the descriptions of the positions for which it advertised, except expressing the requirement in a legal framework. The job advertisements do not reveal the actual characteristics of the individuals.

The LIS jobs advertisements do not provide descriptions of the particular job descriptions and job analysis. The job ads represent the desired characteristics and skill sets of individuals associated with the specific LIS positions. The job ads are also important in the point of view of the current and future role of the librarians. The literature on the LIS job studies may be categorized into the following major categories:-

The first categories of job ads longitude studies included, the country studies covered the libraries in the United States of America (Starr, 2004; Christopher, 2010). The studies by Orme, (2008) that covered the United Kingdom while studies on the

Australian Libraries conducted by (Kennan, Willard, & Wilson, 2006; Pamment, 2008; Pember, 2003). The countries like Ireland (Cullen, 2004), and South Africa (Raju, 2014) were also found in the literature on LIS job studies. In Indian context, (Yadav, Bankar and Prerana 2016; Kumar, 2010, Sinha & yadav (2015) and Sawant & Sawant 2018) were found major studies based on the LIS job advertisements.

The studies (Robert & Trudi, 2010; Partridge, Menzies, Lee, & Munro, 2010; Lovaglio, Cesarini, Mercorio, & Mezzanzanica, 2018; Lopatovska & Baribeau, 2010.) that identify the specific qualifications. There were studies (Shank, 2006; Garcha & Phillips, 2001; and Rachel, 2009) those identifies the nature of the workforce of the libraries.

The second category of the LIS job studies may include the studies addressed specifies kinds of Libraries that included academic, special, and public libraries. These studies on LIS job ads analysis were found in the literature that covered academic Libraries (Reeves & Hahn, 2010); Law Libraries (Tice, 2001); special libraries (Cooper & Crum, 2013). The majority of web studies include those covered academics librarianship and its associated parts. There were studies conducted on the 'A retrieval profession (Davies & Ellis, 2003).

The third category of LIS job studies covered the 'functional' area where specific LIS positions have been discussed. The Literature reveals that the cataloging among the most studies area on which many studies (Chaudhry & Komathi, 2002; Khurshid, 2003; Hall-Ellis, 2005; Zhu, 2008; Hasia, Chen & Suliman, 2018; Perk, Caimei, & Laaro, 2018) were found in the literature. The literature also revealed that the specialized LIS positions like serial librarians (Kwasik, 2002), reference service librarians (Wang, Tang, & Knight, 2010), few studies conducted on the area of collection development (Robinson, 1993), general library instructions (Gold & Grotti, 2013), the outreach librarians (Boff, Singer, & Stearns, 2006), and youth services (Adkins, 2004) positions were covered in the literature.

The fourth type of LIS studies covered subject areas to emerge in LIS positions. The subject librarian is also a position that has been investigated on technology and engineering (Meier, 2010), business librarian (Nielsen, 2013), and music libraries (Clark, 2013), have also been carried out based on the job advertisements. The LIS job ads analysis studies also conducted to identify the requirements of relatively new

development fields or emerging positions. Few studies published in the early 2000s examined announcements for electronic librarians or electronic resource librarians (Albitz, 2002). Several studies (Albitz, 2002; Shank, 2006; Rachel, 2009) were found to discover emerging position, such as e-librarians, e-resource librarians (Park, Lu, & Marion, 2009; Han & Hswe, 2010) Metadata librarians, Digital librarians and emerging field (Choi & Rasmussen, 2009) of digital creation and data curation (Kim, Warga, & Moen, 2013; Xia & Wang, 2014).

Finally, many studies (Mathews & Pardue, 2009; Hirudayaraj & Baker, 2018) for technical skills were found to know the specialized skills set published and demanded by the employees in changing scenario. The studies also covered the qualifying degrees in librarianship. Several skill sets also include foreign languages (Zhang, 2008), project management (Kinkus, 2007; Kumar, 2010), and management and leadership (Cullen, 2004). Grimes and Grimes's (2008) study is notable as it investigated the requirement for a post graduate degree in LIS for the academic libraries while theme of Knowledge Management was covered in (Oyedokun, Oyewumi & Laaro, 2018; Hasia, Chen and Suliman, 2018; and Ferguson, Hider & Lloyd, 2018) studies.

However, there was no uniformity in the literature in terms of qualifications and eligibility criteria for the same posts in the same types of libraries in the LIS job advertisements, yet there were common themes of the positions were found. The incorporation of ICT applications has resulted in specialized functionality, complex skill sets and a variety of the complexities in the jobs of libraries those enforced employers to hire the skilled and multi-dimensional approach of the libraries. A significant difference can be visible between the LIS job ads published in 1974,1994 and 2014, in which a drastic change in the skills, job profiles, nature of duties and designations have found at large.

The findings of several studies (Saini & Singh, 2019) indicates that there is no uniformity in the qualifications of the librarians in the public and private sectors. On one side, the legal restrictions have considered while the other side no such considerations were adopted by the employers in publishing the job advertisements. The literature shows that the foundation courses are always the key factor for getting a job in librarianship.

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Chapter 3
Methodology and Research Design

Chapter 3

METHODOLOGY AND RESEARCH DESIGN

3.1 INTRODUCTION

In the early phase of research, the specific objectives, research questions, and significance of the research problem (in chapter 1) were identified. The five hypotheses were also formulated to be tested in the study. A comprehensive review of literature related with the core problems of the study was carried out to get an idea about the methodologies, tentative solutions of the research problem, process of data collection, data processing, data analysis and the use of statistical tools and tests, etc. were also understand how the other has solved the similar research problems. The gaps in the research in the literature were also identified which were listed in chapter 2.

The second phase related to the research design and methodologies to be adopted in this study. In day to day life, everybody makes plans and strategies before starting an action. For example, an individual plan before going on holiday, traveling abroad, and purchasing of a gadget. Therefore, planning, forecasting, visualizing, and preparing blueprints is an essential component to finding answers to a problem. Similarly, research cannot be carried out without a proper plan, which is known as a 'Research Design'. It consists of all the activities required to be performed step by step.

3.2 RESEARCH DESIGN OF THE STUDY

Research design is a framework that is created to seek answers to the research questions through a combination of research methods to collect, process, analyzed data and interpret the results. Research design is a *structure* of research that holds all the elements together in research work. According to Singh (2002), research requires systematic planning of study on which the whole process of research study depends. It acts as the guideline for investigating the problem in the most efficient manner. Thus, the research design is a plan for conducting a research study systematically.

The scientific investigation has its importance because objectivity in any research investigation cannot be obtained unless it is carried out in a systematic and planned

manner. The scientific investigation involves careful adoption of suitable research design, the use of standardized tools and tests, identifying adequate samples by using appropriate sampling techniques. It is also essential to use appropriate statistical techniques for analyzing the data. According to Busha & Herter, (1980) 'a research design is the specification of methods and procedure for acquiring the information needed. It is the overall operational pattern or framework of the research that stipulates what information is to be collected from which source by what procedure'. An efficient research design helps the researchers in researching in the most effective manner with minimum time, effort, and cost. The study is based on the following research design found suitable for solving the problem covered under the study.

3.2.1 Exploratory Research Design

The exploratory research designs are the simplest and most loosely structured designs. As the name suggests, the basic objective of the study is to explore and obtain clarity about the problem situation. Since there was not enough information regarding the situation was not in hand, therefore, initially, the exploratory research was conducted. There were only three research articles with a sample of just six months to one year was covered. Hence, it was the need of the study to know more about the situation and phenomenon covered under this study, this could be possible on through the exploratory research. Since the researcher has little information about the job opportunity for the LIS professionals based on empirical experience, so to get a clearer picture of the various factors about LIS job opportunities in India, the study is based on the exploratory approach. The exploratory study by its very nature is flexible and considered different aspects of the situation or topic. Usually, the following methods are closely associated with exploratory research has been used in this study.

3.2.1.1 **Review of literature:** refer to the as significant method in formulating any problem with more precision. The study is also pre-tested for its significance and usefulness. A comprehensive review of the literature was carried out for this study.

3.2.1.2 **Use of Empirical Experience:** The research has also used his empirical experience of past researches on the related topic that helped to explore some critical areas, methods of data collection, coding, analysis and application of statistical tools and tests, etc.

The present study is also adopted another important method of research because of the descriptive nature of the objectives and research problem was undertaken to find a solution which is given below:

3.2.2 Descriptive or Diagnostic Research Design

The present study aims to describe the fact and situations as they found in the data collected from the primary and secondary sources covered in the study. The study concerned with what, and not with how and why of the problem. The study also formulated a few hypotheses to show the association between two variables based on their frequency of occurrences which is termed as the diagnostic research design. For example, the study concerned with the increase in the level of qualifications, the number of job positions also increases the LIS qualification. The research is first and foremost dependent upon the clarity of the objectives which were in the focus throughout the research process, so it was very clear that the objectives of the research considered as the guidelines for the data collection, however, the approach was rigid and unbiased.

There are different methods available for conducting research. It depends upon the nature of the problem of study which method suit to provide the best answers for that problem. Different authorities have identified various methods used for conducting the research. A few other methods were also found useful for the study are described below.

3.2.2.1 **Longitudinal Approach**

The sample for this study has covered over a stretched period which is termed as a longitudinal study design. A sample of studies covered a period of six years from January 2012 to December 2017. A mandatory feature of this design is that once the sample is selected, it needs to stay constant for the study.

3.2.2.2 **Literature Search**

Starting the study with a literature search is an essential part of the research process that generates ideas, adds to conceptual clarity on various things, helps in knowing what others have done and what are the gaps, etc. It is instrumental in the process of

developing a suitable research design. It is a complex task that involves developing the skills to find, manage, use, and review the literature.

A literature search is a systematic and thorough step by step search for published materials on the field of study. A literature search was attempted to identify and locate the journal articles, books, research reports and other materials published on the specific problem of research. The literature search was started with a preliminary literature search later on it was followed by a thorough literature search. A literature survey was conducted using online as well as offline primary and secondary sources to gather the desired information on the topic of the study. The sources used for the study include *Library and Information Science Abstract (LISA)* and *Science Direct, Project Muse, Emerald, etc.* which were scanned from 1987 to 2017. Apart from this, books, periodicals, conference papers, articles, etc. were also consulted including the Internet and websites. For the study, a comprehensive bibliography of articles, conference papers, books, and other sources was prepared which was used for the study.

3.2.2.3 **Survey for Finding LIS Jobs in Data Sources**

The survey is a non-experimental, descriptive research method, which is suitable for a contemporary problem area. Surveys are used extensively in Library and Information Science to assess the attitudes and characteristics of a wide range of subjects. In this study, a brief survey to find out the LIS job advertisements from the data sources i.e. Employment News and University News. Later on, these surveyed and marked advertisements further considered for the content analysis and data entry in the checklist.

3.2.2.4 **Observation**

In day-to-day language, to observe means 'to watch or notice', while observation refers to 'the act of watching or noticing'. The problem is that these definitions cannot be directly transferred to the world of research methods. As a method term, observation needs to be identified as a systematic methodology more than just a visual clue. Therefore, observation is a systematic method of data collection that relies on the ability to gather data through the senses of the researcher. It involves sensation, through

sensory organs, attention for concentrating on the subject and perception that enables one to recognize facts (Zina, 2004). The research problem covered undertaken has closely observed during the content analysis for the study.

3.3 SAMPLING DESIGN FOR THE STUDY

The sampling design refers to the process of selecting a sample from a given population that is referred to like any group of people or objects that form the subject of study in a particular research study. The population for this study was the *Job Advertisements* published from various online as well as offline sources which include Newspapers, (Daily or weekly), Print journals, and online blogs, social networking sites, or electronic versions of newspapers.

India is one of the largest countries that constitutes of 29 States and nine union territories. The job advertisement is also published accordingly the size, nature, and language of the population of India. The population is also known as Census, the census suitable to examine in a small size, hence, in this study, it was not feasible to study the population because of the limitations of the time and duration of the study. Sampling refers to selecting the subset of the entire population for research

3.3.1 Probability Sampling

For this study, the probability sample design was selected where every element of the population has an equal chance to be selected. The sample selection criteria used for this study are as under:

3.3.2 Simple Random Sampling

Simple Random Sampling is a special case of probability sampling where every element of the population has an equal chance in the sample. The random sampling criteria has followed that the advertisements should be:

a. Published for the Librarianship positions in three data sources i.e. Employment News, University News, and LIS- Links covered in the study.

b. Asked for Library & Information Science qualification at any level.
c. Asked the position within Indian boundaries.
d. Published in Hindi and English Language.
e. Published for the permanent positions (at least for two years Deputation/contractual)
f. Published the complete details of positions advertised.

3.4 DATA COLLECTION FOR THE STUDY

The process of collecting data for research purposes is known as data collection. The data collection or collection of data is a systematic process that requires logical reasoning, in case, it is collected without planning and haphazard manner, it may cause difficulties in the data analysis and findings. Data is the foundation of every type of research, no research can be carried out without sufficient, valid, reliable, and relevant data. The findings and recommendations of research depend upon reliable, valid, and relevant data therefore, a researcher should be very judicious, and careful while collecting data. The primary data was collected from the following offline and online data sources for LIS job advertisements.

3.4.1 Data Sources Used in the Study

The job opportunities for the LIS professional are published in numbers of offline as well as online sources in the form of job advertisements. The study covered analysis of job advertisements published in the sources mentioned below for a period of six years i.e. from January 2012 to December 2017. For this study, the most authentic and well-established sources have been used for the collection of the data.

Table 3.1: Data Sources Used for the Study

S. No.	Source Covered	Nature	Web Address
1	Employment News	Offline	www.employmentnews.gov.in
2	University News	Offline	www.aiu.ac.in/university/universitynews.asp
3	Lis-links	Online	www.lislinks.com

The further details of data sources used for data collection for the study are given as under:

3.4.1.1 **Employment News**

Employment News is a weekly journal of Ministry of Information and Broadcasting, Government of India published every Saturday. As its name suggests that the source publishes all types of employment opportunities in all sectors and all fields. It was launched in 1976 to provide information on employment opportunities to the unemployed and underemployed youth of the country. The job journal is published in English, Hindi, and Urdu (Rozgar Samachar) and has a circulation of nearly three lakhs copies per week. The weekly is providing information related to job vacancies, job oriented training programs, admission notices related to job oriented exams and results of recruitment exams in respect of government vacancies in different sectors. The weekly also educates young people to make an informed decision about their careers (Employment News, 2019, accessed on 21 July).

3.4.1.2 **University News**

University News is a weekly journal of the Association of Indian Universities, contains information about higher education in general and Indian higher education in particular. It is the only Indian journal referred internationally for authentic information about Indian higher education. The regular features of the journal include articles on delineating current, national, and global thinking; campus news; doctoral theses awarded by Indian Universities. The weekly journal also publishes advertisements for job openings in universities, institutions, colleges, etc.

The journal is a widely circulated medium of communication among Indian universities, colleges, and other institutions of higher learning and research, it is indeed an indispensable reading for all those connected with higher education (University News, 2019 accessed on 19 July).

3.4.1.3 **LIS –Links: An Online Website of LIS Professionals**

LIS Links is a virtual community of Library and Information Science (LIS) Professionals which is frequently updated daily. It is the first and largest social networking site or blog in the LIS domain in India that contains more than 27000 active members from library science. It provides customized services in various sub-areas of LIS to the professionals through the voluntary collaboration of its members. LIS Links website was created by Dr. Badan Barman on 26th February 2008. So far, the website contains more than 7700 job advertisements for various LIS positions up to 6013 job advertisements at the end of December 2017. However, this online source has been used as a referral source for this study because with help if

hyperlinks one can reach the main webpage of the institutions from where the job published. Since it is the most preferred job aggregator for LIS professionals in India hence, the same may treat as a national representation, because several newspapers are cutting of job advertisements also found from various daily newspapers (LIS Links, 2019, accessed on September 10, 2019*).*

3.5 LIMITATION OF THE STUDY

The study covered an analysis of job advertisements published in the above-mentioned sources for a period of six years i.e. from January 2012 to December 2017 in Hindi and English only. However, the present study excluded the advertisements appearing for short term jobs like library trainees, internship and such other jobs. The study proposes to include job announcements for the permanent and regular positions in government and private sectors. The study has also not covered the job advertisements which are repeated, overlapped, or incomplete.

3.6 CONTENT ANALYSIS: A METHOD OF EVALUATION

The content analysis is an original, first hand and problem-specific method of data collection that help to describe and evaluate a given phenomenon or problem under study. The method is evaluative, therefore the parameters or variables can be defined before the data collection. The technique involves studying previously recorded information systematically and objectively by splitting it into some manageable units related to the study.

Content analysis is a useful technique when one has a large quantity of data and it needs to be structured to arrive at a definite conclusion about the variables under study. A longitudinal approach for the data collection was used in this study for which a checklist contained more than 30 fields was designed and developed based on the objectives and hypotheses of the study. The instrument i.e. checklist was tested based on a pilot study which was carried out with the purpose to review the elements included for content analysis.

3.6.1 Pilot Study

The pilot study was also carried out in December 2017 before the main research to evaluate the efficiency of the research design and the tool constructed with the purpose of data collection. There were several parameters were reduced those were not related to the objectives and hypotheses of the study. For example, earlier, an element to record website address was used, but after pilot study, the same was replaced by the 'name of institution' so that repetitions can be identified while there was no use of the web address of the advertisement published in 2012 or 2013 because most of them were not active. Apart from it, the pilot study was beneficial in terms of improving the:

3.6.2 Process of conducting full-scale research

The pilot study found to be important in terms of the improvement in the process of conducting full-scale research as it allowed to guess the time duration of collecting data for a month, or year, what is the process to collect data will be easy and so on. In brief, the pilot study provides an overview of the time frame of the data collection with accuracy.

3.6.3 Management of Research and Data Collection

After conducting a pilot study, it became easy to understand the problem with data collection and resource involvement in the study. So, the pilot study was proved helpful on many occasions throughout the final study.

3.6.4 Checklist/ Observation Sheet Used for Data Collection

The checklist as an instrument for data collection for qualitative research can be assessed based on validity and reliability. A checklist is a list of structured points or elements that needs to be observed or evaluated. Using this technique, a researcher can mark the presence or absence and yes or no criteria or can note down short comments about a topic. The checklists are used to encourage or verify several specific lines of inquiry, steps or actions are being taken, or have been taken, by a researcher. These surface in a variety of forms throughout data collection and analysis (Kumar, 2002).
Since the study is based on the content analysis of the job advertisements, therefore, to collect data from the data sources, a checklist or observation sheet based on the objectives and hypotheses of the study was designed and developed. The observation

sheet contained more than 30 parameters generally available in a job advertisement, the parameters observed in the checklist are given as under:

Table: 3.2: Parameters of Checklist

S. No	Parameters	S. No	Parameters
1	Source of Ads	16	Experience
2	Ads Quantity	17	Pay Scales, Grade Pay, Pay-Band & Group of Post
3	Month	18	Fix pay
4	Year	19	Traditional/Non- traditional
5	Name of Post	20	Functional Areas
6	Numbers of Posts	21	Nature of Position
7	Teaching/Non-Teaching	22	Sector
8	Category of Reservation	23	Types of Library
9	Sub-Category	24	Level of Management
10	Minimum Level of Education	25	State
11	Additional Qualifications	26	Ads Language
12	Essential Qualification	27	Application Fee
13	Desirable Qualification	28	Mode of payment & apply
14	Advanced Skills	29	Time limits
15	Age Limits	30	Name of Institution

The final checklist which is used in the study is given as **Appendix I.**

3.7 ADMINISTRATION OF THE DATA COLLECTION

The study aims to examine the current trends of the employment opportunities for the Library and Information Science (LIS) Professionals in the changing Indian scenario. The study tends to examine the LIS job advertisements published for a period of six years from January 2012 to December 2017. The study covers three major data sources of LIS job advertisements in India in which one online data source i.e. LIS-Links an online blog of the more than 25000 LIS professionals across the country and two offline (print) data sources i.e. Employment News and University News those circulated countrywide. The study covered 4294 LIS job advertisements that contain 5928 posts and 11824 vacancies. The content analysis of these advertisements was carried out to find out various aspects of the LIS job market in India. Kim and Agnakoon, (2016) state that job advertisements are the behavioral data source that provides real-time demand for the core professional skills and qualifications. Such skills and competencies could be concerned with the LIS schools in India. The content analysis is now a well-established research method that reveals roles, de facto skills, examines qualifications, the scope of working areas, responsibilities, expectations besides underlines salary, etc.

The data collection was started on 5th January 2018 with the help of a checklist contained more than 35 parameters designed as per the objectives and hypotheses of the study. A systematic longitudinal approach for data collection was adopted in which the following steps were followed for the offline sources.

1. Selecting the source one by one.
2. Marking on the LIS Advertisements
3. Entry in the checklist
4. Data entry in the MS-Excel spreadsheet from the checklist
5. Setting up the variables for the presentation of data
6. Data analysis and interpretation.

However, for the online data source i.e. LIS-Links different approach was adopted in which the detailed advertisements were downloaded first and arranged them year wise for analysis. The administration of the data collection and its process source wise given under subsequent tables and figures below.

3.8 DATA COLLECTION FROM THE LIS LINKS

At the time of data collection from the LIS-Links, it was observed that there was a difference between the advertisement uploaded and in the numbers of showing on the dashboard. Therefore, first of all, the actual gap between both was identified and given in figure 3.1.

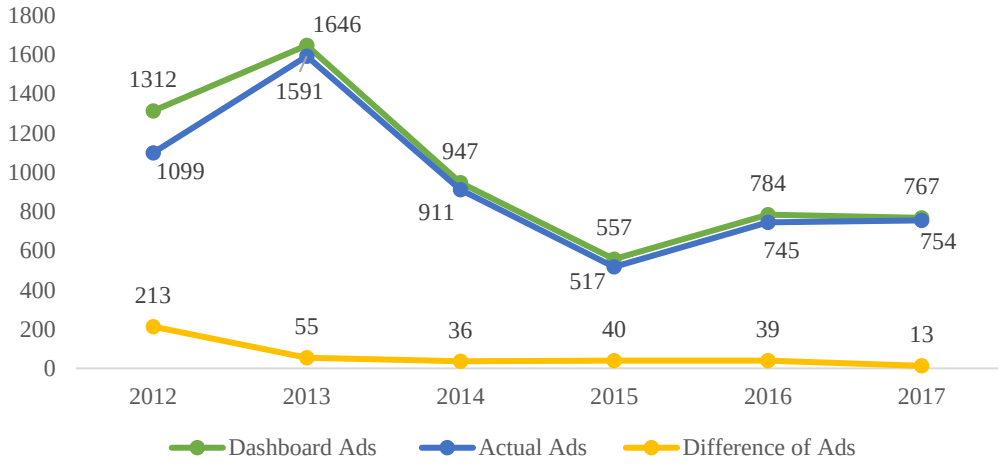

Figure 3.1: Total Numbers of Advertisement Found on LIS-Links

In figure 3.1, data showing on the middle line (Blue) was the actual numbers of the advertisement that were considered for the study. Whereas the top line (Green) represents the number of ads given on the dashboard and the bottom line (Yellow) is showing the difference between them both. Figure 3.1 shows year-wise details of the job advertisements found on the LIS-Links from 2012-2017. The difference of ads showing on the dashboard and actual ads was the highest i.e. 213 in 2012 while in 2017 it was the lowest i.e. 13. Before starting the data collection, it was important to find out the actual numbers of the advertisements published or uploaded on the LIS-Links. A total number of 6013 advertisements were showing on the dashboard, however, a gap of 396 advertisements was found in the actually published advertisements, therefore, a total of 5617 ads were considered for the final processing of the data from the LIS-Links.

After getting actual numbers i.e. 5617 of the advertisements from LIS-Links, the processing of these ads was started. The advertisements were processed and removed according to the limitations of the study. Year, as well as month-wise details of the processing, is given in Table 3.3.

Table 3.3: Total Number of Advertisement Processed from LIS-Links

Months	2012			2013			2014			2015			2016			2017		
	TA	**RA**	**PA**	**TA**	**RA**	**PA**	**TA**	**RA**	**PA**	**TA**	**RA**	**PA**	**TA**	**RA**	**PA**	**TA**	**RA**	**PA**
January	85	33	52	88	41	47	126	43	83	49	13	36	55	14	41	62	9	53
February	60	34	26	84	47	37	83	40	43	53	20	33	145	61	84	54	14	40
March	105	22	83	91	39	52	77	37	40	41	17	24	55	14	41	68	33	35
April	44	6	38	138	25	113	61	26	35	41	12	29	33	7	26	66	19	47
May	68	12	56	110	42	68	70	44	26	59	30	29	56	11	45	55	19	36
June	83	15	68	94	50	44	69	28	41	45	15	30	60	28	32	43	12	31
July	110	32	78	160	97	63	86	31	55	39	19	20	52	16	36	64	25	39
August	98	49	49	204	129	75	69	26	43	27	14	13	62	22	40	39	19	20
September	105	47	58	202	110	92	88	40	48	36	13	23	66	23	43	45	12	33
October	115	65	50	175	101	74	61	33	28	49	13	36	62	31	31	28	9	19
November	108	57	51	122	63	59	62	30	32	46	9	37	44	16	28	91	19	72
December	118	46	72	123	40	83	59	22	37	32	19	13	55	14	41	139	42	97
Total	**1099**	**418**	**681**	**1591**	**784**	**807**	**911**	**400**	**511**	**517**	**194**	**323**	**745**	**257**	**488**	**754**	**232**	**522**

TA= Total Ads, RA= Removed Ads, PA= Processed Ads.

Analysis in table 3.3 shows that there were 5617 advertisements published and uploaded on the LIS Links from 2012 to 2017 with an average of 936 advertisements per year. However, there were only 3332 advertisements processed for the study with an average of 555 ads per year. A total of 2285 advertisements were removed with an average of 380 Ads per year as per the limitations of the study. The details of the removed advertisements are given in table 3.4.

Table 3.1 also reveals that 784, 418 and 400 advertisements were removed in 2013, 2012 and 2014 respectively. Similarly, in the same years, most advertisements i.e. 1591, 1091 and 911 were published and uploaded on the LIS Links. It was observed that in the initial years of the creation of the LIS links online blog, there were no limitations on the ads uploaded. However, later on, it was implemented to control the duplication among the job advertisements uploaded.

The study limits for the short terms jobs, temporary, training, incomplete, repeated and overlapped job announcements published in the period and data sources covered in the study. The details of the job advertisements limited from the LIS-Links are given in table 3.2.

In this study, the data from the Employment News was considered as the foundations or the master while the other two data sources were considered as the subsidiary for finding the overlapped LIS job advertisements. The details of the overlapped data limited to the final process of the study have given in table 3.6.

The analysis in table 3.6 shows that there was 153 total overlapped LIS job advertisements were found in which the majority of them were published on the online data source i.e. LIS-Links.

Table 3.4: Details of Advertisements Removed from LIS-Links

Nature of Posts	Parameters to Limit the Study	2012	2013	2014	2015	2016	2017	Total
Missing	Absence of Place of work	5	37	13	5	3	6	69
	Bluer/Not visible Ads	13	19	9	0	2	0	43
	Designation not mentioned	12	23	16	0	5	4	60
	Incomplete Ads	61	128	33	21	19	15	277
	Missing Information	30	47	42	18	28	9	174
	Post not mentioned	15	29	17	9	5	3	78
	Qualification Not given	10	38	8	4	13	22	95
	Very short Information	18	44	41	15	8	6	132
Temporary	Adhoc	1	14	2	1	2	0	20
	JRF/SRF related post	5	20	4	0	2	9	40
	Short period work less than 6 months	5	29	6	11	3	6	60
	Temporary	36	14	4	5	13	15	87
	Vacancy against lien/Leave post	2	15	2	1	2	5	27
	Walking Interview	21	29	42	23	9	19	143
Corrigendum	NGO work	2	6	1	0	0	6	15
	Extension of Date	9	13	17	6	5	8	58
	Corrigendum	5	21	3	2	4	3	38
Repeated	Duplicate	69	54	42	24	18	13	220
	Overlapped from other twos	43	58	26	8	12	6	153
	Repeated	6	12	1	3	0	2	24
Training	Training	8	70	47	19	67	59	270
Common Qualification	10th	8	5	2	7	10	4	36
	12th	0	2	0	1	3	2	8
	8th	2	8	0	1	2	1	14
Others	Foreign	1	3	0	0	1	1	6
	Language other than Hindi/ English	8	17	13	2	7	2	49
	Non-LIS Ads	7	13	3	6	10	3	42
	Third-party service providers	16	16	6	2	4	3	47
	Total	**418**	**784**	**400**	**194**	**257**	**232**	**2285**

The details of the advertisement removed are summarized in the sub-table 3.5 given as below:

Table 3.5: Summary of Advertisements Removed from LIS-Links

Parameters to Limit the Study	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**	**%**	**Rank**
Missing Information	164	365	179	72	83	65	928	40.6	1
Repeated	118	124	69	35	30	21	397	17.3	2
Temporary	72	127	61	41	31	60	392	17.1	3
Training	8	70	47	19	67	59	270	11.8	4
Corrigendum	14	34	20	8	9	11	96	4.2	6
Common Qualification	10	15	2	9	15	7	58	2.5	7
Others	32	49	22	10	22	9	144	6.3	5
Total	**418**	**784**	**400**	**194**	**257**	**232**	**2285**		

Table 3.6: Details of Overlapped Advertisements Removed from all Data Sources

Overlapped Advertisements	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**
Employment News (Assumed as Master Source)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
University News	6	9	11	2	0	3	31
LIS-Links	37	49	15	6	12	3	122
Total	**43**	**58**	**26**	**8**	**12**	**6**	**153**

Analysis in tables 3.4 and table 3.5 shows that the advertisements were controlled based on the limitations of the study. The detailed analysis in table 3.4 reveals the microanalysis of the job advertisements uploaded on the LIS-Links whereas table 3.5 reveals the summary of the same. Table 3.6 also added after the suggestions received in the pre-submission seminar that showing overlapped advertisements from all the data sources covered in the study.

The processed data was administered and classified in a systematic order. However, it took more than eight months to complete the process of only a single online data source namely LIS-Links. The LIS links represent the ads published across the country. Out of the total removed 2285 job advertisements 40.6% (928) were containing missing information, 17.3% (397) were repeated and 17.1% (392) consisted of temporary job opportunities for the LIS professionals. The study does not include the 2.5% (58) advertisements that contained common qualifications such as 8^{th}, 10^{th} and 12^{th} standards which is the general in nature and no LIS qualifications required to apply.

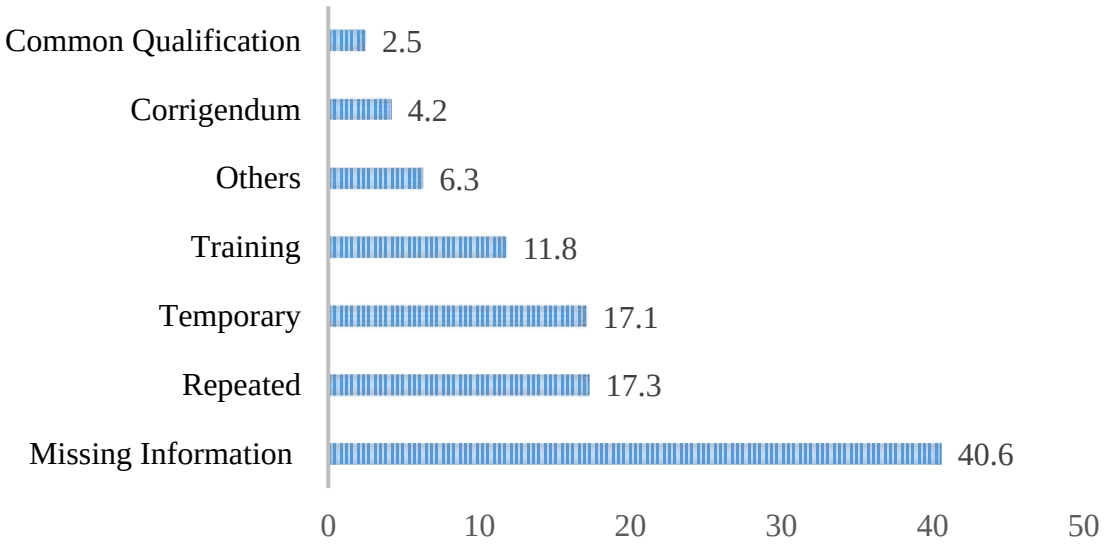

Figure 3.2: Limiting Parameters Applied on the LIS-Links

Figure 3.2 also shows the percentage of the parameters considered for the removal of the LIS job advertisements from the LIS-Links. It reveals that because of the missing information among the Ads on the LIS-Links, 40.6% of ads were limited. The data collected from the online source took a longer time than the offline sources.

In the study, an attempt was made to find out the various posts and the number of vacancies along with the number of advertisements. The data collected and processed are presented in table 3.7.

Table 3.7: Advertisements from LIS-Links Considered for the Study

Month	2012			2013			2014			2015			2016			2017		
	Ad	**Post**	**Vacancy**	**Ad**	**Post**	**Vacancy**	**Ad**	**Post**	**Vacancy**	**Ad**	**Post**	**Vacancy**	**Ad**	**Post**	**Vacancy**	**Ad**	**Post**	**Vacancy**
Jan	52	64	110	47	58	93	83	115	182	36	52	64	41	47	166	53	68	111
Feb	26	32	44	37	43	1768	43	66	82	33	38	51	84	102	129	40	58	362
Mar	83	104	151	52	66	71	40	64	109	24	30	37	41	63	76	35	52	73
Apr	38	45	68	113	126	141	35	54	72	29	40	53	26	36	85	47	53	125
May	56	69	93	68	79	138	26	30	49	29	48	70	45	66	94	36	55	114
Jun	68	79	125	44	50	81	41	55	82	30	38	49	32	40	45	31	45	122
Jul	78	92	155	63	70	78	55	73	98	20	29	75	36	43	61	39	53	1585
Aug	49	57	59	75	85	97	43	53	516	13	24	49	40	54	86	20	25	34
Sep	58	63	129	92	123	150	48	58	88	23	34	50	43	71	705	33	43	120
Oct	50	62	68	74	89	122	28	41	75	36	50	68	31	46	130	19	23	38
Nov	51	65	159	59	71	113	32	41	107	37	65	138	28	41	165	72	87	150
Dec	72	80	178	83	115	167	37	48	56	13	13	38	41	64	150	97	113	482
Total	**681**	**812**	**1339**	**807**	**975**	**3019**	**511**	**698**	**1516**	**323**	**461**	**742**	**488**	**673**	**1892**	**522**	**675**	**3316**

The study aims to find out the LIS job opportunities for the LIS professional in India through a content analysis of the job advertisements in reputed and well established three major sources of employment opportunities. Therefore, the data collected in such a manner so that the number of advertisements, number of posts and the total numbers of the vacancies against each post can be identified. The detailed account of information about the LIS job opportunities composed from the online data source i.e. LIS-Links and included in the study is given in table 3.4. However, to understand the detailed account in table 3.4, a summary of the same is also given in table 3.5.

Table 3.8: Summary of Ads from LIS-Links Considered for the Study

Year	LIS-Links					
	Ads	**%**	**Post**	**%**	**Vacancy**	**%**
2012	681	20.4	812	18.9	1339	11.3
2013	807	24.2	975	22.7	3019	25.5
2014	511	15.3	698	16.2	1516	12.8
2015	323	9.6	461	10.7	742	6.7
2016	488	14.7	673	15.6	1892	16
2017	522	15.6	675	15.7	3316	27.7
Total	**3332**		**4294**		**11824**	

Analysis in table 3.8 shows the summary of the advertisements from the LIS-Links finally considered for the study. It reveals the year wise account of the LIS job opportunities on the LIS-Links during 2012-2017 in India. It shows that an average of 555 advertisements, 715 posts, and 1970 vacancies per year announced during the period covered in the study. In 2013, the highest number i.e. 807 (24.2%) advertisements followed by 681 (20.4%) in 2012 were published and uploaded on the LIS-Links. Whereas, only 323 (9.6%) the least number of advertisements were found in 2015. Similarly, the number of posts was also the highest 975 (22.7%) and the lowest 461 (10.7%) in 2013 and 2015 respectively. Table 5 also reveals the number of vacancies which was the highest 3019 (25.5%) in 2013 and the lowest 742 (6.7%) in 2015.

India is a country where employment is a big problem at the national level, the LIS field is also not untouched with the fact. However, the vacancies advertised are not sufficient where more than 10000 LIS professionals produced every year in India. Professional competencies and UGC standards are pervasive in Indian boundaries, hence it is

important to know how these standards are followed in private and public sectors through a descriptive content analysis of advertisements.

3.9 DATA COLLECTION FROM EMPLOYMENT NEWS

The study also includes two other important offline sources namely Employment News, (English Edition) a weekly newspaper of Publication Division, Government of India circulated across India and University News, a weekly journal of Association of Indian Universities contained job advertisement concerned with the Indian educational institutes.

The details of the data collected from the Employment News is given under subsequent tables and figures.

The data collected from the Employment News started in October 2018 which took five months. The missing issues of the newspaper were identified and the available issues were classified in a systematic order to collect the data. It was started with the marking of the LIS advertisement on each page of the given newspaper. The checklist was filled up by analyzing the content of the LIS job advertisement, later on, the same was entered into the MS-Excel spreadsheet. Meanwhile, the missing issues of the publication also found out from the Delhi Public Library (DPL) and supplemented the main data.

Table 3.9: Advertisements from Employment News Considered for the Study

Month	2012			2013			2014			2015			2016			2017		
	Ads	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**
Jan	9	12	17	8	8	12	4	4	4	9	12	44	21	23	39	11	14	17
Feb	6	7	8	8	11	31	19	24	29	7	12	18	7	7	17	9	16	25
Mar	13	14	58	9	11	393	20	38	58	9	13	14	6	12	19	9	11	33
Apr	14	15	17	5	6	7	8	15	19	8	21	151	3	8	11	16	34	55
May	15	18	29	9	16	32	6	7	16	7	9	84	4	5	7	4	8	10
Jun	13	18	55	17	20	26	11	17	18	7	11	18	7	13	23	10	18	43
Jul	16	22	55	10	10	121	2	2	2	2	6	6	7	8	9	13	21	49
Aug	10	14	15	10	18	26	9	13	18	10	12	26	4	6	8	7	9	14
Sep	10	11	17	4	8	10	11	12	23	5	9	11	10	13	15	16	21	29
Oct	8	12	14	13	19	43	10	15	28	17	26	37	13	19	29	9	9	11
Nov	10	16	22	8	9	14	8	12	44	9	25	49	12	14	21	8	9	17
Dec	10	11	42	7	8	9	11	14	29	11	16	22	13	23	32	12	18	23
Total	**134**	**170**	**349**	**108**	**144**	**724**	**119**	**173**	**288**	**101**	**172**	**480**	**107**	**151**	**230**	**124**	**188**	**326**

The detailed account of the total advertisements, posts and the vacancies published in the Employment News is given in table 3.8. Before, final inclusion in the study, the data collected was also processed based on the limitations of the study which is given in table 3.10.

Table 3.10: Advertisements Removed from Employment News

Parameters to Limit the Ads	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**	**%**
Training	2	3	3	3	2	7	20	57.1
Qualification Not given	0	3	0	1	2	1	7	20
Temporary	2	0	1	0	0	0	3	8.5
10th	0	0	1	2	0	0	3	8.5
Repeated	0	0	2	0	0	0	2	5.7
Total	4	6	7	6	4	8	35	

The data collected from the Employment News was also processed and the advertisements were removed based on the limitations of the study. The analysis presented in Table 3.10 shows that a total of 35 LIS job advertisements were removed from the main data collected from the Employment News for six years. The 57.1% (20) LIS job ads were related to the post of trainees or apprenticeship. Whereas in 20% (7) ads no qualification was given, 8.5% (3) each ad was temporary and consisted of the common qualifications. Only 5.7% (2) ads were repeated in the Employment News published from 2012-17. Further, the data processed for the study is presented in table 3.11 for a clear view of the data.

Table 3.11: Advertisements Processed from Employment News

Total Advertisements	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**Total**	**%**
Found	138	114	126	107	111	132	728	--
Removed	4	6	7	6	4	8	35	4.8
Processed	**134**	**108**	**119**	**101**	**107**	**124**	**693**	**95.2**

The analysis in table 3.11 reveals that 95.2% (693) advertisements were considered after processing 4.8% (35) ads as per the limitations of the study out of the total 728 advertisements in the Employment News from 2012-17.

Table 3.12: Summary of the Advertisements from Employment News Considered for the Study

Year	Employment News					
	Ads	**%**	**Post**	**%**	**Vacancy**	**%**
2012	134	19.3	170	17	349	14.5
2013	108	15.5	144	14.4	724	30.2
2014	119	17.7	173	17.3	288	12
2015	101	14.5	172	17.2	480	20
2016	107	15.4	151	15.1	230	9.5
2017	124	17.8	188	18.8	326	13.6
Total	**693**		**998**		**2397**	

Finally, after removal the advertisements as per the limitations of the study, the summary of the Advertisements considered from the Employment News given in table 3.12 shows that a total of 693 advertisements were considered in which 998 posts and 2397 vacancies were published in the six years. An average of 115 ads, 166 posts, and 400 vacancies were published per year from 2012-17. As regards the percentage of the advertisements in the Employment News, it was just comprised of 15% to 20% distribution per year.

The Employment News is the oldest publication as far as the job advertisement concerned in India. The limitation of this source is that it only publishes the jobs in public sectors including the results of the various competitive exams. The offline sources are the master source which is used as the foundation of the other two sources covered in the study. The overlapped advertisements were identified from the Employment News data source.

3.10 DATA COLLECTION FROM UNIVERSITY NEWS

Another source of the data collection was the University News a weekly journal that publishes various job advertisement especially for the academic and educational sectors in India. The details of the data of advertisements, post, and the number of vacancies collected for the period covered in the study are given in table 3.13.

Table 3.13: Advertisements Processed from University News

Month	2012			2013			2014			2015			2016			2017		
	Ads	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**	**Ads**	**Post**	**Vacancy**
Jan	4	5	8	4	4	4	5	8	8	5	5	5	6	6	8	10	10	10
Feb	3	3	3	8	8	8	17	17	18	5	5	6	13	13	13	7	7	8
Mar	7	7	7	7	7	7	5	6	7	12	12	13	7	7	7	7	7	10
Apr	11	15	17	0	0	0	1	1	1	10	10	13	7	7	7	8	8	10
May	17	17	17	15	18	20	11	11	11	11	11	13	13	13	13	11	11	17
Jun	14	14	14	20	20	26	8	10	10	14	14	17	6	6	6	5	5	5
Jul	13	14	17	15	17	17	5	5	5	7	7	10	16	16	17	8	8	8
Aug	7	8	13	11	11	14	10	10	12	7	7	7	10	12	13	4	4	4
Sep	15	15	15	13	15	16	9	9	9	9	9	12	10	12	13	4	4	4
Oct	13	13	17	7	7	7	2	3	3	6	6	16	9	15	19	6	10	15
Nov	5	5	5	6	6	6	5	5	5	7	7	7	4	4	4	4	4	4
Dec	9	9	9	9	10	13	5	5	5	3	4	4	5	6	10	5	6	7
Total	**118**	**125**	**142**	**115**	**123**	**138**	**83**	**90**	**94**	**96**	**97**	**123**	**106**	**117**	**130**	**79**	**84**	**102**

The data collected from the University News started in March 2019 which took four months. The missing issues of the journals were identified and the available issues were classified in a systematic order to collect the data. The marking of the LIS advertisement on the pages of the given journal. The checklist was entered manually by analyzing the content of the LIS job advertisement, later on, the same was entered into the MS-Excel spreadsheet. Meanwhile, the missing issues of the publication also found out from the nearby libraries. The detailed account of the total advertisements, posts and the vacancies published in the University News is given in table 3.13. Before, final inclusion in the study, the data collected was also processed based on the limitations of the study which is given in table 3.14.

Table 3.14: Advertisements Removed from University News

Parameters to Limit the Ads	2012	2013	2014	2015	2016	2017	Total
Training	0	1	0	0	0	0	1
10th	0	1	0	0	0	0	1
Overlapped	0	0	0	1	1	1	3
Repeated	0	0	0	0	1	1	2
Total Advertisements	**0**	**2**	**0**	**1**	**2**	**2**	**7**

The analysis in table 3.14 reveals that a total of only 7 LIS job advertisements published in the University News were removed as per the limitations of the study in the whole period of six years. A summary of the LIS job advertisements considered for the study is given in table 3.15.

Table 3.15: Summary of Ads from University News Considered for the Study

Year	University News					
	Ads	%	Post	%	Vacancy	%
2012	118	19.7	125	19.6	142	19.4
2013	115	19.2	123	19.3	138	18.9
2014	83	13.9	90	14.2	94	12.8
2015	96	16	97	15.2	123	16.8
2016	106	17.7	117	18.3	130	17.8
2017	79	13.2	84	13.2	102	13.9
Total	**597**		**636**		**729**	

After removal, the advertisements as per the limitations of the study, the summary of the Advertisements considered from the University News presented in table 3.15 that shows a total of 597 LIS job advertisements were considered in which 636 posts and 729 vacancies were published in the six years. An average of 100 ads, 106 posts, and 121 vacancies were published per year from 2012-17. As regards to the percentage of

the advertisements in the University News, it was just covered between 13% to 20% distribution per year.

The University News is a reliable data source published weekly by the Association of Indian Universities, New Delhi that published Job advertisements from public and private educational sectors in India.

The offline data sources covered in the study for the collection of data related to the LIS job advertisements was attempted to cover all the published issues, but it was very difficult as most of the libraries do not preserve them for the long periods. Therefore, many libraries in Delhi and Lucknow were accessed to find the data sources, finally, the Delhi Public Library, New Delhi and Madhu Limay Library, Dr. Ram Manohar Lohiya University, Lucknow were helped the researcher to collect the desired data for the study.

The brief details of the missing issues of both offline sources i.e. Employment News and University News are presented in table 3.16.

Table 3.16: Details of Missing Issues of Print Data Sources

Data Sources	2012	2013	2014	2015	2016	2017	Total	Total Published Issues	Missing Response	Response Rate
Employment News	11	8	4	1	8	7	39	318	12.2	87.80%
University News	0	4	0	0	0	0	4	318	1.2	98.80%
Total	**11**	**12**	**4**	**1**	**8**	**7**	**43**	**636**	**6.7**	**93.30%**

The analysis in table 3.16 demonstrates that only 12.2% (39) issues of the Employment News from six years out of the total published 318 issues were missing which means 87.8% (279) issues of the newspaper were accessed for the study. Similarly, only 1.2% (4) issues of the University News were found missing out of the total of 318 issues published during 2012-17 that reflects an attractive response rate i.e. 98.8% (314) for the University News data source. Therefore, an overall response i.e. 93.3 was achieved for the study. The study is more towards reliability as it obtained a fair response rate.

3.11 DATA PROCESSING FOR THE STUDY

The data in its kernel form does not convey any useful information. It needs to be well-organized and properly arranged to extract a meaningful result. For this study, the data collected has processed to editing, coding, classification, data entry, and preparation of tables and graphs to data presented in a logical and precise manner to make data analysis a more logical and judicious way. For processing and cleaning of data following steps were adopted:

3.11.1 Editing of data

Since the data for the advertisements is related to three major data sources that were collected from more than 6000 LIS job advertisements. The study also has few limitations therefore, it was essential to take utmost care in editing the same for the analysis. For this study, the editing refers to reviewing in collecting the relevant data as per the scope and limitation. The editing helped in filtering ambiguous information that can create a problem in data analysis.

3.11.2 Coding of data

The coding is a kind of mechanism by which code to a data unit in the form of a symbol or numerical values to the nominal data that help in the analysis in the statistical software. The data collected through the checklist was mostly nominal that required proper coding to each parameter to interpret data and reach an accurate conclusion. The coding helps in the identification of the variables for testing of hypotheses of the study.

3.11.3 Data Entry into MS Excel and SPSS software

The data collected from the data sources covered in this study was firstly entered in the hard copy of the checklist. After grouping the data in these checklists, the same was entered into the MS-Excel spreadsheet with accuracy. The data processing with the help of the spreadsheet became easy to calculate the quantity and percentage of the occurrences of the advertisement in a particular group of data. The Statistical Package for Social Sciences (SPSS) version 20.0 to calculate the mean, standard deviation and

identifying the significance level between dependent and independent variables derived from the hypotheses of the study.

3.11.4 Classifications of the Coded information

The classification for this study refers to the categorization of the coded data into the MS-Excel sheet into the correlated variables according to the objectives and hypotheses of the study. A research study needs to note the similar characters and segments of variables together such as age, level of education, experience, etc. required in the job advertisements.

3.12 DATA ANALYSIS PROCEDURE

To conclude, data analysis is an important process after processing of data. The data analysis procedure adopted for this study is given as follows:

3.12.1 Descriptive Analysis

Since the study is based on the distribution pattern and occurrences of different types of variables, so the descriptive analysis has adopted for the study because it describes the relationship between the variables.

3.12.2 Inferential Analysis

The study carried out different types of an inferential statistical tests of significance for verifying the validity of the hypotheses formulated in the study. For the inferential analysis, the validity of the conclusion has determined on the parametric tests for testing hypotheses.

3.12.3 Measures of Central Tendencies

The measures of central tendency are used to find out the distribution pattern of a dataset understudy because these give a central value that represents a large set of data as the case in this study. The central value can be considered as an average but usually,

it does not necessarily represent the arithmetic mean always. Out of the numbers of measures, the study adopted only mean and weighted mean those were found suitable as per the nature of data and requirement of its analysis.

3.12.4 Mean

It is the sum of all of the numbers of a group or category when divided by the number of items in that list is known as the Arithmetic Mean or Mean of the group. A researcher may get mean after dividing the sum of the observations by the total numbers of observations. The following formula has been used for the study.

Mean (X) = $\sum Xi/n$

Where, X = Symbol for mean

$\sum Xi/n$ = Sum of all the observation/Frequency

Xi = X_1+ X_2……n

n = Number of observations

Let's understand the concept of arithmetic mean with the help of the following example

Range of Fixed Salary	Observations
< 10000	43
10001-15000	85
15001-20000	65
20001-25000	50
25001-30000	30
3000-35000	14
> 35000	32
Total	**Xi=319**

$$\text{Mean (X)} = \frac{\text{Sum of all the observation}}{\mathbf{n}}$$

$$\text{Mean (X)} = \frac{43+85+65+50+30+14+32}{\mathbf{7}} = \frac{319}{\mathbf{7}}$$

Mean (X) = **45.5**

3.12.5 Measures of Dispersion

To supplement the use of mean, and to find out the dispersed value near the mid-value in a data series measures of dispersion like range and standard deviation were used in the study.

3.12.5.1 **Range**

The range represents the difference between the higher and the lowest value in a series of data. However, it considered a rough measure of variability because it depends on the size of the series. The study adopted the range technique to identify the range of years of experience, age, and amount of the fix salaries offered by the employers.
The formula for calculating the range is given as follows:
Range = (Highest value of series- the Lower value of series).

3.12.5.2 **Standard Deviation**

The standard deviation used to calculate the scattering of values in a given dataset. The letter **σ** (Greek Sigma) is used to denote the standard deviation calculations. In simple words, the standard deviation is the square root of the variance of a data series. For this study, the same is used with the help of statistical software with the help of the following formula.

Standard deviation (**σ) =** $\sum$ **(Xi-X) 2/n** **or** in case of frequency distribution,

Standard deviation (**σ) =** $\sum$**fi (Xi-X) 2/n**

Note: The coefficient of **σ** can be calculated by dividing σ with the mean of the series. It is the relative measure of dispersion. When the σ is multiplied with 100 the coefficient of variance obtained.

3.13 PROCEDURE FOR TESTING OF HYPOTHESES

Testing of the hypothesis is a process of making decisions for research problems under study based on data. It is a rational process validating decisions based on the true or false result of an analysis of establishing a relationship between variables (Ramamurthy, 2012). The researcher states a hypothesis to be tested, formulates an analysis plan, analyzes sample data according to the plan, and accepts or rejects the null hypothesis, based on the results of the analysis. Before, understanding the procedure of testing hypotheses, it is important to know the quality of the data collected for this study. This can be understood by using *Kruskal-Wallis equality-of-populations rank*

test of the population for testing of hypotheses with the help of Statistics/Data Analysis (Stata) 14.1 version software given as below:

Kruskal-Wallis equality-of-populations rank test

all_Job_oppn	Obs	Rank Sum
0	1,306	3.70e+06
1	4,622	1.39e+07

Chi-squared = 10.198 with 1 d.f.
Probability = 0.0014

Chi-squared = 13.085 with 1 d.f.
Probability = 0.0003

The above test shows the overall quality of the data collected for this study. The result shows the significance of the probability of data. In this study, the following procedure for testing of hypotheses has been adopted.

3.13.1 Determine Nature of Hypothesis

Every hypothesis test requires to state the nature of a hypothesis (i.e. a null hypothesis and an alternative hypothesis). The hypotheses are stated in such a way that they are mutually exclusive i.e. if one is true, the other must be false; and vice versa. In this, study first of all the null hypothesis was considered by assuming no relationship between the two variables selected for the test.

3.13.2 Set the Level of Significance

It is the probability to reject or to accept the null hypothesis in a statistical test. The level of significance can be set between 0 and 1 i.e. 0.01, 0.05 or 0.10, etc. Ramamurthy, (2012) stated the commonly used level of significance in statistics 1%, 5%, and 10%. Usually, a 5% level of significance shows that the probability of rejecting the true hypotheses is 0.05 in an applied test. For getting more significant results, the researcher may set a more rigorous p-value of 0.01 or 0.001. This probability of chance result is called the level of significance, or **Alpha (α)** level. The convention is a p-value set by 0.05 or 5% as it minimizes the chances of type I and type II error in the result calculated.

3.13.3 Select an Appropriate Test Statistics

It refers to decide the sample size, population type, variance, nature of data and the types of tailed used in the research. The types of the test involve a test statistic and a sampling distribution and its size. For example, researcher use *t-test* when the sample size is less than 30 and uses *z-test* for more than 30 sample size. Computed from sample data, the test statistic might be a mean score, proportion, difference between means, the difference between proportions, z-score, t-statistic, chi-square, standard deviation, etc. Given a test statistic and its sampling distribution, a researcher can assess probabilities associated with the test statistic.

For this study, the *Z- Test, and Chi-square test*s are used depending upon the nature and size of the variables in the hypotheses.

3.13.4 Compute the Test Statistic or p-Value

It involves analyzing sample data by performing computations for the test statistics. As part of the analysis, it may need to compute the standard deviation or standard error of the statistic to obtain a p-value. To compute the test statistic for this study, the *Statistics/Data Analysis 14.1* (STATA) and *Software Package for Social Science 20.0* (SPSS) versions of this software were used.

3.13.5 Examine and Interpret the Results of Statistical Test

It refers to either rejecting or accepting the Null Hypothesis based on the calculated value. Examining of the test involves comparing the P-value to the significance level, and reject the null hypothesis (H_0) in case of the P-value is less (below i.e. $\mathbf{p \leq 0.05}$) than the significance level and claim that an observed result supports or accepts the research hypothesis i.e. H_1 (Alternate Hypothesis). Conversely, if the p-value for the test is greater (i.e. above $p > 0.05$) then the researcher does not have enough justification to reject the null hypothesis or he/she failed to reject H_0.

3.13.6 Example of a Test Used for testing Hypothesis in Study:

Hypothesis (No. 4 in this study): *There is No significant relation between LIS job opportunities and working experience of LIS professionals in India.*

- *Nature of Hypothesis*

  H0 = There is ***No*** *significant relation* between job opportunities and working experience of LIS professionals.

  H1 = *There is* ***a significant relation*** *between job opportunities and working experience of LIS professionals.*

- *Level of Significance chosen* = 0.005
- *Selection of Appropriate Test*

  Selection of ***Pearson's Chi-Square Test*** in ***STATA 14.0*** to identify the significant association between the job opportunities in LIS (Independent Variable) and Experience for LIS Jobs (Dependent Variable). The selection of the Chi-Square two-way table with measures of the association was made based on nature of data i.e. categorical and display in contingency table 3.16.

Tabularize job Opportunities in LIS and Experience for LIS Jobs,

cchi2 chi2

Key
frequency chi2 contribution

Table 3.17: Sample of frequency chi2 contribution test

Job_Opp(n)	**All Experience Code**						
_Code	1	2	3	4	5	6	Total
1	2,935 0.6	1,113 1.2	123 1.8	85 1.6	151 0.0	608 2.0	5,015 7.1
2	300 0.9	88 2.2	28 16.4	18 8.2	14 0.0	31 10.4	479 38.0
3	98 2.2	s22 2.4	2 0.9	6 3.8	5 0.1	9 3.2	142 12.8
4	61 3.5	13 1.1	2 0.0	1 0.2	1 0.8	3 4.2	81 9.9
5	23 2.0	17 3.0	2 0.2	3 3.9	0 1.6	7 0.2	52 10.9
6	102 0.6	21 5.1	7 1.5	2 0.4	6 0.3	21 0.4	159 8.4
Total	3,519 9.8	1,274 14.9	164 20.9	115 18.1	177 2.9	679 20.4	5,928 87.0

Pearson chi2 (25) = **86.9973** **Pr = 0.000**

Degree of Freedom (df) = (r-1) x (c-1)

= 6-5 x 6-1

= 5x5 = 25.

Where r = Number of levels for one category variable and

c = Number of levels for another category variable

Chi-square ($x2$) = 86.9973

p- value found as = 9.3275 Thus

p > 0.05

- *Examine:* The researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H_0.

- *Outcome:* The analysis presenting in table 3.2 confirmed that there is a significant relation in the working experience of LIS professionals and the employment opportunities in India. Thus, the hypothesis accepted that both variables have a significant association.

3.14 DATA PRESENTATION

The data collected, processed, and analyzed in this study has been presented in appropriate tables and figures. The data and the frequencies of the data units present based on ranks and percentage wherever needed. The detailed analysis and interpretation of the data is given in chapter 5.

3.15 CITATION STYLE USED IN THE STUDY

The references have been given according to the *Publication Manual of the American Psychological Association 6th Ed.* The prescribed style of APA for giving references within the text and at the end of each chapter has been followed. Examples of different types of authorship have been given below:

3.15.1 In-Text Citation Examples

In APA style, in-text citations are placed within sentences and paragraphs so that it is clear what information is being quoted or paraphrased and whose information is being cited. For this, the surname of the author (s) followed by the year of publication is used.

a. Works by Single Author:

Fink, (2014) describes the literature review as a systematic, explicit, comprehensive, and reproducible method of identifying, evaluating, and interpreting the existing knowledge.

b. Works by Two Authors:

According to McGovern and McKay (2008), list servers are often used to source data for longitudinal studies to allow "retrospective historical analysis"; studies with a shorter sampling period often use serial publications.

c. Works by Multiple Authors:

Content analysis is an established approach used by researchers to investigate library job market trends, organizational needs and changing librarian roles (Choi & Rasmussen, 2009; Clyde, 2002; Gerolimos et al., 2015; Park et al., 2009; Shahbazi & Hedayati, 2016).

3.15.2 Examples of Citations in Reference and Bibliography

References Cited in the text of a research paper must appear in a reference list or bibliography. This list provides the information necessary to identify and retrieve each source.

a. Works by Single Author:

Applegate, Rachel. (2010). Job ads, jobs, and researchers: Searching for valid sources, Library & Information Science Research. 32(2), 163-170.

b. Works by Two Authors:

Chawner, Brenda, and Oliver, Gillian. (2003). A survey of New Zealand academic reference librarians: Current and future skills and competencies. Australian Academic and Research Libraries. 44(1), 29-39.

c. Works by Multiple Authors:

Kim, J., Warga, E., & Moen, W. (2013). Competencies required for digital curation: An analysis of job advertisements. International Journal of Digital Curation, 8(1), 66–83.

d. Works by Corporate Authors (Accessed Online):

Australian Bureau of Statistics. (2000). *Tasmanian yearbook 2000* (No. 1301.6). Canberra: Australian Bureau of Statistics. Retrieved on November 21, 2019, from http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CA2568710006989.$File/13016_2000.pdf

e. Conference Papers and Proceedings:

Kamila, Kanchan. (2009). Employment opportunities for marketing people in India. *7th International CALIBER*, Pondicherry University. February 25-27, 2009. pp. 128-132.

f. Entire Website:

When citing an entire Web site (and not a specific document on that site), no Reference List entry is required if the address for the site is cited in the text of the paper. However, the homepage address with access date may be given.
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Chapter 4
Employment Opportunities in Librarianship

Chapter 4

EMPLOYMENT OPPORTUNITIES IN LIBRARIANSHIP

4.1 INTRODUCTION

The librarianship is a discipline surrounded by libraries, library education, library professionals, library services, practice, and management of libraries. The librarianship denotes the libraries as a storehouse of books where books are kept for preservation and safekeeping. The librarianship associated with traditional viewpoints whereas, the library professional supposed to be centered with methods and solving the problem of acquiring, organizing, and providing effective access to the recorded information.

According to Singh (2003), the contact and influence of librarians draw the attention of the students to select the librarianship as a career. Librarianship earlier known to be storing and preserving books in the library that is now considered as a narrower concept, but it in its broader sense is a combination of all entities, functions, sources, and services concerned with information management and dissemination to the users at the right time. People from different educational levels, qualified in different disciplines and interests in books and dealing with information management in the libraries may look for a career in librarianship. Librarians and library staff help people to locate information, access, and dissemination of information to the people effectively.

The librarianship requires deep understanding and knowledge of public and scholarly information resources across the disciplines in the cutting edge technology to serve library users. The advancement of technology in libraries has a major impact on the roles of the librarian. They keep track of new advanced features, databases, etc.

The incorporation of Information Communication Technologies, especially applications of computers and the internet has changed the direction and concept of Librarianship. The technological changes have resulted to augment several terms and broadened the librarianship into associate disciplines. Cossette, (2009) thrown light on

the closely related terminologies associated with the librarianship in which he described Library Science, Library and Information Science, and archival studies.

4.2 HISTORICAL BACKGROUND

The first textbook on Library Science was published by Gabriel Naude by the title 'advice of establishing a library' in 1627. Gabriel Naude was a French Librarian who put forth the opportunity to build and maintain the library (Khan and Singh, 2015 p. 8). After two centuries in the Martin Schrettinger brought the second book, described to classification system inspired by the Baconian Method that grouped the book by subject instead of alphabetically grouping of books.

The first school of librarianship opens in America on the first January 1887 namely as the School of Library Economy'. It is important to mention that the term' Library Economy' was used for Library Science up to 1942. After that, 'Library Science' used until 1965. The amalgamation of ICT and computers in Libraries enforced to suffix the term 'Information Science' with the Library Science. Nowadays, librarianship is also known as 'Library and Information Science.

In the United States, Lee Pierce Butler's new approach advocated research using quantitative methods and ideas in the social sciences intending to use librarianship to address society's information needs. He was one of the first faculty at the University of Chicago Graduate Library School, which changed the structure and focus of education for librarianship in the twentieth century.

Later, the term was used in the title of S. R. Ranganathan's 'The Five Laws of Library Science' published in 1931, and in the title of Lee Pierce Butler's 1933 book, an introduction to library science has also appeared. In India, Shiyali Ramamrita Ranganathan conceived five laws of library science and developed the first major analytico-synthetic classification system, the colon classification. In India, Dr. Ranganathan's considered to be the father of library science, documentation, and information science and is widely known throughout the rest of the world for his fundamental thinking in the field.

During the last five decades, the library and information science have witnessed many

changes from its delivery of information to the management of the resources and handling the user's services. Haldar in 2009 stated that the libraries have gone through innovation and incremental changes in the information communication and digital library creation for the electronic and anywhere access to the information. The professional's role of librarians has changed multidimensional. The Library and Information Science have emerged as an inter-disciplinary subject through which many other information related fields are offering LIS positions in information industries.

4.3 LIBRARY AND INFORMATION SCIENCE: AS A CAREER

Library and Information science is an interdisciplinary or multidisciplinary area that applies the practices, perspectives, and tools of management, information technology, education and other areas to libraries; in collection, organization, preservation, and dissemination of information resources to the library users. Library and Information Science has comparatively higher job prospects in recent years. The completion of postgraduate degrees as per the UGC prescribed norm that helps to get absorbed in the LIS job market. The LIS profession attracting so many young minds to choose LIS as a career, hence, phenomenal growth in the MLIS enrollment has been noticed in Indian LIS schools (Singh, 2003; Kumar & Sharma, 2009; Khan and Singh, 2015).

The Library and Information Science (LIS) is a combination of the two fields; Library Science and Information Science. The phrase, 'Library and Information Science' is associated with libraries and information management which has developed from professional training in various institutions, during the second half of the 20th century. In the last phase of the seventh decade, schools of librarianship began to add the term 'information science' to their nomenclature in the 1960s, and by the 1980s, almost all library schools in the USA had added 'Information Science' to their names. The trend was more for the adoption of information technology, rather than the concept of science. A similar development has taken place in other parts: of the world, including India (Khan and Singh, 2015). As the prospectus of the department of Library and Information Science, University of Delhi (2017-18) reveals that the word 'information science' was added to the department in 1978 with the reason for amalgamation of the computer technologies in the LIS profession.

Employment is a changing phenomenon that depends upon the interest and choices of the employees and employers.

Employability is a kind of consciousness and responsibility concerned with a particular career and personal development endeavors. It is the ability to perform a given task, learning abilities and retaining capabilities of employees. However, career planning should be clear what an individual want to become in life, they are clear about their knowledge, skills, abilities, values, needs, dream, and personal attributes. Before the selection of a career, one should involve in self-analysis and self-belief about their capabilities and competencies and interest towards librarianship, because, it requires, patience, knowledge, and ability to serve the users.

Library and Information Science (LIS) is a profession that is full of people passionate about making a positive change to the world. Information professionals and librarians, in particular, are in a unique position to bridge the gaps that exist between people, information, and technology. In their professional lives, LIS professionals work to:

1. It supports users to locate stored information and other resources.
2. It designs and develops knowledge-organization systems that allow us to find and use resources available in the library.
3. The library professionals encourage young students to develop a lifelong love of reading and learning.

The librarianship is the right place for the future and existing LIS professionals because it opens and explores different career paths. Irrespective of different education levels and an extensive variety of areas and association with the libraries, the LIS professionals have multiple and diversified employment opportunities. It is expected from LIS job aspirants to possess knowledge and information on the scholarly publications and information sources along with its management, preservation, dissemination to the library clientele to support education in the society. Librarians have witnessed the uprisings in the LIS system from handling and preserving manuscripts to designing of microfilming, managing books to e-books, and providing reference services to a virtual tour of the libraries.

The paradigm has shifted in the libraries by incorporation of ICT applications and computer technologies that resulted in improvement library housekeeping activities that empowered the library professionals and enhance their demand in all sectors of knowledge creation and management. However, there are also many challenges have been associated with this new environment, where librarians perform their work in an automated and digital environment. It is no doubt that the traditional role of librarians has changed and developed in a wide variety of information source management. According to Griffiths, (1999), the emerging image of librarians as learning supporters provides and promises new opportunities for information specialists to facilitate information sources to help in the learning process of the students.

The Library and Information Science professionals in India are closely related to the status of libraries. Before understanding the status and recognition of the LIS profession, it is necessary to understand the status of libraries.

4.4 SOURCES OF LIS CAREER INFORMATION

Library job searchers begin just after the final examination of bachelor's degree ends, though the students much earlier start worrying about their jobs. It gives fruit at the time of their final results of the examination, as few of them have jobs in hands. However, few studies (Singh & Asther, 2011; Dasgupta, 2009; Panigrahi, 2010) show that the percentage of enrollments for higher education such as post-graduation and doctorate degrees relatively less than of students pass out their undergraduate degrees. In the following sections, few sources of employment information, where LIS job aspirants find their jobs are being discussed.

4.4.1 LIS Job Advertisements or Classified Ads

In India, there are prescribed set of rules to publish the ads of job openings in a few national or local newspapers. The employment new is an authentic and most preferred information source of employment in India that published by the publication division, government of India. It is the oldest source of employment information that circulates across the country. Besides, there are several daily newspapers also published classified ads for various job opportunities. These sources of information are particularly published in the employment opportunities in private sectors, as these are commercial sources those change applicable fees for the publications.

4.4.2 Professional Journals

Many professional journals publish the employment ads on the charge basis, this may be their source of earning. These journals are published, job ads on the basis specialization, for example, a journal of management publishes only the job ads belong to the management field and a journal in higher education, for example, the university news, publishes the job openings in colleges and universities in India. The University News journals are one of the examples in this category.

4.4.3 Trade magazines

Similarly, there are so many trade magazines also publishes the LIS job ads in a specific field for which is covered by the magazines. For example, Down to Earth, The Economist and Business World are published employment news for the vacant positions in India.

4.4.4 Personal Contacts and Networking

These also help job seekers to inform or refer to the job opening where they belong or work. In an organization, where vacancy created due to resignation or any other reasons, the people can inform the person who is in their contact and possess the eligibility for the vacant posts. Sometime, it may be useful for a candidate looking for a job, it may also be a good practice to start collecting the information from friends, family, and colleagues in the same field. The LIS job seekers do not hesitate to ask any family member, friends, and relatives about any vacancy. It helps in the condition even if someone not able to provide information, but they can refer the appropriate source where one can find a job.

4.4.5 Education and Training Centers

The notice board of the concerned department is also one of the important sources of information for employment where one can find the job opportunity for a job or at least for the training, so the LIS job seekers also look for the notice boards where they studies. The department publishes the employment information as they received from the employers. The fresher can also look for any short term training option to build

confidence and practical experience.

4.4.6 Internet or Online Resources

The Internet can be a valuable source of employment information for a particular field of study. ICT has also influenced all parts of human life, so to find out the job opportunities the online sources over the internet play a significant role. There are so many websites, like monster.com, blogs, social networking webpages, and other important consultancies that are available on the internet. The newspapers are also published in electronic format, so it is recommendable to utilize the internet as a source of finding LIS jobs. Nowadays, social networking websites are a vital tool for sharing information, the employment-related information is also widely circulated over it. For example, LIS-Links is the most famous blog site, where one can find the LIS job opportunities across the country.

4.4.7 Consultancy Services

The LIS job seekers may also take help from the experts of their field, however, usually, it is found chargeable services provides by some consultancy providers. It is also found that several private agencies provide help in finding jobs. This trend is most common in the current scenario. These agencies hire LIS professionals to complete a project-based task temporarily. Such agencies also publish classified ads or sometimes take the help of the experts in the field especially, the working professionals and teachers of a department.

4.4.8 Employment Exchange

It may also be categorized as public employment services usually offered by government agencies. However, these have been disappeared in the last decade but their revised version comes into existence where they provide online services and assistance to finding a job.

4.4.9 Placement Cells in Educational Institutions

Various educational institutions have opened the placement cells to provide employment opportunities to their students. Sometimes, the companies also contact the heads of the institutions to conduct interviews for the campus selections, therefore, the students should also keep o eyes for such opportunities and should prepare themselves to ready to appear in the interviews.

4.4.10 Parent Organizations

It is very important in the digital age to keep an eye on the websites of the respective employers. For example, if someone wants to work in a public library he/she should visit the website of public libraries for the latest job openings. The respective college and university websites also are frequently visited findings on the availability of jobs.

Apart from these, there so many other information sources where LIS job seekers may look for new positions.

4.5 LEVEL OF LIS EDUCATION IN INDIA

Singh, (2003) discussed the slow and incremental development in LIS education in India. She also explained the historical background of LIS education in India which is started in 1911 by initiating a short term training course. The support by the Maharaja Sayaji Rao III, Gaekwad of Baroda has invited a student of Melville Dewey, W. A. Borden who initiated library science education in India.

Panigrahi, 2010 also given a historical impression of LIS education when only in five states and their universities i.e. Calcutta, Bombay, Madras, Andhra, Banaras universities offered LIS courses before the independence of India.

The Library and Information Science education has a background of teaching and learning support to the academic fraternities in an institution and society as a whole. The LIS professionals are usually passionate and optimistic to bring in the changes in the society by providing formal and informal support to education in society.

The Library Science courses at different levels imparting foundation courses to understand the basics of libraries and the advanced courses for the complex concepts

of the advanced level of librarianship in the current scenario.

Level of education in library and information science starts from certificate to post-doctoral research and beyond. The brief account of the courses are being conducted in Indian LIS schools is given below:

Table 4.1: Overview of Courses Offered in Librarianship

Education Level	Courses Offered for Librarianship
Certificate	Certificate in Library and Information Science
Diploma	Diploma in Library and Information Science
Under Graduate	Bachelor of Library and Information Science
Post Graduate	Master's in Library and Information Science
M. Phil	Master of Philosophy in Library and Information Science
Doctoral	Doctor of Philosophy in Library and Information Science
Post-Doctoral	Post Doctorate in Library and Information Science

Source: https://www.apnaahangout.com/librarian-courses

4.5.1 Certificate Course in Library and Information Science

The LIS courses at certificate level are usually part-time or full-time courses offered the foundational education to the students. Generally, the certificate course is offered by the small institutes, association, and poly-technic instead of university and college level. The duration of which can range from 6 months to 1 year based on the norms prescribed by the institution. The eligibility of the course is 10+2 in any stream from a recognized board. The purpose of this course is to make understand the basic process of the libraries so that an understanding of the libraries could be developed among the students.

Table 4.2: Certificate Course in Library and Information Science

Details of Course	Certificate in Library and Information Science
Duration	3 to 6 months
Examination Type	Non-Semester
Eligibility	Qualified 10+2 level
Admission process	Merit List
Course Fee	INR 1000 to 40,000
Average salary	INR 1 to 2 lakh/year
Top Recruiters	School, College, Universities, Media & Public Libraries
Job Positions	Information Assistant, Library assistant. Library Attendant, Junior Librarian, Archivist.
Level of Management	Lower level
Level of Pay	Level 1 to 5

Source: https://collegedunia.com/

The purpose of the certificate course is to create awareness among the students the

basic concepts of libraries, its functions, along with basic computer applications in the libraries. Certificate Course in LIS can be full or part-time with a fluctuating duration of that may range from 3 to 6 months. The eligibility of the course is 10+2 in any stream from a recognized board. The course is divided into practice and theory components that contained subjects like fundamentals laws, management of the library, and information service and library organization.

4.5.1.1 **Institutes Offered Certificate Course in LIS**

The certificate is the oldest course initiated as a formal training program to learn the fundamental working process in a library system. It consisted of the basic knowledge of library concepts that help to do routine housekeeping activities. Earlier it was most common among the working professionals who do not possess the LIS degree or diploma and who come from other disciplines. The details of the institutes that still offered the certificate course are given in table 4.1.

Table 4.3: Institutes Offered Certificate in Library and Information Science

S. No.	Name of Institution	Location
1	A.Veeriya Vandayar Memorial Sri Pushpam College	Tamil Nadu
2	Alagappa University	Tamil Nadu
3	Annamalai University	Chennai
4	Annex College of Management Studies	West Bengal
5	Delhi Degree College	Delhi
6	Delhi Library Association	Delhi
7	Gondwana University	Maharashtra
8	Karnataka State Women's University (KSWV)	Karnataka
9	Khatu Shyam Institute of Management & Technology	Karnataka
10	Loyola College of Social Sciences	Kerala
11	Manipal School of Management	Manipal
12	Nalanda Open University	Delhi
13	Royal P.G. College	Guwahati
14	Vinayaka Institution of Management & Technology	New Delhi
15	Vivekananda College Madurai	Tamil Nadu

Source: https://collegedunia.com/

4.5.2 Under Graduate Diploma

Undergraduate Diploma in Library and Information Science (DLISc) is a second-level course in the domain of library sciences with a focus on the development of fundamental skills and knowledge among students in regards to the efficient collection, management, and decimation of information. The course is offered to candidates who have completed their 10+2 or equivalent level education with a minimum of 50% marks from a recognized board. Those who have done a diploma after class 10th as a part of a 10 +3 pattern of education can also apply for admission to the course.

Table 4.4: Diploma Course in Library and Information Science

Details of Course	Diploma in Library and Information Science
Duration	6 months to 1 year
Examination Type	Semester/Final exams at the end of the year
Eligibility	10+2 or equivalent pass out students with a minimum of 50% in class 12th board or equivalent level examination from any recognized board/institute.
Admission Process	Merit-Based (with a select few institutes going for entrance test)
Course Fee	Between Rs.2000 and Rs.10,000
Average Starting Salary	Rs.10000 to 16000
Recruiting Areas	Central government libraries, Museums, Achieves centers, Book center, College libraries, Publishers, etc.
Job Positions	Junior Librarian, Store Manager, Information Assistant, Library Attendant, Technical Assistant etc.

Source: https://collegedunia.com/

Library, as we know, is a crucial part of any academic, research, or documentation related setup. It houses archives and information apart from maintaining a proper collection of books, journals, magazines, etc. The magnitude of data and information that a Library house requires good and efficient organizational skills on the part of the staff that is entrusted with the responsibility of its execution.

Table 4.5: Institutes Offered Diploma in Library and Information Science

S. No.	Institute	Location
1	Amar Nath Girls Degree College	Mathura
2	Bhagat Phool Singh Mahila Vishwavidyalaya	Sonepat
3	BPS Institute of Polytechnic	Sonepat
4	Government Polytechnic College for Girls	Jalandhar
5	Jadavpur University	Kolkata
6	Janaki Devi Vocational Centre	Delhi
7	JLN PG College	Uttar Pradesh
8	Kishori Raman PG College	Mathura
9	Krishna Kanta Handique State Open University	Guwahati
10	Meera Bai Polytechnic, Maharani Bagh	Delhi
11	Vardhaman Mahaveer Open University	Kota

Source: https://collegedunia.com/

4.5.3 Bachelor of Library and Information Science (BLISc.)

In the current information age where information sources have become so vital for daily operations of human life. Every individual, organization, and society required information for their every activity to perform their jobs. The demand for information in different formats in the minimum time has been increased many folds. ICT and computers have incorporated and evolved the new ways to acquire, store, and supply the information among the library and information centers. Consequently, the role of librarians has also been changed with the new responsibilities which are increased many folds towards their users in terms of timely supply of the information.

Because of the demand for information professionals, day by day new educational institutes is being opened to provide LIS education. Singh and Moirangthem, (2011) informed that more than 180 institutes in India are offering LIS education at various levels. The bachelor's degree in LIS is considered as an important and vital to became a library professional. In India, the bachelor's degree can be helpful to get various positions in libraries as para-professionals. It also helps to organize, equipped and acquire skills essential for managing a school library and become para-professional in a university library along with many other fields where BLISc is required as eligibility criteria.

4.5.3.1 **Objectives of the BLISc. Course**

There are following main objectives of the BLISc course as extracted from several departments imparting LIS education in India:

1. To lean philosophy and principles of librarianship
2. To acquire knowledge and skills sufficient to process, organize, and retrieve the information.
3. To learn the management of library and information centers.
4. To get knowledge in changing the cultural, technological and economic environment of the information society.
5. To learn computer applications in libraries and information

The Bachelor of Library and Information Science course is a structured professional and discipline-specific curriculum seem to be essential to meet out the requirement of current information needs of the information experts. The LIS professionals should possess the information skills, management competencies, and knowledge of information resources along with its management. The retrieval and dissemination of information is the key function in the information age where users demand the information products and services at their doorsteps. Therefore, the BLIS provides wider opportunities across the country in the public and private sectors.

Table 4.6: Overview of Under Graduate Course in LIS

Course Level	Bachelors of Library and Information Science
Duration	One year or integrated 2 years
Examination Type	Semester/Final exams at the end of the year
Eligibility	10+2+3 or equivalent pass out students with a minimum of 50% or equivalent level examination from any recognized University/institute.
Admission Process	Merit-Based (with a select few institutes going for entrance test)
Course Fee	Between Rs.3000 and Rs.10,000
Average Starting Salary	Rs.25000 to 35000
Recruiting Areas	Central government libraries, Museums, Achieves centers, Book center, College libraries, Publishers, etc.
Job Positions	Store Manager, Information Executive, Information Assistant, Library Attendant, etc.
Age	No Bar

Source: http://www.lpude.in/programmes/bachelor-of-library-and-information-science

Bachelors of Library and Information Science is expected to meet out the demands of the information needs of the users across all disciplines and the general public as a whole. The course offered many folds opportunities for a career in all sectors and industries. People who have worked in libraries before and want to move up their position in the respective field and those who enjoy books and slower-paced jobs are the ones who should study this course. A candidate should have strong organizational skills also is fit for the course.

Once the BLISc course is completed, candidates can opt for post-graduation in this stream i.e. Masters in Library and Information Science. Not only have a number of LIS job opportunities available for librarian course graduates but they also opened new ways in other fields.

4.5.4 Master of Library & Information Science (MLISc.)

The information and knowledge is a vital element of present-day society. Master's degree in Library Science leads to high positions in the career and opens a wider scope in the information industry. The post-graduate degree incorporates ICT technologies in the information services and information management that emphasis on the anywhere access to information instead of traditional ways. The Master's degree imparts advanced learning for professional growth, critical thinking, and flexibilities in profession practices for the working professionals that also leads to advanced level research on the library concepts and critical complexities.

4.5.5 Objectives of the MLISc. Course

There are following main objectives of the MLISc course have been extracted from the curriculum of various important LIS departments:

1. To provide a comprehensive understanding of knowledge management in a library.
2. To provide the skills and competencies in information acquiring, processing, storing, retrieval and dissemination.
3. To impart education for information analysis and repackaging and marketing of information products and services.

4. To educate students about ICT applications in the library housekeeping services and management
5. To make aware the students about the research methodologies to solve various problems.

Table 4.7: Master of Library & Information Science

Course Level	Master in Library and Information Science
Time Duration	One year
Examination Type	Semester system or annual basis exams
Eligibility	BLISc passes out students with a minimum of 50% or equivalent level examination from any recognized University/institute.
Admission Process	Merit-Based (with a select few institutes going for entrance test)
Course Fee	Between Rs.3000 and Rs.10,000
Average Starting Salary	Rs.35000 to 80000
Recruiting Areas	Academic Libraries, Central government libraries, Museums, Achieves centers, College libraries, Publishers, etc.
Job Positions	Librarian, Information Assistants, Information Scientists, Consultant, Dy. Librarians, Directors, Documentation and information officer, etc.
Age	No Bar

Source: http://www.lpude.in/programmes/bachelor-of-library-and-information-science

It is found in the literature that in the current scenario of the LIS profession, the information is the focal point which vital for the contemporary world. The societies largely depend on the information services in all parts of life. The users expect anytime, anywhere information usually at their doorsteps, in this situation, the role of libraries has changed. Besides, they also faced challenges to bring and attract the users inside the libraries, because search engines are providing the required information but in a hazardous manner. The post – graduate degree in LIS provides and offered all such competencies required to satisfy the modern-day users.

4.5.6 Master of Philosophy (M.Phil.) in Library and Information Science

The advanced level of LIS education starts with a Master of Philosophy degree. This also a pre-step of a research degree that leads to the doctoral of philosophy. The beginning of this course first started at the University of Punjab in 1972. The University of Delhi has also introduced a Master of Philosophy in 1978. Nowadays, more than 25 universities are offering this advance one year course before the doctoral.

4.5.6.1 **Objectives of the Master of Philosophy (M.Phil.) Course**

1. To prepare the students competent for the research
2. To impart specialized knowledge and skills in a selected area of specialization from LIS.
3. To prepare the students competent to do advanced research in the library and information science.

4.5.7 Doctor of Philosophy in Library & Information Science (Ph.D.)

Dr. S. R. Ranganathan has joined the Department of Library and information science, the University of Delhi as a professor in 1946. It is the efforts of Dr. Ranganathan by which the Ph.D. course in LIS was initiated in 1951 in India.

The 1st Ph.D. degree in LIS was conferred to D. B. Krishan Rao for his title "*Facet Analysis and Depth Classification of Agriculture*" in the supervision of Dr. Ranganathan. After two decades, the Punjab University, Chandigarh has awarded the second doctoral degree in 1977. Presently, around 55 Indian universities and institutions are offering a doctoral degree in Library and Information Science Jain, Kaur & Babbar, (2015). In India, the Doctoral Research (Non-Technical) is controlled by the University Grant Commission by the Ph.D. Ordinance those are revised from time to time.

The course aims at developing the following skills:

a) Investigation,
b) Evaluation
c) Reasoning
d) Comprehension
e) Analysis,
f) Writing
g) Editing, Proof Reading and Designing.

The doctoral degree in the LIS is based on the master's degree with at least 55% marks (50% for the certain reserved categories). The majority of the university have designed their criteria based on MHRD/UGC guidelines and ordinance amended from

time to time. It is the most advanced and the highest degree meant for the research in the Library and Information Science.

4.6 MAJOR FUNCTIONS OF LIS PROFESSIONALS

One of the important functions of the libraries includes providing pinpointed information to the users either from the internal or external resources i.e. inter-library loans. The major functions of the libraries may be categorized as traditional and non-traditional. While the earlier defined as the basic functions for which a library supposed to perform like the circulation of books and the later i.e. non-traditional functions belong to the technology-based functions. In this study, several functions published in the LIS job advertisements were also observed and categorized as traditional and non-traditional. The top 30 ranked traditional functions for the LIS professionals are given in table 4.8.

Table 4.8: Top 30 Traditional Functions for LIS Jobs

Rank	Traditional Functional Areas	Rank	Traditional Functional Areas
1	Circulation of books	16	Library Maintenance
2	Cataloging	17	Indexing
3	Library management	18	Financial regularizations
4	Classification	19	Compilation of CAS/SDI
5	Acquisition	20	Inter Library Loan
6	Reference Query Handling	21	Photocopies
7	Technical Processing	22	Secretarial Work
8	Accessioning	23	Cleaning
9	Data Entry	24	Binding/ Repair damaged books
10	Shelving	25	Conducting extension activities
11	Creative Displays	26	Maintain library decorum
12	Information Retrieval	27	Maintain Library statistics
13	Bibliographic instruction	28	Process Newspaper
14	Maintaining all records	29	Visitor statistics
15	Handling Manuscript	30	Patrol library

As Kim and Agnakoon, (2016) discuss that job ads also viewed as a behavioral information source for researchers, educators, policymakers and higher educational institutions to explore the job market, therefore, such aspect is also covered in this study. The table 4.8 shows that even today in a library setup, the Circulation of books, Cataloguing, Library Management, Classification of documents, Acquisition of books, handling Reference Query of the users, Technical Processing, Accessioning of books, Data Entry and Shelving are the still the top priority of employers those look

and expect such traditional functions from the library professionals.

There were traditional functions like Creative Displays, Information Retrieval, preparing Bibliographic instructions, maintaining all library records, Handling Manuscript, Inter-Library Loan, Photocopies services, look after Binding/ Repair of damaged books and Processing of the Newspapers are also under the top 30 functions in a modern-day library job requirements.

In addition to the traditional functions, there are also some non-traditional functions of the libraries appeared in the LIS job advertisements were also identified. The Jobseeker should be prepared and equipped to learn and adopt the new functionalities of libraries. The new functions are helpful in the LIS job market in the present-day environment of therefore, these may be adaptable for the instructions and training modules of the LIS syllabus in Indian LIS schools.

The top 30 Non-Traditional functions were also identified among the 22% (1021) advertisements published from 2012-17. The same is presented in table 4.9.

Table 4.9: Top 30 Non -Traditional Functions for LIS Professionals

Rank	Neo-Traditional Functions	Rank	Neo-Traditional Functions
1	Innovative library services	16	Open Access repositories
2	Computer Proficiency	17	Document delivery
3	Documentation	18	Collection Development
4	Digitization of Library	19	Process audio-visual material
5	Administration & Policies	20	System Administration
6	Digital Resources Management	21	Office Applications, Spreadsheets, and Presentations
7	Database management	22	Book Restoration
8	Knowledge of Manuscriptology/ Epigraphy	23	Outreach librarian
9	Open-source library tools	24	Consolidation of Monthly Report
10	eBook gadgets and formats	25	User information services
11	Audio Visual Instruction/Information Literacy	26	Web 2.0 tools/Metadata
12	Computerization/Automation	27	Braille Knowledge
13	Typing in Hindi & English	28	Managing a state-of-artt Library
14	Relationships with internal & external stakeholders	29	Maintenance of CDs/DVDs
15	Liaising	30	Counter management

Table 4.9 reveals major non-traditional functional areas that were appeared in the job advertisements in which the implementation of Innovative Library Services is the first choice of the employer in the current scenario. Whereas, Computer Proficiency, Documentation, Digitization of Library documents, General Administration &

Policies, Digital Resources Management, Database Management, Knowledge of Manuscriptology or Epigraphy, handling Open Source Library Tools, dealing with eBook gadgets and formats, etc. are found new non-traditional areas for the LIS professionals.

The Innovative Library Services are expected by the employers in the mid-career level of positions as it is an essential eligibility criterion by the govt. regulations. Table 4.9 also throws light on some important non-traditional functions demanded among job advertisements. The new functions include Typing in Hindi & English, Relationships with internal & external stakeholders, Liaising, Open Access repositories, Document delivery, Process audio-visual material, System Administration, Office Applications, Spreadsheets and Presentations, Outreach librarian, Web 2.0 tools/Metadata, Consolidation of Monthly Report, Braille Knowledge and so on. The functions are the need of the libraries in changing scenarios.

4.7 TECHNOLOGICAL INFLUENCE ON LIBRARIES

The technological influenced positively on functions, collection, and manpower of the libraries. The technology has also influenced acquisition, storing, processing, and dissemination of information. These changes enforced to the library staff to adopt and prepare themselves according to the changing scenario. The new environment has brought new responsibilities, challenges, and a new dimension of serving library users in both traditional and non-traditional ways. The collection development in libraries has also influenced the new technological environment. The new price models for the acquisition of digital resources have emerged that need to be understood by LIS professionals. The ICT also impact on the transformation of the library collection from print to electronic information sources.

The technology impact in many ways to all types and setup of the libraries. The public libraries also motivated to go with the changes while the special libraries adopted new dimensions of information services.

4.8 OCCUPATIONAL OPPORTUNITIES FOR LIS PROFESSIONALS

This study also attempts to find out the associate areas to the library and information science profession. Afolabi, (1994) identified 30 occupations related to the

information-centric profession and required a Library and Information Science degree in the African context of LIS career. It seems to be important for teachers and students of the Library and Information Science to recognize certain career opportunities that provide and enhance employment. While describing these occupational opportunities Afolabi (1994) explained that these careers have not yet been identified with old skills and can be achieved in the LIS schools. Afolabi, (1994) also separated the traditional and non-traditional occupational career. The traditional occupations are given in table 4.10.

Table 4.10: Occupational Opportunities to the LIS Professional

Nature of Work	Extent of investment	Opportunity to Privatize	Full-time or part-time
Abstracting	Medium	Yes	Part-time
Bibliographies	Medium	Yes	Part-time
Binding of books	Major	Yes	Full-time
Bookshops	Major	Yes	Full-time
Indexing	Medium	Nil	Part-time
Information services	Nil	Nil	Full-time
Libraries	Nil	Nil	Full-time
Photocopying	Major	Yes	Full-time
Publishing	Major	Yes	Full-time
Teaching library and information science	Nil	Nil	Full-time
Teaching library work in schools	Nil	Nil	Full-time

Source: Afolabi, (1994)

It is clear from table 4.10 that there is no scope of investment and privatization of libraries and information services in the African context. However, in the Indian context, the private libraries and teaching profession in LIS are found in the majority, but not in context with the profit-making.

The Bookshops, publishing industries, and photocopying are having major opportunities for investment and privatization, the same situation is also similar in India.

The information-centric profession where non-traditional occupations have emerged due to changes in the technologies. The LIS job opportunities have become wider were more options to shift in other related occupations have been created. Afolabi, (1994) also discussed various occupations under non- traditional categories given in table 4.11.

Table 4.11: New Careers Options for LIS Graduates

S. No	Nature of Work	Extent of investment	Full-time or part-time
1	Advertising, publicity, and promotions	Nil	Full-time
2	Archives administration	Nil	Full-time
3	Audio and video cassette recording	Major	Full/ part-time
4	Book rental	Major	Full/part-time
5	Computer business	Major	Full/ part-time
6	Courier business	Minor	Full/part-time
7	Dealer in library publications, equipment	Major	Full/ part-time
8	Editing books	Nil	Full-time
9	Film business	Major	Full-time
10	Information brokerage	Major	Full-time
11	Intelligence information service	Medium	Full-time
12	Library consultant	Low	Part-time
13	Museum documentation	Nil	Full-time
14	Proof-reading	Nil	Full-time
15	Records management	Nil	Full-time
16	Research	Minor	Full/part-time
17	Writing	Minor	Full-time

Source: Afolabi, (1994)

Table 4.11 shows that indexing and abstracting services can be started by the LIS professionals as a part-time job by a small investment. It is the time of web technologies where so many indexing and abstracting of the large content are required to be managed online. A library and Information Science professional may also find their career option in these fields. The LIS professionals are also being trained in the marketing of information products and services, hence these are also opportunities in the advertising, publicity, and promotion of various information resources. As far as the binding of books is concerned, it is already an established profession in India, yet, it is also opened to LIS professionals. It may be included as more technical and vocational sources in the LIS field.

Table 4.11 also highlighted the business of compiling bibliographies, books on rent, computer, and courier business for LIS professionals. It is also important to mention that the publishing industry has a wider scope for information professionals. A library professional can adjust in the field of publication by adopting the publication techniques and marketing strategies.

Editing of books is also an emerging field for the LIS profession where no investment is required and it can be done on a full-time basis. As far as information brokerage is concerned, it is not developed as it could be, because still, the users are not in the

position to pay for the information. However, it depends on the nature of the information. The LIS field also opens the doors for many other occupations like library consultancy, museum documentation, record management, etc. these are relevant in the present day scenario. The two most interesting fields that emerged for the LIS professionals are 'research' and 'writing'. These are the fields there are much popular in the academic environment for scholarly content.

4.9 JOB DESCRIPTIONS OF LIS POSITIONS

It has been observed that a conception i.e. everyone who works in the libraries are librarians in the society has been established in which is not true. For example, everyone who works in a hospital is not a doctor, in the same way, everyone who works in a library is not a librarian. Alike a hospital, there are many professionals and para-professional staff who are also categorized in a library according to nature, responsibilities of work, pay scales, and level of management in a library. The Library and Information Science professionals play a significant role to perform the carious task of a library. The library staff is a kind of bridge between information sources and users to provide the desired information. The job descriptions of different job titles of the library professionals are being discussed as follows:

4.9.1 LIS professionals: associated and assigned technical processing and management activities of libraries and higher qualified in the profession. In academic libraries university libraries, the different positions like a librarian, deputy librarian, assistant librarian, professional assistant, are considered as professional positions. While in a public library system, the SLIO, and professional assistants also known as professionals.

4.9.2 Para-Professionals: The group of supporting and semi-professional staff categorized under these categories supposed to assist in technical work and has initial entry-level qualifications in the profession), Involved in the processing of documents technical work and delivering the different services to users.

American Library Association, (2019) also defined the job description of the library professionals based on the common designations found in the libraries.

4.9.3 Library Attendants or Book Lifter: usually perform duties of shifting of books from the circulation counter to the bookshelves in the right order. The attendants have responsibilities to properly maintaining themselves from the reading tables also. The job responsibilities sometimes also given for cleaning and dusting of books. Usually, they are on permanent or regular positions, but in the Indian scenario, it is observed that this work was assigned to the outsourced staff on a nominal salary. The pay scales of library attendants, MTS, and book attendant starts from the lowest level in the prescribed by the pay 7th Pay Commission set up by the Indian government.

4.9.4 Library Assistants: This category of LIS professionals also known as 'technicians' usually responsible for clerical jobs. The professionals are the first-line management, as these interact first to the library users. Most of the occasions, the public dealing works are performed by these professionals. The library assistant usually performs issue-return of the books and sometimes assigned the reference services at the desk near the entrance of the library. It is a full-time job in any of the library system. The pay scales range from level 2 to level 5 as per the 7th pay commission.

4.10 TRADITIONAL AND NON -TRADITIONAL LIS JOBS

The librarians being associated with libraries over some time have adhered to a specific level of the task in the libraries, the librarian has bound in specific tradition i.e. just issue and return of books. It may be understood the fact as just because of working in a hospital, everyone cannot be a doctor, similarly, just based on working in a library set up, everyone cannot be a librarian.

4.10.1 Traditional Positions in Libraries

Traditionally, librarians have been associated with libraries. Therefore, in society, the other professionals and paraprofessionals working in libraries understood as a librarian. Moreover, there is a misconception in society is that librarians supposed to do only issue-return of books. In this sense, the 'traditional' job titles were categorized for the study where the keyword 'Librarian' appeared those positions

were included in the '*traditional*' job titles. The other criteria which are used to separate the traditional job titles from '*Non-traditional'* job positions were found in the university library system and governed by the MHRD or UGC together.

The role of librarians has increased multi-dimensional, now it is not limited to the acquisition, storing, preservation, and circulation of books only. Yet, the traditional adherence of the LIS profession with the libraries is getting deeper in India. The analysis in table 4.12 also supports the fact as most of LIS jobs in India appeared as traditional positions.

Table 4.12: Traditional LIS Job Titles

Name of Post	Rank	Name of Post	Rank
Librarian	1	Cataloguer	11
Assistant Librarian	2	Senior Librarian	12
Library Assistant	3	Junior Library Attendant	13
Deputy Librarian	4	Library Binder	14
Professional Assistant	5	Library Restorer	14
Library Attendant	6	Junior Professional Assistant	15
Semi-Professional Assistant	7	Restorer-cum-Attendant	16
MTS- Library Attendant	8	Book Attendant	17
Chief Librarian	9	Classifier	17
Junior Librarian	10	Library Helper	18

LIS= LIS-Links, EN= Employment News, UN= University News

The Librarian is the most preferred LIS position found in the LIS job advertisements followed by the *Assistant Librarians* those ranked 1st and 2nd respectively. The position of the *Librarian* in a university library system is considered as a statutory post in many educational systems at the top-level management while Assistant Librarian is a middle-level position in a university library. The third-ranked position i.e. Library Assistant appeared in significant posts followed by 4th ranked Deputy Librarian and 5th ranked Professional Assistant job positions among all the data sources covered under the study. The Deputy Librarian position usually generates higher educational institutes in India. The post of Deputy Librarian is another top-level post after a librarian in higher educational setup. The Professional and Semi-Professional Assistant (ranked 7th) are the two posts that may be categorized as the first-line managerial level of positions based on pay scales, qualifications and job responsibilities required in job advertisements.

Analysis in table 4.12 also reveals that the lower level posts such as MTS- Library

Attendant, Junior Librarian, Junior Library Attendant, Library Binder, Helper, Restorer and book attendant, etc. are in the significant occurrences of these positions, which reflect that there is so much need of personnel who could execute the tasks in a library.

4.10.2 Non-Traditional Positions in Libraries

Several other categories help in the execution of housekeeping functions in a library. There are many other non-traditional LIS job opportunities were also found those required LIS qualifications and degrees as eligibility. The data for Non-traditional LIS jobs categorized for this study is given under subsequent tables and figures. The non-traditional LIS posts categorized based on their different functions and responsibilities, especially, those that were associated with ICT and advanced computer skills. These posts were separated because of nature, skills, and competencies other than of the library science with core skills of library degrees. The posts were excluded from the keyword 'Librarian'. The data collected through the content analysis is given in table 4.13

Table 4.13: Non- Traditional Positions in Libraries

Post Name	Rank	Post Name	Rank
Library and Information Assistant	1	Senior Library and Information Officer	11
Senior Library & Information Assistant	2	Director (Lib)	12
Junior Library and Information Assistant	3	Scientific Officer (Lib)	13
Assistant Library and Information Officer	4	Senior Technical Assistant	14
Technical Assistant (Lib)	5	Technician (Lib)	15
Library Clerk	6	Documentalist	16
Library and Information Officer	7	Scientist D (Lib)	17
Information Scientist	8	Documentation Assistant	18
Documentation Officer	9	Library Officer	19
Scientific Assistant (Lib)	10	Consultant	20

LIS= LIS-Links, EN= Employment News, UN= University News

The non-traditional post generally published for a specialized function usually. For example, a librarian does not expect programming of a computer-based library service. Such kind of functions not only required the skill of programming language but also the hard skills of libraries and understanding of its functioning. Hence, such

opportunities are a combination of one or more than one skill other than the libraries. Therefore, in the current scenario, a librarian is expected as a multi-dimensional and qualified professional that can perform multi-tasking at a given time.

It is also observed that the library clerk is also demanded by the employers that reflect among many job posts published during the period of study. The posts published also show some designations equivalent position to the librarians, such as Information Scientist, Documentation Officer, Scientific Assistant, Technician, Library officer, Consultant, Principal Library & Information Officer, and Archivist, etc.

4.11 SKILLS OF LIS PROFESSIONALS IN INDIA

The hard skills are the basic and core skills of the librarians which are learned through a formal course of study which is essentially required to perform a specific job. For example, for the technical processing in a library, the knowledge of cataloging and classification is an essential requirement to catalog and classify a document. Whereas, the soft skill of a person may his/her presence of mind and approach to solving a problem encountered in the daily routine of a working environment. The soft skills are concerned with personal attributes like communication skills and command over languages. Such soft skills may be learned through a formal course or training or it may be an implicit trait of individuals.

For this study, both the skills were identified and observed from the LIS job advertisements published in the period covered. The data collected on this aspect is presented under the subsequent tables and figures.

4.11.1 Hard Skills for LIS Professionals

The hard skills that were observed and recorded from the 2831 LIS job advertisements published during the period of study. More than 50 hard skills were found out of which 30 skills are listed in table 4.14.

Table 4.14: Hard Skills for LIS Professionals

Hard Skills	Rank	Hard Skills	Rank
Knowledge of Library Management Software	1	BSc (Science subjects)	16
Certificate in Computer Applications	2	Advance Diploma in Computer Sc.	17
Ability to Innovative Library Services	3	Proficiency in Foreign Language	18
Skills of Managing Library resources	4	Knowledge of Operating System	19
Knowledge of ICT Applications	5	MCA	20
PGDCA	6	B. Tech	21
Skills of Library Budgeting	7	Handling Braille systems	22
Creating and Designing Digital Library	8	Knowledge of MARC format	23
M.Phil./Ph.D.	9	Handling Reference Queries	24
Knowledge of Database Management system	10	M. Tech	25
Knowledge and skills in Digitization Software	11	E-Reference management tools	26
Diploma in Computer Applications	12	Organizing extension activities	26
PGDLAN	13	BSc in Mathematics	26
Knowledge of Programming Library Software	14	E-resource Management	27
Diploma in Manuscript Management	15		

The Knowledge of Library Management Software is the most preferred hard skill that appeared in the LIS job advertisements at the 1st rank. The Certificate in Computer Applications got the 2nd rank in LIS job ads while the knowledge and experience of implementing to Innovative Library Services for the users which were appeared in LIS jobs with 3rd rank among other hard skill sets. It was also observed in the post of University Librarian and Deputy Librarian where it was necessary to have innovative library services as per the directives of the Government. The other important hard skill at the 4th rank was the Skills of Managing Library Resources whereas, the Knowledge of ICT Applications which was covered in with 5th rank job ads for library and information science professionals. The job opportunities also demand Post Graduate Diploma in Computer Applications (PGDCA) that ranked 6th position among the required skills. This skill especially demanded the schools and public service commission positions for the LIS posts. In this changing scenario, various significant hard skills were also found in the LIS job advertisements those include, skill for budgeting at the 7th rank, Knowledge of designing Digital Library' at 8th rank, while the important qualifications i.e. Mphil/Ph.D. also appeared for the LIS positions that received 9th rank among other hard skills.

The Mphil/Ph.D. was the desired eligibility condition before the implementation of the recommendation of the 7th CPC for the post of University Librarian and Deputy Librarian in the university libraries. In the age of digital environment, the qualification of Post Graduate Diploma in Library Automation & Networking (PGDLAN) was required for the LIS posts, knowledge of E-Reference Management Tools required whereas, LIS posts the skill of E-resource Management in modern libraries was demanded by the employers during the period covered. The table 4.13 also reveals that there many other significant hard skills set like Knowledge of Database Management system that appeared for LIS positions, Proficiency in Foreign Language was also published while the requirement of knowledge of MARC formats also appeared in the among the job eligibility criteria mentioned in the advertisements.

In addition to the above hard skills, the Knowledge of Handling Reference Queries was also demanded for the LIS job advertisements followed by an important hard skill for the public library staff i.e. organizing and conducting extension activities for the LIS opportunities for the period covered under the study.

4.11.2 **Soft Skills for LIS Professionals**

The soft skills nowadays have became an integral part with the generic skills of library and information science those are expected by the employers. The requirement of soft skills at entry and mid-level LIS jobs are different from each other. In this study, 1021 LIS job advertisements there were more than 30 soft skills (top-ranked according to their appearance) were found for multiple positions. The soft skills that were observed and recorded from the LIS job advertisements are listed in table 4.15.

Table 4.15: Soft Skills for LIS Jobs

Soft Skills sets	Rank	Soft Skills sets	Rank
Creative /Innovative skills	1	Positive Attitude	16
Communication Skills	2	Managerial Skills	17
Inter-Personal Skills	3	Writing & Publication Skills	18
Computer Skills	4	Knowledge of e-resources	19
Language Proficiency	5	Planning of Library Services	20
Working Teamwork	6	Motivated	21
Good Command in English	7	Web 2.0 Skills	22
Forecasting ability	8	Team management Skill	23
Leadership Skill	9	Reading ability	24
Liaison with Academic Staff	10	Enthusiastic	25
Presentation Skills	11	Comprehend to follow instructions	26
Result oriented and creative	12	Time Management	27
Flexibility	13	Cultural Knowledge & Awareness	28
Resolve routine operational problems	14	Book Care and preservation skills	29
Acquisitions ability	15	Analytical Skills	30

The most preferred soft skills for LIS professionals in the Indian scenario, the Creative/ Innovative Skills with 1st rank followed by Communication Skills appeared in the many LIS job advertisements that received the 2nd rank. It is also observed during data collection that Inter-personal Skills is also among other significant soft skills appeared in LIS positions with 3rd rank in the table 4.15.

The Computer Skills occurrences with 4th rank, Language Proficiency was also published in for LIS positions whereas, working as a team was also seen in the LIS positions. The computer skill may be part of the hard skills also, but using it depend on the soft skill of an individual, how one can use the computer skill in the library services, it depends upon the willingness of the individual. Proficiency in language the key facto skill which works in all situations and regions. India is a country having many languages, here proficiency in language can be beneficial for LIS professionals.

The soft skill of Positive Attitude is very important in terms of getting a job in any field of study because it is the parameter by which interviewers considered a candidate. Library and Information Professionals also observed on this parameter as it was demanded the LIS positions. Managerial Skills are mostly considered for the upper-level LIS positions while the Writing & Publication Skills is considered for the LIS positions of academic status. There were other important LIS soft skills were also

considered those included Knowledge of e-resources whereas, Planning of Library Services was also considered in the LIS posts. As regards the modern day soft skills i.e. Web 2.0 Skills has also appeared as an important skill for the LIS positions. The Analytical skills, however, appeared just only in few LIS positions, yet it is a technical skill that may be considered as an essential soft skill that can help to get a job in the competitive scenario in India.

The libraries are in India are heading towards open source technologies through the incorporation of the library automation, digitization, and e-resources. Therefore, the libraries are expected the future staff should various implicit traits to achieve the desired goals. Keeping because of the fact and objectives of the study, an attempt to find important soft skills required by the present employers has made.

In the current scenario, the Libraries are expected to build interpersonal relationships especially not only inside the academic staff of the institutions but also outsider stockholders. Therefore, the inter-personal skill sets are being demanded by the LIS job providers. Communication skill has always been important for professional in India. The LIS job seekers should also be focused to enhance their communication skills for getting a job. One of the important emerges soft skills also includes the writing and publishing research output for their institutions. In this technological environment, web 2.0 technology skills may prove influential for LIS professionals. As table 4.15 throws light on the need for teamwork and leadership skills are among the major emerging skills in the modern-day LIS job environment.

4.12 LEVEL OF MANAGEMENT IN-LIBRARY ORGANIZATION

Management is a process of creating and maintaining an environment where individuals work together in a group efficiently to achieve the organizational goals. The definition stresses the execution of work that includes planning, organizing, staffing and controlling, etc. The organizational functions are based on the level of management. Stoner, Freeman, and Gilbert (2015) defined the three-level of management.

4.12.1 **Top Management**

Top-level management referred to the administration concerned with planning, policy-making and setting up the goals to be achieved. The main function of top-level management is to conceptualize, visualize and plan of setting objectives of the organization. For examples, top management consist with Librarian and Deputy Librarians in a university library, Directors in a public library, chief librarians, Sr. Library & information officers in a special library who comes in the grade pay of Rs.8000/- and above as per 6th Central Pay Commission (CPC) and Level 12A and above in the 7th Central Pay Commission. In top management, the skill of conceptualization is the key.

4.12.2 **Middle Management**

The management is responsible for the implementation of policies and plans framed by the top management. The manager at this level functions as a bridge between top and first-line i.e. Lower Management. The middle management also referred to as the executive level responsible for the organization and direction to the lower management. It requires human skills like organizing, motivating, and establishing human relationships that help in coordinating at lower management. For this study, the officer/staff from a range of grade pay of Rs. 5400- Rs. 7600 as per the 6th CPC and Level 10 to Level 12 as per 7th CPC under which the post of Assistant Librarians and Assistant Librarian and Information Officer, Documentation Officer, etc. were considered for collection of data in this category.

4.12.3 **First Line Management**

Management responsible for operating employee those cannot supervise manager at top and middle management, categorized as First or Lower Management in the organizational hierarchy. The employee at this level is responsible for the execution of work without authority and passes instructions to others. This level of management is called 'First Line' Management by Stoner, Freeman, and Gilbert (2015). The library attendants, MTS-Library, Library Assistants, and Semi-Professional Assistants, etc. Such posts consist of grade pay of Rs 1800/- to Rs. 3600/- are categorized as lower management. It is important to mention that in a library a range of grade pays from Rs. 4200/- to Rs. 4800/- between first-line management and middle management was also identified among the LIS job advertisements. The post of *Professional Assistants*

in a university Library with grade pay of Rs. 4200/- to 4800/- may be categorized as 'Operational Management.

The role of operational mangers is to ensure that the products and services are always available for the library users. They also ensured continue routine housekeeping activities. Thus, the Operational management' responsible to improve overall productivity in the library services. For this study, the 'Operational Management' has merged in the first-line management for data collection.

4.13 PAYS AND PERKS IN LIBRARIANSHIP

The 6th Central Pay Commission (6th CPC) formed in October 2006 and submitted its recommendations in March 2008 which were implemented from January 2006 for all the central government employees in India. The pay bands, grade pays and pay scales recommended for by the 6th CPC were adopted for the data collection and analysis in this study. However, due to the course of time in data collection, the pay scales, metrics, and levels of initial basic pay recommended by the 7th Central Pay Commission (7th CPC) were also considered later on for the data analysis in this study.

4.13.1 Pay Scales for LIS Jobs in India

As per the 6th CPC, there was no change in the designations of library academic staff cadre, however, the pay structure and promotion criteria were adopted at par with teachers in the universities and colleges. As per the pay fixation criteria in 7th CPC followed in the academic pay structure, the concept of pay band and grade pay merged as academic level and cells. The data related to the pay scales and grade pay of the LIS positions found among the job advertisement is arranged in table 4.16.

Table 4.16: Pay Scales in LIS Jobs

Levels 7th CPC	Pay Scales (6th CPC)	Employment News	University News	LIS-Links	Total	%
1 to 5	5200-20200	303	27	620	950	16
6 to 9	9300-34800	301	10	524	835	14
10 to 13	15600-39100	251	466	1104	1821	30.7
13A to 14	37400-67000	83	28	346	457	7.7
Total		**938**	**531**	**2594**	**4063**	**68.5**

Source: 6th & 7th Central Pay Commission Reports, 2008 & 2017.

The first academic level (corresponding to AGP-6000/- 10) is numbered as 11, 12, 13A, 14 and 15 where each cell in an academic level is at 3% higher than the previous cell at that level. It also needs to mention that the Index of Rationalization (IOR) is 2.67 in less than AGP of less than Rs. 10000/- and 2.72 for the AGP of Rs. 10000/- and above was adopted for the central government employees in the academic field for the 7th CPC. The detailed structure of the pays and perks allocated to the library cadres in an academic system given under appendix 2 and 3.

4.14 MAJOR LIS SCHOOLS IN INDIA

More than 180 educational institutions are imparting LIS education in India (Singh & Moirangthem, 2011). The major LIS schools (selected only) in India are listed in table 4.17.

Table 4.17: Major LIS Schools in India

S. No.	State	Name of Institutes	Estb.	BLIS	MLIS	M. Phil	Ph.D.	Website
1	Tamil Nadu	Algappa University	1995	1997	NA			http://www.alagappauniversity.ac.in/
2	U.P.	Aligarh Muslim University, Aligarh	1958	1958	1971		1961	http://www.amu.ac.in/
3	Andhra Pradesh	Andhra University Vishakhapatnam	1935	1936	1979	1989	1980	http://www.andhrauniversity.info/
4	Karnataka	Bangalore University	1973	1973	1975		1981	http://www.bub.ernet.in/
5	U.P.	BB Ambedkar Central University, Lucknow	1997	1998	2002	2015	2005	http://www.bbauindia.ac.in/
6	Gujrat	Bhavnagar University	1982	1980	1991	-	NA	http://www.bhavuni.edu/
7	U.P.	BHU, Varanasi	1942	1942	1965		1972	www.bhu.ac.in/
8	U.P.	Bundelkhand University, Jhansi	1986	1999	2002	-	2006	http://www.bujhansi.org/
9	Kerala	Calicut University	1978	1978	PT		PT	http://www.calicut.net/university.html
10	U.P.	Dr. B.R. Ambedkar University Agra	1984	1984	1996		PT	http://search.dbrau.ac.in/
11	Assam	Guwahati University	1966	1966			PT	http://www.gauhati.ac.in/
12	Karnataka	Gulbarga University	1979	1979	1985	1987	1979	http://www.gulbargauniversity.kar.nic.in/
13	Punjab	GNDU, Amritsar	1970	1973	1984		PT	www.gndu.ac.in/
14	Gujrat	Gujrat University Ahmadabad	1964	1964	1986	NA	No.	www.gujaratuniversity.org.in/web/
15	M.P.	Gurughasidas University Bilaspur	1988	1988	1995		NA	http://www.ggu.ac.in/
16	Delhi	IGNOU	1986	1986	1996	2009	2000	www.ignou.ac.in/
17	West Bengal	Jadavpur University Kolkata	1664	1965			PT	http://www.jadavpur.edu/
18	Delhi	Jamia Millia Islamia	1985	1985	2017	-	-	http://www.jmi.nic.in/
19	J&K	Jammu University Jammu	1971	1983	1985		1985	www.jammuuniversity.in
20	M.P.	Jiwaji University Gwalior	1984	1965	1984		1985	http://www.jiwaji.edu/
21	Karnataka	Karnatak University Dharwad	1962	1962	1971		1974	http://www.kud.ernet.in/
22	Kerala	Kerala University Truvanantpuram	1961	1961	1979	PT	1981	http://www.keralauniversity.edu/
23	West Bengal	Kolkata University	1945	1945	1975		1972	www.caluniv.ac.in/
24	Haryana	Kurukshetra University	1969	1965	1979		PT	www.kukinfo.com/

PT= Part Time, NA= Not Available

S. No.	State	Name of Institutes	Estb.	BLIS	MLIS	M. Phil	Ph.D.	Website
25	Tamil Nadu	Madras University Chennai	1960	1936	1993		1977	www.unom.ac.in/
26	Tamil Nadu	Madurai Kamraj University	1975	1974	1982	PT	1982	http://www.mkuniversity.org/
27	Karnataka	Maglore University	1982	1982	1990		1991	www.mangaloreuniversity.ac.in/
28	Karnataka	Mysore University	1965	1965	1971	1994	1976	http://www.uni-mysore.ac.in/
29	Maharashtra	Nagpur University	1956	1956	1984	NA	1985	http://www.nagpuruniversity.org/
30	Andhra Pradesh	Osmania University	1959	1959	1979		1985	www.osmania.ac.in/
31	Punjab	Punjab University, Chandigarh	1960	1960	1970		1972	www.puchd.ac.in/
32	Punjab	Punjabi University, Patiala	1969	1969	NA		NA	www.punjabiuniversity.ac.in/
33	Rajasthan	Rajasthan University, Jaipur	1960	1961	1974		1975	http://www.uniraj.ernet.in/
34	Orissa	Sambalpur University	1976	1976	1985	1994	1985	http://www.sambalpuruniversitypgc.in/
35	Gujrat	Saurastra University	1976	1976	1987	yes	No.	www.saurashtrauniversity.edu/
36	Maharashtra	Shivaji University Kolapur	1965	1965		NA	NA	http://www.unishivaji.ac.in/
37	Gujrat	South Gujarat University Surat	1985	1986		NA	No.	http://www.sgu.ernet.in/
38	Andhra Pradesh	Sri Venkateshwara University Trupati	1974	1974	1974	NA	NA	http://www.svuniversity.in/
39	Delhi	University of Delhi, Delhi	1946	1946	1948	1978	1952	www.du.ac.in/
40	U.P.	University of Lucknow	1971	1962	PT		1984	http://www.lkouniv.ac.in/
41	Maharashtra	University of Pune	1958	1958	NA	NA	NA	http://www.unipune.ernet.in/indexout.html
45	Orissa	Utkal University Bhubaneswar	1981	1982		1985		http://utkal.utkal-university.org/
43	M.P.	Vikram University Ujjain	1957	1957	1971		1976	http://www.vikramuniv.org/

PT= Part Time, *= Not Available

The first formal training for the Libraries was started in the year 1911 in India. It is more than a century-old discipline in India that has developed as a full-fledged profession developed slowly and gradually. Singh and Asther, (2011) in the study revealed that before independence, the Andhra University started its course in 1935, Banaras Hindu University, started in 1941 and the University of Delhi started LIS education in 1946. The pioneer in LIS i.e. Madras University has started it so early in the year 1929 by Dr. S.R. Ranganathan as a summer school. However, the department of Library science was started in 1960.

Singh and Moirangthem, (2011) elaborated and historical After independence, from 1947 to 1959, the growth of the LIS science schools was slow and steady there were only six departments were established. During the period of the next 20 years, up to 1979, 40 departments were also created and 30 more LIS departments were also established for LIS education in India during the next ten years. Yadav and Gohain, (2015) also elaborated that the period from 1989 to 1999 there was 35 departments were started LIS training courses. The decade of the millennium from 2000 to 2010 there were more than 29 departments were also started LIS education. During the last nine years, the growth of LIS educational institutes is stable and slow, though new departments are being opened in the public and private sectors.

Table 4.15 shows that major LIS departments and institutions imparting LIS education in India. These were found important in terms of their year of starting but also these departments have achieved a milestone in the LIS by producing many eminent LIS professionals who contributed to the development of the profession.

4.15 SUMMARY

The librarianship is a multidisciplinary subject of studies focused on libraries and information management and retrieval. LIS professionals have vast job opportunities in almost all sectors and areas where record-keeping and information management related functions perform. The history of Librarianship in India is blissful and bright which achieved a reputed status at par with the academic. The UGC played a significant role in the growth and development of the LIS profession. The UGC has constituted several important committees and commissions that insured the growth of libraries and library education in the right direction. The opportunities for libraries

professionals are expanding and new occupational areas are being opened in the field. Every higher level of education in librarianship leads to the next higher level of the profession. There are so many LIS schools are opened for imparting LIS education in India. However, this mushrooming of the LIS institution may lead to defame and compromise with the quality of LIS education. The one professional also needs to get an education from such institutions. Another thing that may be worried is the price of higher education day by day it is getting higher especially in the private sector it needs to be regulated. ICT has brought vital changes in the functioning, roles, and responsibilities of the LIS professionals.

The technological changes also influenced on the libraries and the LIS education. The technology has resulted in expansion of the librarianship. The UGC has set up the tone of library professionals. The scope of the librarianship is not limited to the academic sector, but it found every field, even, in the hospitals, media, and other special industries also required libraries. The demand for traditional LIS positions shows that in the age of Google the need for librarians is not decreased rather it enhanced from its present positions. The LIS professionals also achieved the soft and skills along with the hardcore LIS skills to achieve the LIS goals. They also need to be so competent to serve the library users to get a job in the responsible level of management and the pay scales the desired in the profession.

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Chapter 5
Data Analysis and Interpretation

Chapter 5

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

Finding the desired position in the present-day scenario in India is challenging for the Library and Information Science (LIS) degree holders. While LIS students are encouraged to improve their technical skills and seek experience for a better chance in the job market. Fortunately, there is no shortage of job-seeking advice for the LIS job aspirants. It may be available from library blogs to professional magazines and websites such as LIS-Links and Info-Librarian. Keeping this view, the present study is undertaken to find out the growth of the LIS jobs market, skills, and competencies required to enhance the job opportunities in the changing paradigm with the help of content analysis of the job advertisement. The content analysis of job ads is an established method to observe trends in the library profession (White, 1999).

5.1.1 Data Processing for The Study

After the detailed account of LIS job advertisement data collected from all the three sources in the previous chapter, the summary of the same may help to understand the subsequent analysis.

Table 5.1: Advertisements Processed for the Study

Data Sources	Total Ads	2012	2013	2014	2015	2016	2017	Total
University News	Published	118	117	83	97	108	81	604
	Removed	0	2	0	1	2	2	7
	Processed	118	115	83	96	106	79	**597**
Employment News	Published	138	114	126	107	111	132	728
	Removed	4	6	7	6	4	8	35
	Processed	134	108	119	101	107	124	**693**
LIS-Links	Published	1099	1591	911	517	745	754	5617
	Removed	418	784	400	194	257	232	2285
	Processed	681	807	511	323	488	522	**3332**

Analysis in table 5.1 displays the number of LIS job advertisements processed before final consideration of them for the study, the data collected from all the three sources have processed well at the initial stage. As the same have discussed in the previous chapter 4, that the limitation of the study has applied to the incompleted, overlapped, and missing information of the advertisements was removed from the published job advertisements. Table 5.1 shows that most of the LIS jobs advertisements have published or uploaded on the online data source i.e. LIS-Links. There were 5617 LIS job advertisements uploaded during 2012-2017 out of which 2285 (40.6%) advertisements were not considered for the study due to the limitation of the study. The table 5.1 also shows that in both the offline sources i.e. Employment News and University News there were a total of 728 and 604 advertisements published out of which 35 (4.8%) and 7 (1.1%) LIS job advertisements also not considered on the ground of limitation.

5.1.2 Summary of Data Considered for this Study

The summary of the data processed is presented in figure 5.1 for a birds eye view on the data considered for the study.

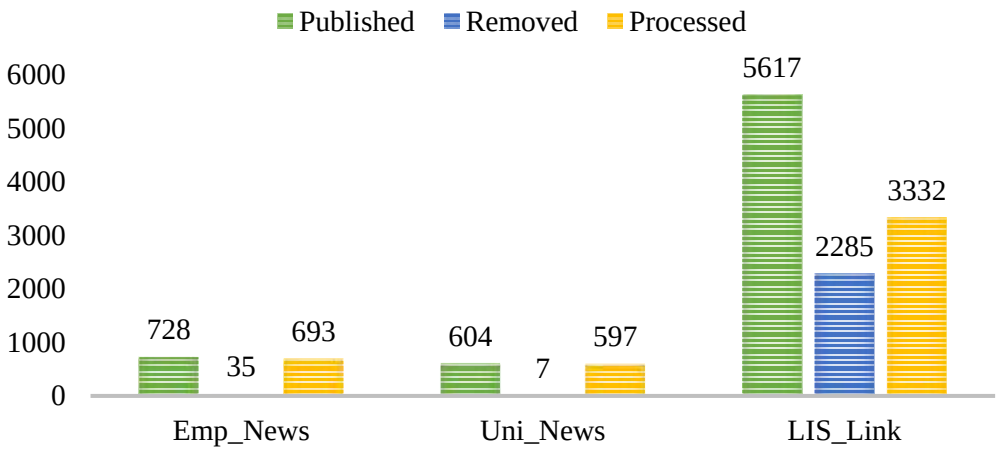


Figure 5.1: Source wise Ads Processed for Study

Analysis in figure 5.1 reflects that in the online data source *LIS-Links* the highest number i.e. 3332 (59.2%) of the advertisements were included in the study for content analysis. However, in the offline data sources, namely *Employment News* and *University News* total of 728 and 607 advertisements were published out of which 95.1% (693) and 98.8% (597) advertisement included respectively.

5.1.3 Source wise Data Sharing for the Study

As mentioned earlier, there were three major data sources published job advertisements in India, especially for LIS job ads, an attempt was made to find out the source wise distribution of the data covered under the study. The sharing of data used for the final analysis in this study, the details are presented in figure 5.2.

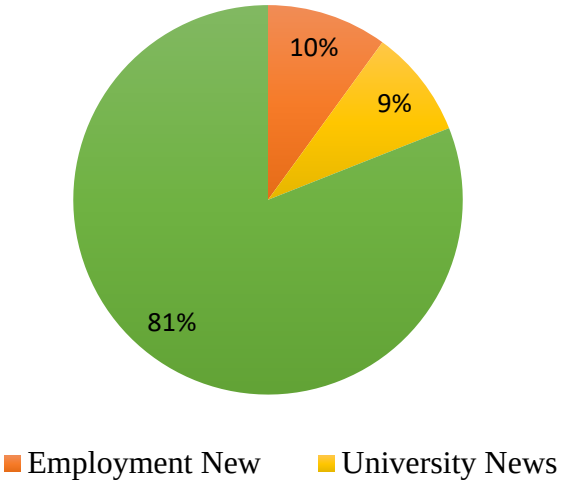


Figure 5.2: Source wise % of Ads Considered for Study

Analysis in figure 5.2 indicates that the majority i.e. 81% (3332) of the advertisements published in the *LIS-Links* online data source, while both offline sources cover only 19% i.e. 10% from the *Employment News* and 9% from the *University News* for six years i.e. 2012-2017.

The offline data sources covered in this study are commercial and charges for the publication of the advertisements from the respective employers. While uploading an advertisement on the online data source is free of cost and uploaded by the authorized group members as they find the ads useful for the LIS professionals irrespective of its source of publications. Therefore, such difference among the number of LIS job advertisements between the online and offline data sources was observed because of the difference in the coverage, content, and the nature of the data sources by which employers publish their job ads. The locale setup, government regulations, cost of advertisement and wide interest of the employers also help to select a suitable platform to publish the job ads.

5.1.4 Details of Ads, Posts and Number of Vacancies Considered in Study

For a study, which is based on the content analysis of the Job Advertisements it is important to find out the total posts and number of vacancies published in a job advertisement. In this study, the records of such posts and vacancies have been kept which are given in table 5.2. The post and advertisements are sometimes used as synonymously in the study.

Table 5.2: Details of Advertisements Posts & Number of Vacancies

Year	LIS links			Employment News			University News		
	Ads	Post	Vacancy	Ads	Post	Vacancy	Ads	Post	Vacancy
2012	681	812	1339	134	170	349	118	125	142
2013	807	975	3019	108	144	724	115	123	138
2014	511	698	1516	119	173	288	83	90	94
2015	323	461	742	101	172	480	96	97	123
2016	488	673	1892	107	151	230	106	117	130
2017	522	675	3316	124	188	326	79	84	102
Total	**3332**	**4294**	**11824**	**693**	**998**	**2397**	**597**	**636**	**729**

Analysis in table 5.2 reveals that the online source LIS-Links was the major source where majority 81% (3332) of advertisements were found. Even the advertisement data was almost fourth times the offline or print data sources covered in this study. As per the exploration in table 5.2 shows that in all the data sources, the number of posts and vacancies are higher from each other. It is also observed during the data collection that usually a job ad contains more than one post and many vacancies. The depth calculation of the average of the post and vacancies shows that 1.2 posts per ad and 3.5 vacancies per ad published in the LIS links online data source which were more or less equal with the other two data sources. The tables 5.2 also shows that in Employment News, 1.4 posts per ad and 3.4 vacancies per ad while in the University News, 1.06 posts per ad and 1.1 vacancies per ad published from 2012 to 2017. The detailed explanation of this aspect has been already discussed in the previous chapter 4.

5.2 GROWTH OF LIS JOB OPPORTUNITIES IN INDIA

The study intended to trace out of the growth of the LIS job during six years that may provide an overview of opportunities for LIS professionals. An effort to track the growth of the LIS post among the data sources covered in the study. The growth pattern

of the job advertisements also consists of the LIS posts, and vacancies appeared in each source. The source wise growth pattern is enlisted in subsequent figures and tables.

5.2.1 Growth Pattern in LIS-Links

The growth pattern in the individual data source provides an insight into the usefulness of those sources as far as the searching of LIS jobs is concerned. Therefore, the growth of LIS job opportunities has categorized source-wise in the subsequent figures.

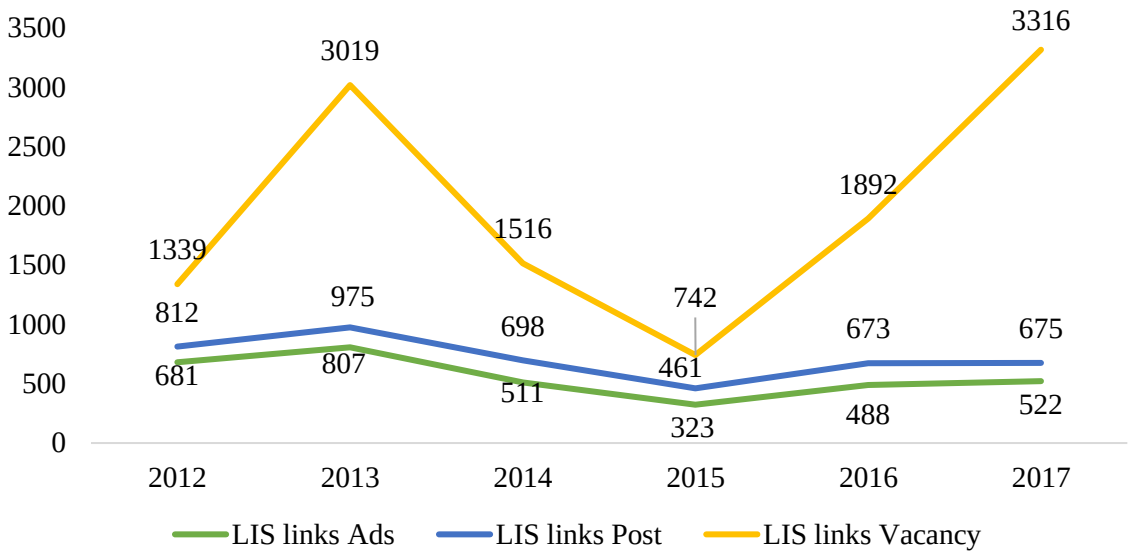


Figure 5.3: Growth Pattern of LIS Job Opportunities in LIS-Links

Analysis in figure 5.3 reveals the year wise account of the LIS job opportunities published on the LIS-Links during 2012-2017 in India. As earlier mentioned, a total of 3332 advertisements were processed for the study which the highest among the other two data sources. Figure 5.3 also shows that in 2013, the highest number i.e. 807 (24.2%) of advertisements followed by 681 (20.4%) in 2012 were uploaded on the LIS-Links. Whereas, only 323 (9.6%) the least number of advertisements were found in 2015. Similarly, the number of posts was also the highest 975 (22.7%) and the lowest 461 (10.7%) in 2013 and 2015 respectively.

Figure 5.3 also reveals the number of vacancies which was the highest 3316 (77.2%) in 2016 and the lowest 742 (6.7%) in 2015. It is observed from the data presented in figure 5.3 that the numbers of the vacancies are always been higher because the ads contained multiple posts and numbers of vacancies. As far as the growth of the jobs is concerned, it was slow and steady during the year 2012-2017 as per the data showing on LIS-Links.

5.2.2 Growth Pattern in Employment News

Employment News is a commonly used data source for job advertisements in India. It covers almost all areas of employment opportunities published for the public sector. Some of the employers are bound to publish their job vacancies due to the regulations and policies of the government. Therefore, it was important to have an overview of the LIS jobs in the Employment News. Therefore, in the continuation, an attempt was made to trace out the growth of LIS job announcements, posts and numbers of vacancies published in the Employment News.

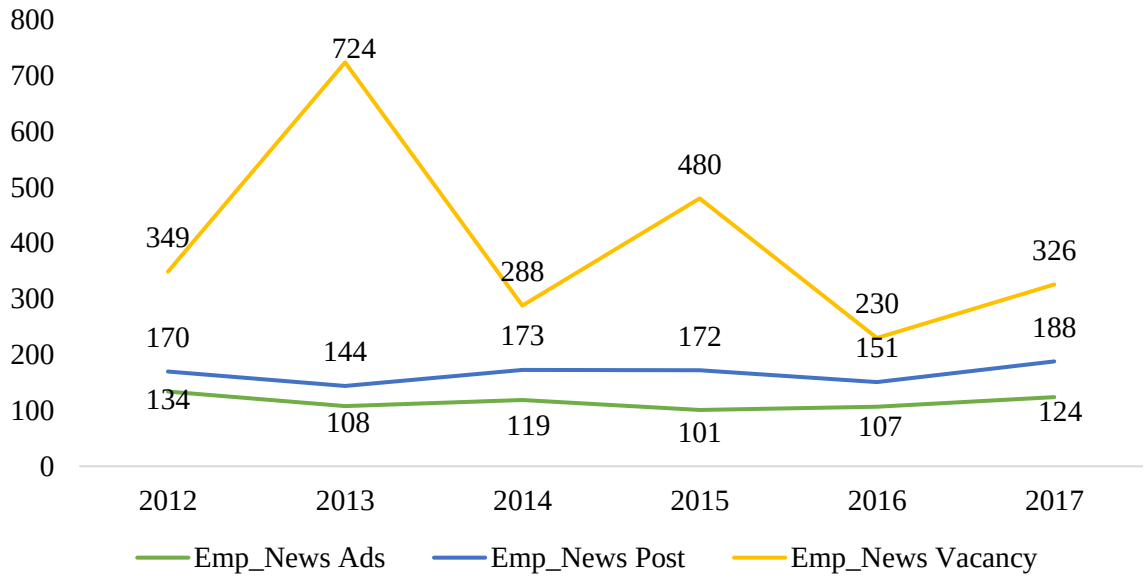


Figure 5.4: Growth Pattern of LIS Job Opportunities in Employment News

Analysis in figure 5.4 reveals that a total of 693 advertisements were considered in which 998 posts and 2397 vacancies were published in the six years in the Employment News. An average of 115 ads, 166 posts, and 400 vacancies were published per year from 2012-17 in this offline data source. As regards to the year wise growth rates of the advertisement in the Employment News, it was just comprised between 15% to 20% distribution per year. The two bottom lines show the consistency growth rates of the ads and the posts, whereas there is a significant difference in the numbers of vacancies which is visible in figure 5.4.

Investigation of figure 5.4 also shows that in 2013 the highest number of vacancies was published for LIS professionals. It is observed from the figure 5.4 that overall there is

a declining in the numbers of the advertisements and the vacancies in India from the year 2012 to 2017.

5.2.3 Growth Pattern in University News

The data for another source i.e. University News was also categorized to find out the growth of advertisements and LIS posts in India during the period covered under the study. The data found through the content analysis of the LIS job advertisements is given in figure 5.5.

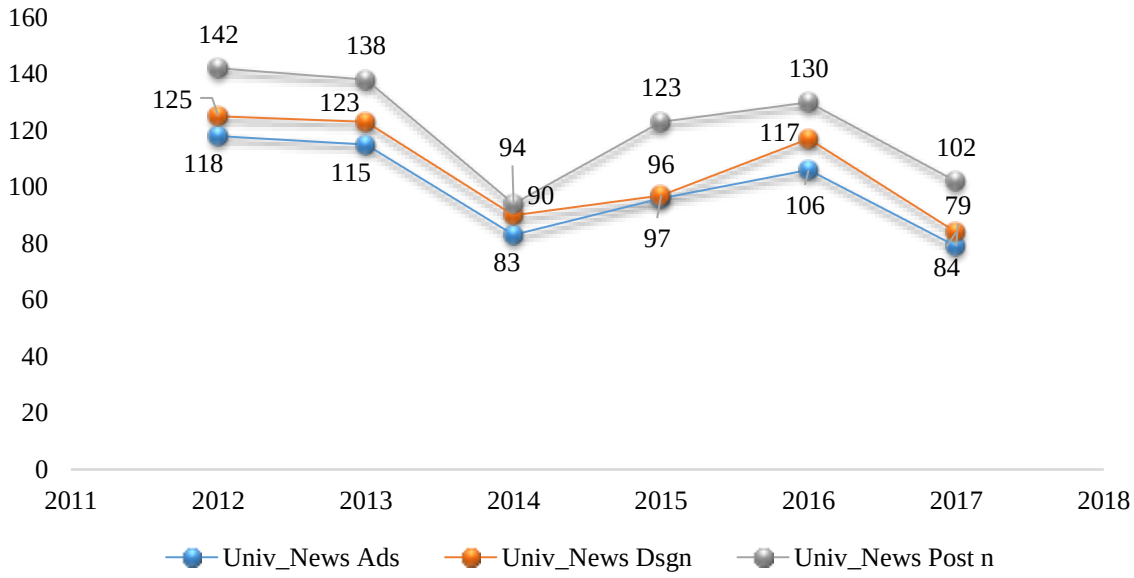


Figure 5.5: Growth Pattern of LIS Job Opportunities in University News

Analysis in figure 5.5 reveals that a total of 597 LIS job advertisements were found in the offline source *University News* in which 636 posts and 729 vacancies were published in the six years. In the *University News*, with an average of 100 ads, 106 posts and 121 vacancies were published per year from 2012-17. Analysis in figure 5.5 also reveals that the growth rate of the advertisements in the *University News* has remained from 13% to 20% per year. The year that noticed the highest growth rate of the LIS job opportunities in the *University News* was 2012 where 142 vacancies in 118 job advertisements were recorded. Another hand, the year 2014 has recorded the lowest growth rate when only 83 LIS job advertisements containing just only 94 vacancies were published LIS job opportunities.

5.2.4 Overall Growth of LIS Job Opportunities in India

After knowing the growth rate in the respective data source, it was important to know the combined growth rate of the LIS job advertisements among all three data sources. The response observed from the content analysis of job advertisements is given in figure 5.6.

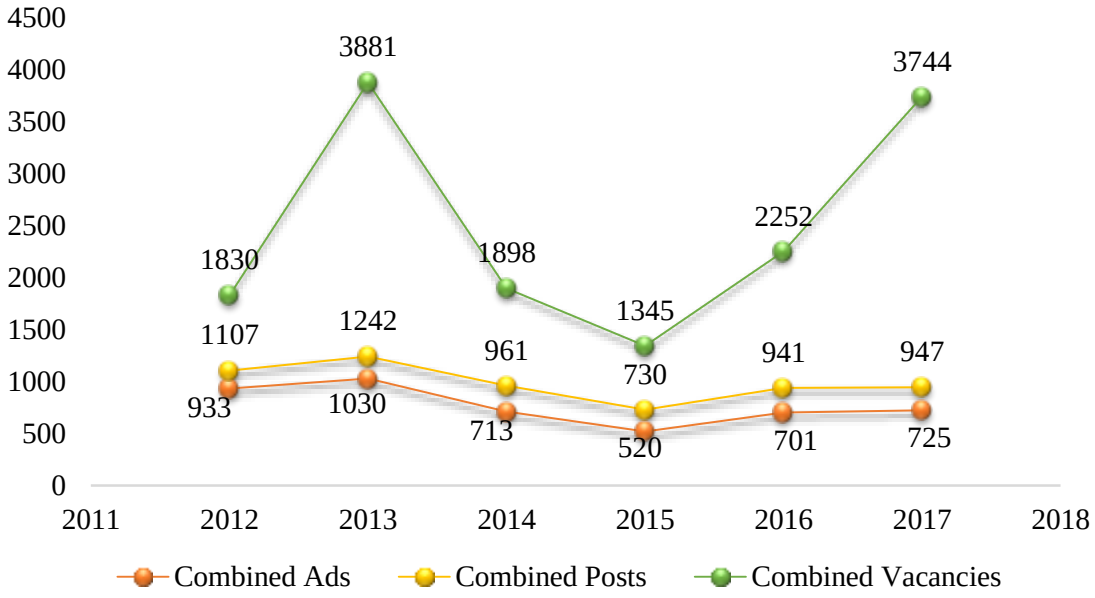


Figure 5.6: Overall Growth Pattern of LIS Job Opportunities

The analysis in figure 5.6 shows the overall growth pattern recorded by combining all three data sources. The growth of job opportunities published during 2012-17 was showing that in 2013 when a total of 1030 LIS job advertisements were published in which 1242 LIS posts and 3881 vacancies were generated which were the highest during six years. However, the least numbers i.e. 520 of the LIS job advertisements were published in the year 2015 which contains 730 posts and 1345 vacancies were published those were the lowest in the period. The overall average of all data sources shows that an average of 770 ads, 980 posts, and 2491 vacancies per year was the job opportunities generated in the period covered.

Figure 5.6 explains the detailed summary of the growth of LIS job opportunities, however, it was equally important to understand the overall data considered for this

study, all analyses, and findings are drawn in this study. Figure 5.7 provides a birds-eye view of the overall data for the growth of LIS opportunities in India.

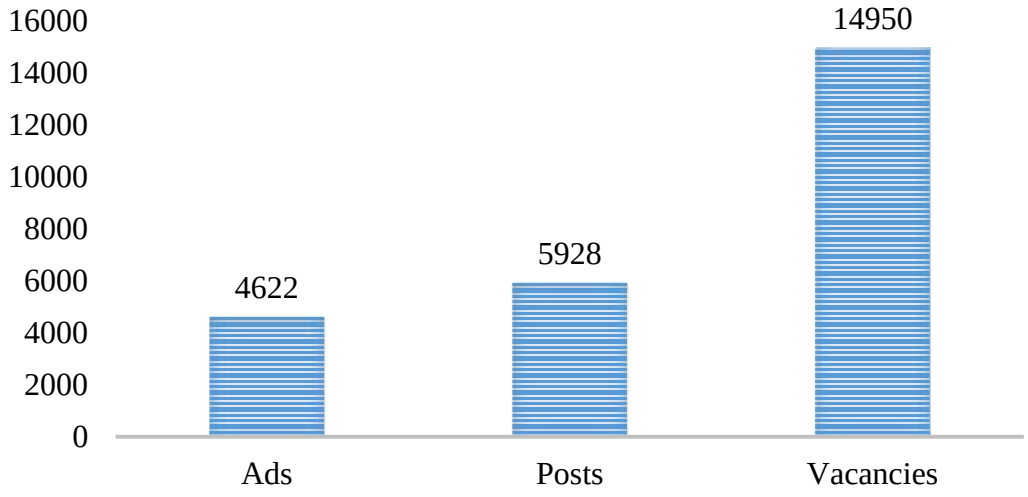


Figure 5.7: Overall LIS Advertisement Data Comprised in the Study

The overall advertisement data presented in figure 5.7 reveal that a total of 4622 LIS job advertisements, 5928 posts, and the 14950 vacancies were finally processed for this study. However, the numbers of vacancies published during the six years seem to be insufficient in a situation where every year more than 10000 LIS professionals are producing in Indian LIS schools.

5.3 TRADITIONAL AND NON -TRADITIONAL JOB TITLES

The Cambridge Online Dictionary (2019) explains the word 'tradition' as a belief or way of that acting the people in a particular society or group of people and continued to follow for a long time. In this sense, the librarians being associated with libraries over some time have adhered to a specific level of the task in the libraries, the librarian has bound in specific tradition i.e. just issue and return of books. It may be understood the fact as just because of working in a hospital, everyone cannot be a doctor, similarly, just based on working in a library set up, everyone cannot be a librarian. However, the stamp of issue-return of the books in the role of librarians is still involved in the traditional functioning of the librarian.

5.3.1 Traditional Positions (Job Titles)

Traditionally, librarians have been associated with libraries. Therefore, in society, the other professionals and paraprofessionals working in libraries understood as a librarian. Moreover, there is a misconception in society is that librarians supposed to do only issue-return of books. In this sense, the 'traditional' job titles were categorized for the study where the keyword 'Librarian' appeared those positions were included in the '*traditional*' job titles. The other criteria which are used to separate the traditional job titles from 'Non-traditional' job titles were found in the university system and governed by the MHRD or UGC together.

5.3.2 Non-Traditional Positions (Job Titles)

Sometimes during the study, few LIS job titles were difficult to identify because of their nature and working conditions, such job titles were categorized as '*Non-Traditional'* for this study. Other criteria for inclusion of non-traditional job titles was the association of ICT or computer skills required in the job ads.

The study aims to find out the status of the traditional and non-traditional posts for the Library and Information Science professionals, therefore, the parameters i.e. traditional and neo-traditional were created in the checklist. The data related to traditional and neo-traditional posts are presented in figure 5.8.

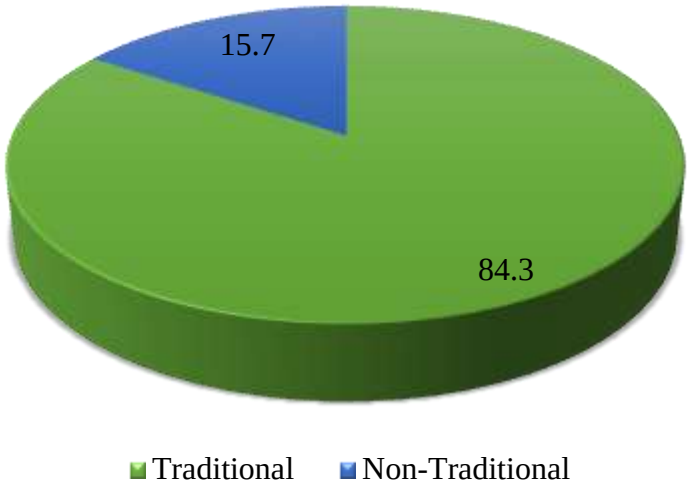


Figure 5.8: Traditional and Non-Traditional Positions in LIS Jobs

Analysis in figure 5.8 shows that there were 84.3% (4994) traditional positions appeared in the job ads published in six years whereas, only 15.7% (934) positions were the non-traditional.

The top thirty ranked posts both from the traditional and non-traditional categories according to their occurrences among the advertisements are given in table 5.3.

5.3.3 Traditional Non-Teaching Job Positions in LIS

The role of librarians has increased multi-dimensional, now it is not limited to the acquisition, storing, preservation, and circulation of books only. Yet, the traditional adherence of the LIS profession with the libraries is getting deeper in India. The analysis in table 5.3 and figure 5.9 support the fact as the majority of LIS jobs in India appeared as traditional positions.

Table 5.3: Traditional Non-Teaching LIS Job Positions

Name of Post	LIS	EN	UN	Total	%	Rank
Librarian	1703	192	532	2427	51.6	1
Assistant Librarian	570	106	25	701	14.9	2
Library Assistant	366	85	11	462	9.8	3
Deputy Librarian	213	52	17	282	5.9	4
Professional Assistant	155	64	7	226	4.8	5
Library Attendant	139	49	7	195	4.1	6
Semi-Professional Assistant	109	56	6	171	3.6	7
MTS- Library Attendant	36	35	0	71	1.5	8
Chief Librarian	39	13	0	52	1.1	9
Junior Librarian	24	3	0	27	0.6	10
Cataloguer	24	2	0	26	0.5	11
Senior Librarian	23	2	0	25	0.5	12
Junior Library Attendant	8	1	0	9	0.2	13
Library Binder	2	5	0	7	0.1	14
Library Restorer	7	0	0	7	0.1	14
Junior Professional Assistant	4	0	0	4	0.08	15
Restorer-cum-Attendant	3	0	0	3	0.06	16
Book Attendant	2	0	0	2	0.04	17
Classifier	1	1	0	2	0.02	17
Library Helper	1	0	0	1	0.02	18
	3429	**666**	**605**	**4700**		

LIS= LIS-Links, EN= Employment News, UN= University News

Analysis in table 5.3 reveals that the majority i.e. 51.6% (2427) jobs were published for the post of the *Librarian* among all the data sources followed by the *Assistant*

Librarians by 14.9% (701) those also ranked 1st and 2nd respectively. The position of the *Librarian* in a university library system is considered as a statutory post at the top-level management while *Assistant Librarian* is a middle-level position in a university library. The third-ranked position i.e. *Library Assistant* appeared in 9.8% of total posts followed by 4th ranked Deputy Librarian 5.9% and 5th ranked Professional Assistant 4.8 % of job positions among all the data sources. The Deputy Librarian position usually generates higher educational institutes in India. The post of Deputy Librarian is another top-level post after a librarian.

The Professional and Semi-Professional Assistant (3.6% ranked 7th) are the two posts that may be categorized as operational level managerial positions based on pay scales, qualifications and job responsibilities required in job advertisements. Figure 5.3 shows the zig-zag positions among different levels of positions. It also displays the top 18th ranked positions considered as traditional posts that have appeared among the 80% of LIS job advertisements. Analysis in table 5.3 also reveals that the lower level posts such as MTS- Library Attendant, Junior Librarian, Junior Library Attendant, Library Binder, Helper, Re-storer and book attendant, etc. are in the significant occurrences of these positions, which reflect that there is so much need of personnel who could execute the tasks.

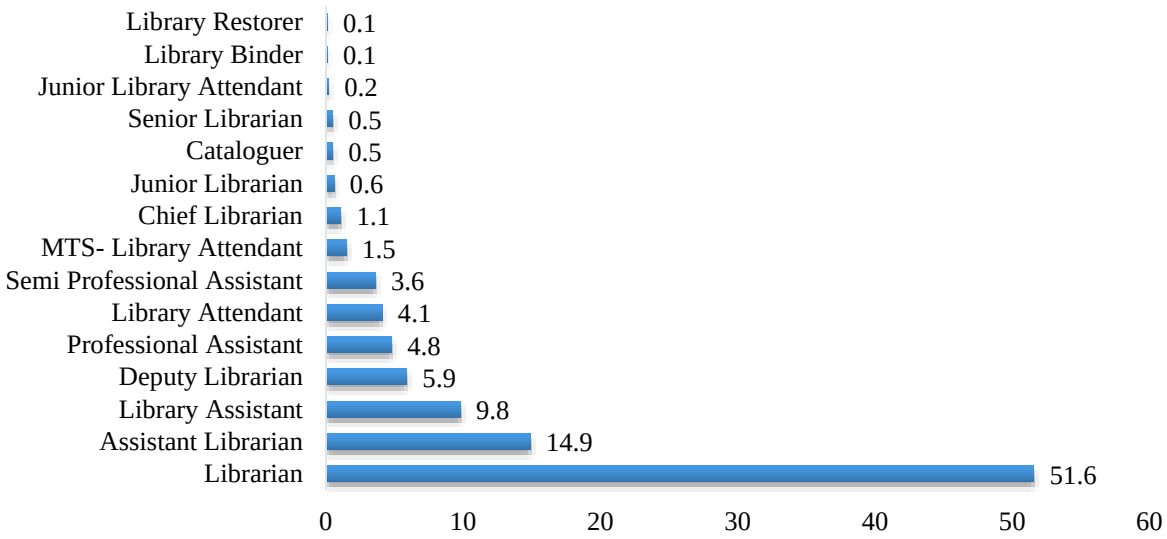


Figure 5.9: Top Fifteen Traditional LIS Job Titles

Figure 5.9 displays the traditional LIS posts published and categorized as traditional posts. The data in figure 5.9 supports the fact that the 'Librarian' position will be kept in demand by the employers and the importance of the traditional posts in the library will be remain because the library cannot imagine without the librarian. The role of a librarian may be changed based on time, nature of library services and demand of the users. The figure 5.9 also discloses that the MTS Library Attendant shares an equal share of 2.6% among the posts published rest of the posts were obtained less than 1% of the share except for junior librarians which ranked 9th with. 1.2% of LIS opportunities.

5.3.4 Traditional Non-Teaching Vacancies in LIS

During data collection, it was observed that the number of vacancies is greater than the posts appeared in the job advertised. It is important to include the data in the analysis for this study. The data observed and recorded in the checklist are given in table 5.4.

Table 5.4: Traditional Non-Teaching LIS Vacancies

Post Name	LIS	EN	UN	Total	%	Rank
Librarian	4402	889	582	5873	51.8	1
Library Assistant	2182	138	26	2346	20.6	2
Assistant Librarian	883	170	35	1088	9.5	3
Library Attendant	270	134	9	413	3.6	4
Professional Assistant	222	89	9	320	2.8	5
Deputy Librarian	243	54	18	315	2.7	6
MTS- Library Attendant	79	227	0	306	2.69	7
Semi-Professional Assistant	185	104	10	299	2.63	8
Junior Librarian	138	3	0	141	1.2	9
Chief Librarian	43	13	0	56	0.4	10
Cataloguer	36	3	0	39	0.3	11
Library Binder	2	29	0	31	0.2	12
Senior Librarian	26	2	0	28	0.24	13
Junior Library Attendant	18	5	0	23	0.2	14
Junior Professional Assistant	15	0	0	15	0.1	15
Restorer-cum-Attendant	15	0	0	15	0.1	15
Book Attendant	13	0	0	13	0.11	16
Library Restorer	7	0	0	7	0.06	17
Library Helper	4	0	0	4	0.03	18
Record Keeper	3	0	0	3	0.02	19
Classifier	1	1	0	2	0.01	20
Total	**8787**	**1861**	**689**	**11337**		

LIS= LIS-Links, EN= Employment News, UN= University News

Analysis in table 5.4 reveals that the majority i.e. 51.8% (5873) of vacancies were published for the post of the *Librarian* among all the data sources followed by the

Library Assistant by 20.6% (2346) those also ranked 1st and 2nd respectively as regards to the number of vacancies.

The third most 9.6% (1088) advertised vacancy was the *Assistant Librarians* however, the fourth-ranked post was the *Library Attendants* with 3.6% (413) vacancies. The professional Assistant was another important post as regards the 2.8% (320) number of vacancies followed by the *Deputy Librarians* with a 2.7% (315) vacancies fund among the LIS vacancies that have appeared in the data sources in the period covered in the study. The data observed from the job advertisements percentage of the traditional vacancies are arranged in figure 5.10.

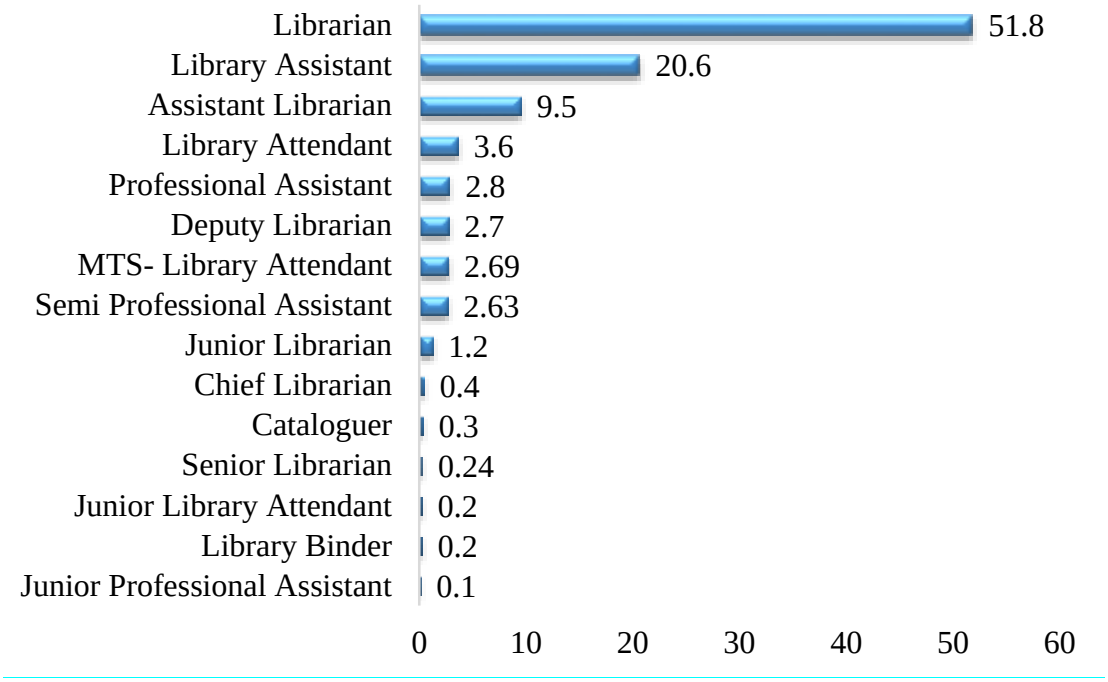


Figure 5.10: Top Fifteen Traditional LIS Vacancies

Figure 5.10 represents traditional LIS vacancies published for six years in India. The librarian is an integral part of libraries without them the existence of libraries cannot be imagined especially in the age of google and information explosion where users consumed most of their valuable time in searching for their information. In this situation, the role of librarians has changed. Figure 5.10 also shows that the lower-level vacancies have always in demand.

5.3.5 Non-Traditional Job Opportunities in LIS

The LIS professionals are not just limited to the librarians only to perform the traditional functions. Several other categories help in the execution of housekeeping functions in a library. The same may be categorized based on professionals, para-professionals, level of management in which they are work, group of posts, and grade pay they belong to.

Many non-traditional LIS job opportunities were found those required LIS qualifications and degrees. The data for Non-traditional LIS jobs categorized for this study is given under subsequent tables and figures.

5.3.5.1 Non-Traditional Positions in LIS

As per the objectives of the study, the non-traditional LIS posts were also categorized based on their different functions and responsibilities, especially, those that were associated with ICT and advanced computer skills. These posts were separated because of nature, skills, and competencies other than of the library science with core skills of library degrees. The posts were excluded from the keyword 'Librarian'. The data collected through the content analysis is given in table 5.5 while the rank of the top 15 non-traditional LIS job opportunities is given in figure 5.11.

The top 20 non-traditional posts were analysed from the LIS job advertisements published from 2012 to 2017. Analysis in table 5.4 shows that the most 17.4% (158) LIS job opportunities were created for the post of "*Library and Information Assistant*" which is also ranked the first among the other non-traditional posts as the figure 5.11 showing and supported the same. The *Senior Library and Information Assistant* non-traditional post get the second rank with 10.6% (96) posts while *Junior Library and Information Assistant* ranked the third with 9.6% (88). However, *Assistant Library & Information Officer* received 7.8% (71) the 4th rank among the other top 20 posts published during 2012-17 for the LIS profession.

Table 5.5: Non- Traditional Positions Appeared in LIS Jobs

Post Name	LIS	EN	UN	Total	%	Rank
Library and Information Assistant	93	64	1	158	17.4	1
Senior Library & Information Assistant	61	32	3	96	10.6	2
Junior Library and Information Assistant	63	24	1	88	9.7	3
Assistant Library and Information Officer	43	28	0	71	7.8	4
Technical Assistant (Lib)	42	20	0	62	6.8	5
Library Clerk	29	13	3	45	4.9	6
Library and Information Officer	25	9	0	34	3.7	7
Information Scientist	27	1	0	28	3.1	8
Documentation Officer	16	3	1	20	2.2	9
Scientific Assistant (Lib)	15	5	0	20	2.2	9
Scientist-B (LS)	11	8	0	19	2.1	10
Senior Library and Information Officer	9	7	0	16	1.7	11
Director (Lib)	9	6	0	15	1.6	12
Scientific Officer (Lib)	7	4	0	11	1.2	13
Senior Technical Assistant	6	5	0	11	1.2	13
Technician (Lib)	5	6	0	11	1.2	13
Documentalist	8	2	0	10	1.1	14
Scientist D (Lib)	5	5	0	10	1.1	14
Documentation Assistant	7	2	0	9	0.9	15
Library Officer	9	0	0	9	0.9	15
Consultant	7	0	0	7	0.7	16
Book Bearer	6	0	0	6	0.6	17
District Library Officer	4	2	0	6	0.6	17
Junior Technical Assistant (Lib)	4	2	0	6	0.6	17
Senior Technical Officer (LIS)	6	0	0	6	0.6	17
Technical Officer (LS)	4	2	0	6	0.6	17
Inspector (Librarian)	3	2	0	5	0.5	18
Principal Library & Information Officer	5	0	0	5	0.5	18
Junior Library Superintendent	3	1	0	4	0.4	19
Library and Documentation Officer	2	2	0	4	0.4	19
Assistant Archivist	2	1	0	3	0.3	20
Assistant Director (LS)	2	1	0	3	0.3	20

LIS= LIS-Links, EN= Employment News, UN= University News

The non-traditional post generally published for a specialized function usually. For example, a librarian does not expected programming of a computer based library service. Such kind of functions not only required the skill of programming language but also hard skills of libraries and understanding of its functioning. Hence, such

opportunities are a combination of one or more than one skills other than the libraries. Therefore, in the current scenario, a librarian is expected as a multi-dimensional and qualified professional that can perform multi-tasking at a given time.

It is also found that the library clerk is also demanded by the employers that reflect among 4.9% (45) job posts published during the period of study. The posts published also show some new designations in place of Librarian as equivalent position, such as *Information Scientist, Documentation Officer, Scientific Assistant, Technician, Library officer, Consultant, Principal Library & Information Officer,* and *Archivist,* etc.

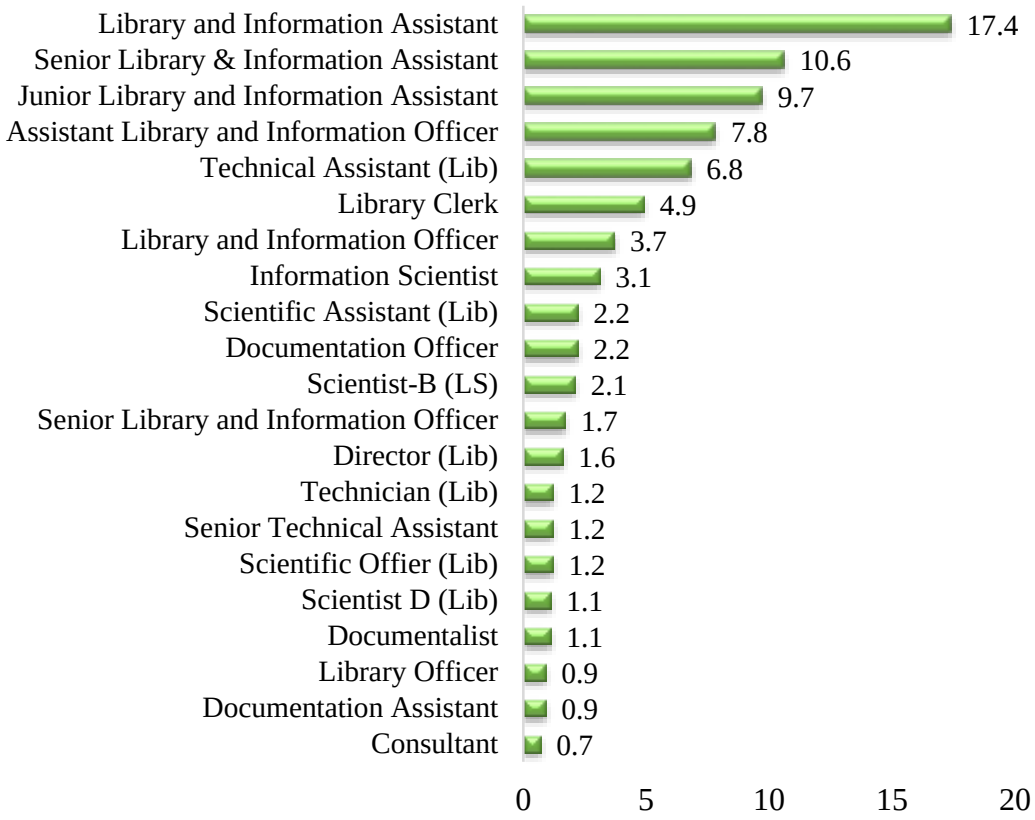


Figure 5.11: Non-Traditional LIS Positions

Figure 5.11 is based on table 5.4 showing the top 15 new non-traditional posts for LIS graduates. As already discussed in the top-ranked non-traditional positions, it is also important to know about the new non-traditional positions belong to bottom in figure 5.11. It shows that few 'scientific' posts those belong to 'information science' are emerging non-traditional positions such as 'Documentalist' Technical Assistant' and consultant, etc. in India where LIS job seeker looks as supplementary to the librarianship.

5.3.5.2 Non-Traditional Vacancies in LIS

The amalgamation of ICT and Computer applications in the libraries resulted in the creation of several new LIS positions that were categorized as the non- traditional for this study. The libraries in the last two decades have witnessed the modular changes in the role, responsibilities, and functioning of a library. Therefore, the demand for new positions in the libraries has also increased. The data received through content analysis of job advertisements for the non-traditional positions are given in table 5.6 and figure 5.12.

Table 5.6: Non- Traditional Positions Appeared in LIS Jobs

Name of Posts	LIS	EN	UN	Total	%	Rank
Information-Cum-Library-Manager	1708	0	0	1708	56.9	1
Library and Information Assistant	185	106	1	292	9.7	2
Senior Library & Information Assistant	100	57	3	160	5.3	3
Junior Library and Information Assistant	108	44	1	153	5.1	4
Assistant Library and Information Officer	61	37	0	98	3.2	5
Library Clerk	61	26	4	91	3	6
Technical Assistant (Lib)	54	25	0	79	2.6	7
Senior Technical Assistant	19	30	0	49	1.6	8
Scientist-B (LS)	28	10	0	38	1.2	9
Library and Information Officer	25	9	0	34	1.13	10
Information Scientist	27	1	0	28	0.9	11
Library Officer	24	0	0	24	0.8	12
Junior Technical Assistant (Lib)	22	2	0	24	0.8	13
Senior Library and Information Officer	10	13	0	23	0.8	13
Documentation Officer	17	3	1	21	0.7	14
Scientific Assistant (Lib)	15	5	0	20	0.6	15
Field Assistant	10	10	0	20	0.6	15
District Library Officer	16	3	0	19	0.6	15
Consultant	18	0	0	18	0.6	15
Technician (Lib)	10	8	0	18	0.6	15
Director (Lib)	9	6	0	15	0.5	16
Documentalist	10	2	0	12	0.4	17
Scientific Officer (Lib)	7	4	0	11	0.3	18
Documentation Assistant	8	2	0	10	0.3	18
Archival Assistant	7	1	1	9	0.3	18
Book Bearer	7	0	0	7	0.2	19
Junior Library Superintendent	6	1	0	7	0.2	19
Information Analyst	6	0	0	6	0.2	20
IRC Officer	6	0	0	6	0.2	20
Total	**2584**	**405**	**11**	**3000**		

Analysis in table 5.6 reveals that there 3000 non-traditional vacancies published during the six years. The vacancies for the post of 'Information-cum Library-Manger' were in the majority i.e. 56.9% (1708) that ranked the first. It was noticed and verified during data collection that only a single post carries 1708 vacancies in an advertisement. The post has appeared in an advertisement published by the Haryana Public Service Commission which was found in the LIS-Links data source. The other post that has 9.7% (297) vacancies were on the 2nd rank as regards to the numbers of vacancies are concerned. Whereas, the post of 'Senior Library and Information Assistant' was on the 3rd rank with a 5.1% (160) vacancies. As showing in table 5.6 that the vacancies under the top 15 ranked have only a slight difference that ranges from 1% to 3% of a number of the vacancies.

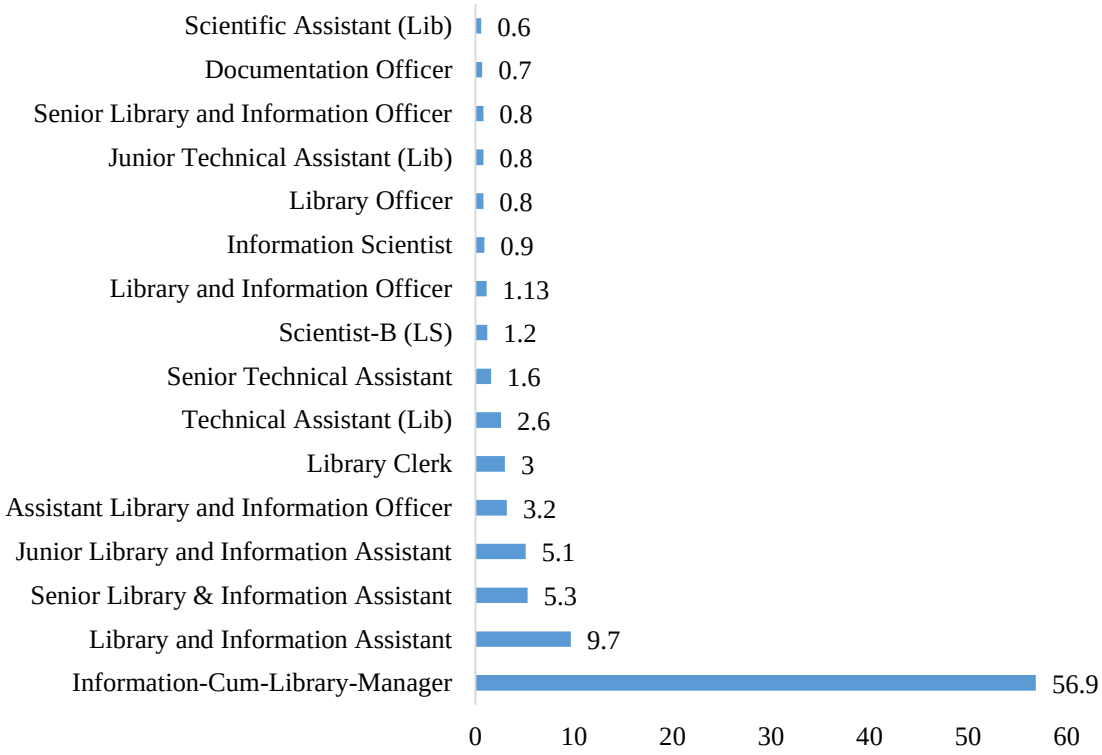


Figure 5.12: Non-Traditional LIS Opportunities

Figure 5.12 also created to provide a bird's eye view on the top 15 ranked vacancies generated during the six years. The non-traditional post has just a difference of names, however, the qualifications, and job responsibilities are more or less similar.

Figure 5.12 shows that job titles are not uniform among job ads for a specific professional librarian position. Such a phenomenon is particularly displayed in the recent job opening.

5.4 MAJOR FUNCTIONAL AREAS REQUIRED IN LIS JOBS

One of the objectives of the study includes finding major functional areas in the LIS job market. As Kim and Agnakoon, (2016) discuss that job ad also viewed as a behavioral information source for researchers, educators, policymakers and higher educational institutions to explore the job market, therefore, such aspect is also covered in this study. The data for the traditional functional areas were found among the 1810 job advertisements which were occurred multiple times in an advertisement. The top 30 ranked traditional functions for the LIS professionals are presented in table 5.7.

Table 5.7: Top 30 Traditional Functions of LIS Jobs

Traditional Functional Areas	Occurrences	%	Rank
Circulation of books	1456	80.7	1
Cataloging	1281	70.8	2
Library management	1148	63.4	3
Classification	1021	56.4	4
Acquisition	823	45.4	5
Reference Query Handling	782	43.2	6
Technical Processing	602	33.2	7
Accessioning	571	31.5	8
Data Entry	553	30.5	9
Shelving	305	16.8	10
Creative Displays	275	15.2	11
Information Retrieval	258	14.2	12
Bibliographic instruction	250	13.8	13
Maintaining all records	230	12.7	14
Handling Manuscript	225	12.4	15
Library Maintenance	213	11.7	16
Indexing	155	8.5	17
Financial regularizations	136	7.5	18
Compilation of CAS/SDI	86	4.7	19
Inter Library Loan	65	3.5	20
Photocopies	62	3.4	21
Secretarial Work	52	2.8	22
Cleaning	35	1.9	23
Binding/ Repair damaged books	26	1.4	24
Conducting extension activities	24	1.3	25
Maintain library decorum	18	0.9	26
Maintain Library statistics	15	0.8	27
Process Newspaper	13	0.7	28
Visitor statistics	11	0.6	29
Patrol library	9	0.4	30

The analysis in table 5.7 shows that even today in a library setup, the *Circulation of books, Cataloguing, Library Management, Classification of documents, Acquisition of*

books, handling Reference Query of the users, *Technical Processing, Accessioning of books, Data Entry* and *Shelvin*g are the still the top priority of employers those look and expect such traditional functions from the library professionals. There were 39.1% (1810) advertisements in which more than 70 traditional functions were identified out of which the top 30 functions according to their occurrences are presented in table 5.7. There were traditional functions like *Creative Displays, Information Retrieval, preparing Bibliographic instructions, maintaining all library records, Handling Manuscript, Inter Library Loan, Photocopies services,* look after *Binding/ Repair* of damaged books and *Processing of the Newspapers* are also under the top 30 functions in a modern-day library job requirements.

In addition to the traditional functions, there are also some non-traditional functions of the libraries appeared in the LIS job advertisements were also identified. The Jobseeker should be prepared and equipped to learn and adopt the new functionalities of libraries. The new functions are helpful in the LIS job market in the present-day environment of therefore, these may be adaptable for the instructions and training modules of the LIS syllabus in Indian LIS schools.

The top 30 Non-Traditional functions were also identified among the 22% (1021) advertisements published from 2012-17. The same is presented in table 5.8.

Table 5.8: Top 30 Non -Traditional Functions Demanded LIS Jobs

Neo-Traditional Functions	Occurrences	%	Rank
Innovative library services	767	75.1	1
Computer Proficiency	748	73.2	2
Documentation	715	70	3
Digitization of Library	693	67.8	4
Administration & Policies	602	59	5
Digital Resources Management	570	55.8	6
Database management	546	53.4	7
Knowledge of Manuscriptology/ Epigraphy	541	52.9	8
Open-source library tools	504	49.3	9
eBook gadgets and formats	326	31.9	10
Audio Visual Instruction/Information Literacy	237	23.2	11
Computerization/Automation	234	22.8	12
Typing in Hindi & English	224	21.9	13
Relationships with internal & external stakeholders	221	21.6	14
Liaising	215	21	15
Open Access repositories	187	18.3	16
Document delivery	153	14.9	17
Collection Development	145	14.2	18
Process audio-visual material	135	13.2	19
System Administration	135	13.2	20
Office Applications, Spreadsheets, and Presentations	128	12.5	21
Book Restoration	125	12.2	22
Outreach librarian	124	12.1	23
Consolidation of Monthly Report	112	109	24
User information services	103	10	25
Web 2.0 tools/Metadata	82	8	26
Braille Knowledge	63	6.1	27
Managing a state-of-art Library	42	4.2	28
Maintenance of CDs/DVDs	29	2.8	29
Counter management	7	0.6	30
Rotational Shifts	7	0.6	30

Analysis in table 5.8 reveals major non-traditional functional areas that were appeared in the job advertisements in which the implementation of *Innovative Library Services* is the first choice of the employer in the current scenario. Whereas, *Computer Proficiency, Documentation, Digitization of Library* documents, *General Administration & Policies, Digital Resources Management, Database Management, Knowledge of Manuscriptology or Epigraphy,* handling *Open Source Library Tools,* dealing with *eBook* gadgets and formats, etc. are found new non-traditional areas for the LIS professionals.

The Innovative Library Services are expected by the employers in the mid-career level of positions as it is an essential eligibility criterion by the govt. regulations. Table 5.8 also throws light on some important non-traditional functions demanded among job advertisements. The new functions include *Typing in Hindi & English, Relationships with internal & external stakeholders, Liaising, Open Access repositories, Document delivery, Process audio-visual material, System Administration, Office Applications, Spreadsheets and Presentations, Outreach librarian, Web 2.0 tools/Metadata, Consolidation of Monthly Report, Braille Knowledge* and so on. The functions are the need for libraries in changing scenarios.

5.5 GEOGRAPHICAL DISTRIBUTION OF LIS JOBS

The study also aims to find out the status of LIS job opportunities among the Indian states and territories. The LIS job aspirant searches their jobs among various states and regions, here based on content analysis an attempt was made to rank the Indian states, zones, and the four metro cities based on numbers of the LIS opportunities generated. The state-wise, zones-wise distribution of LIS job positions during 2012-2017 has been provided in this study. The study also attempted to find out the LIS positions among the four metro cities of India.

5.5.1 State-wise Distribution of LIS Jobs

India is a federal country consist of 29 states and 9 Union Territories, a total of 38 entities. The LIS job aspirants always look for a job near their locality or nearby. The data obtained from the observation of LIS job opportunities may helpful for those who look at such options. The state-wise data collected from the sources under study are given in table 5.9.

Table 5.9: States wise Distribution of LIS Job Opportunities

States	Employment News	University News	LIS-Links	Total	%	Rank
Delhi	418	14	739	1171	19.7	1
Maharashtra	20	398	245	663	11.1	2
Uttar Pradesh	84	16	460	560	9.4	3
Haryana	22	7	274	303	5.1	4
Karnataka	24	5	209	238	4	5
Tamil Nadu	22	5	205	232	3.9	6
Gujarat	28	18	171	217	3.6	7
Assam	16	0	194	210	3.5	8
Madhya Pradesh	42	9	156	207	3.49	9
Punjab	26	2	177	205	3.45	10
West Bengal	24	3	173	200	3.3	11
Rajasthan	11	0	170	181	3	12
Mumbai	13	63	87	163	2.7	13
Uttrakhand	29	10	100	139	2.3	14
Odisha	22	0	103	125	2.1	15
Kerala	15	16	91	122	2.05	16
Andhra Pradesh	17	4	99	120	2.02	17
Jammu & Kashmir	20	4	83	107	1.8	18
Bihar	26	7	72	105	1.7	19
Chhattisgarh	13	4	83	100	1.6	20
Himachal Pradesh	19	4	51	74	1.2	21
Chennai	12	0	46	58	0.97	22
Goa	3	38	16	57	0.96	23
Kolkata	28	0	29	57	0.96	23
Telangana	3	0	52	55	0.92	24
Jharkhand	2	3	37	42	0.7	25
Puducherry	7	4	25	36	0.6	26
Tripura	5	0	30	35	0.59	27
Manipur	4	2	23	29	0.52	28
Sikkim	9	0	18	27	0.4	29
Arunachal Pradesh	3	0	16	19	0.3	30
Meghalaya	5	0	14	19	0.3	30
Mizoram	2	0	14	16	0.2	31
Nagaland	0	0	11	11	0.18	32
Shilling	1	0	9	10	0.16	33
Port Blair	3	0	5	8	0.16	33
Daman & Diu	0	0	5	5	0.08	34
Lakshadweep	0	0	2	2	0.03	35
Total	**998**	**636**	**4294**	**5928**		

The state-wise distribution of the LIS job opportunities given in table 5.9 shows that Delhi produces the highest i.e. 19.7% (1171) LIS job opportunities followed by Maharashtra 11.1% (663) and Uttar Pradesh 9.4 (560) those ranked as the 1st, 2nd and the 3rd respectively. Haryana 5.1% (303) and Karnataka 4% (238) are also the important

states that ranked 4th and 5th respectively and generated significant numbers of job openings for LIS professionals.

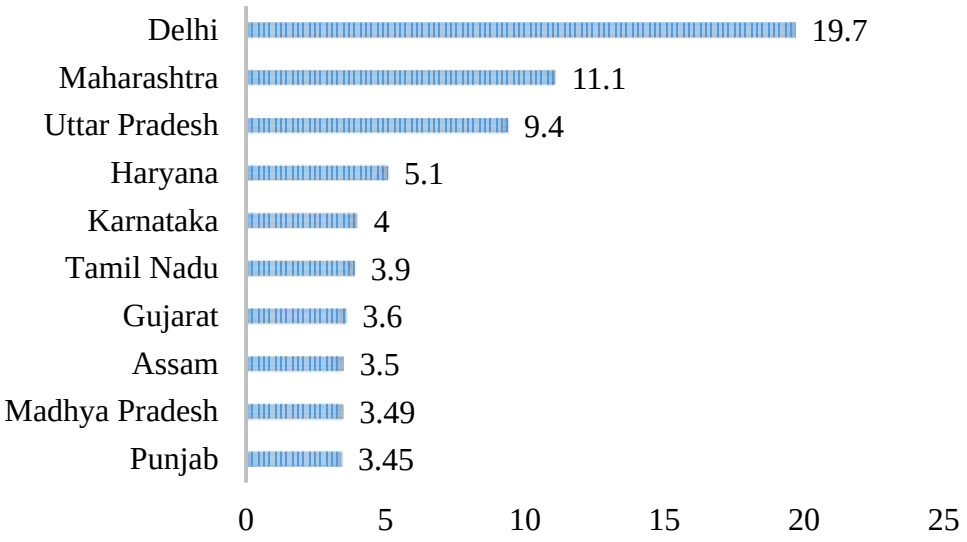


Figure 5.13: Top 10 States for LIS Job Opportunities

Analysis in figure 5.13 also reveals the top 10 ranked Indian states also confirm that Delhi is the hub of LIS jobs where maximum opportunities generated during the period of study from 2012 to 2017. Maharashtra is another imperative state for the point of view of LIS jobs where most of the LIS jobs create in academic libraries of various educational intuitions. Uttar Pradesh also among the major states that accommodate LIS professionals.

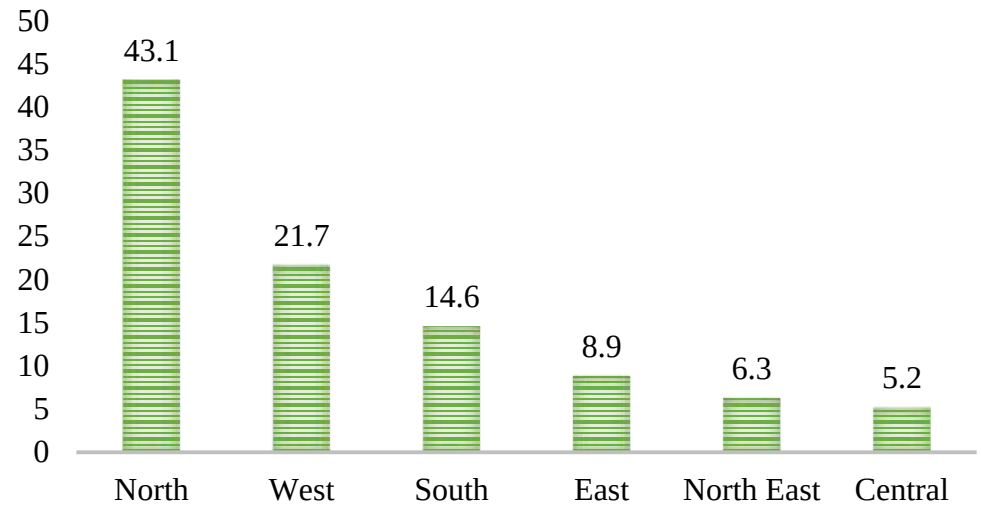
The analysis in table 5.9 and figure 5.13 indicate that in almost every state and region has LIS job opportunities, this confirms a wide scope in the LIS field for the future job aspirants. It may also be a piece of good news for the LIS job aspirants who are not aware of where to look for better job searches. The analysis can also be utilized to set or revised the career objectives of the LIS job aspirants. The tables 5.9 also shows that every part of the country from East to West and North to South there are LIS job opportunities though the numbers of job opening are uneven.

5.5.2 Zone wise Break-up of LIS Job Market in India

During data investigation, it was realized that the zone wise information of LIS job opening can be useful for the LIS job aspirants, therefore, based on Indian polity, the

state-wise data were also categorized in different zones and metro cities in India so that a clear picture about the status of LIS job opportunities in India can be identified.

The data obtained from the content analysis of LIS job advertisements has presented under figure 5.14 and 5.15.



Sources: Maps of India, (2019); Wikipedia, (2019).

Figure 5.14: Zone wise Break-up of LIS Job Market in India

Analysis in figure 5.14 shows that the LIS opportunities were the largest i.e. 43.1 (2559) produced in the *North Zone,* followed by 21.7% (1288) in the *West Zone.* There were 14.6% (869) LIS job opportunities were generated in *South Zone* while only 8.9% (529) job was created in the *East Zone* of India. The zonal distribution of the LIS jobs also shows that in the *North-East* and the *Central Zone* there was 6.3% (376) and 5.2% (307) were respectively.

The zonal distribution of the LIS job positions can contribution to build a conception beyond the limitation of the states and solve the problems of many LIS job aspirants those want to cross the boundaries of states but want to keep in their zones, especially, for the female job aspirants who dare to cross the state boundaries but due to certain facts want to do job in their comfort zones. This study may help them, to take an overview of jobs and rethink their decisions.

5.5.3 The Indian Zones in Data Sources for LIS Jobs

In this study, three most important data sources were selected to collect data for LIS job opportunities created in India. Therefore, it was important to examine how the LIS

job advertisements published and how they contribute to various zones of India. The study also attempts to find out biased towards any zone or what data source is preferred in a particular zone. The data observed and recorded from the content analysis are enlisted in figure 5.15 below:

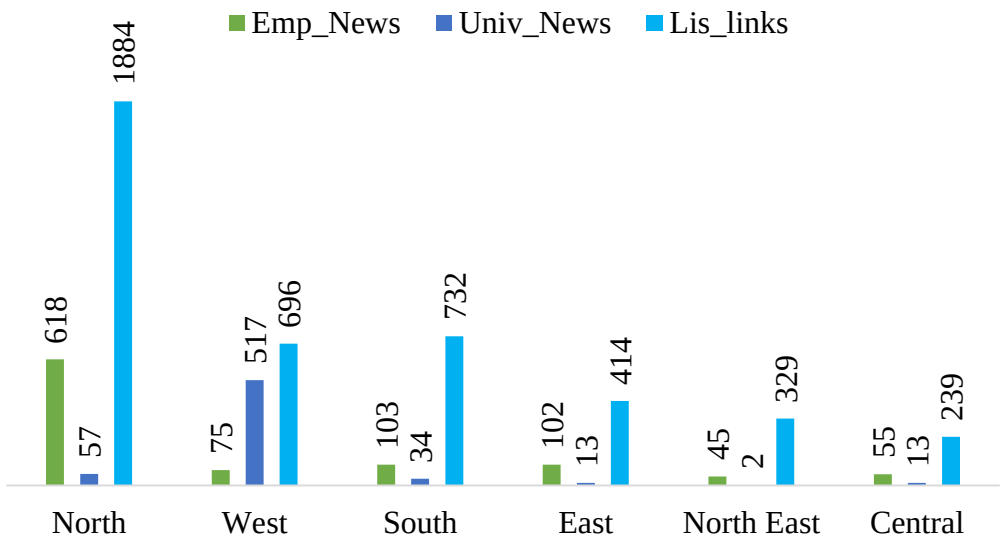


Figure 6.15: Source wise Distribution of LIS Job in India

Analysis in figure 6.10 shows that the majority of the LIS job advertisements were distributed from the online data source *LIS-Links* to the *North Zone* where a total of 1884 job opportunities were published. The data in figure 5.15 also shows that in *University News* there was 517 job advertisement were published for LIS job opportunities in the *West Zone*. As far as *Employment News* is concerned, it also contributed the most of its LIS positions to the *North Zone* (618) followed by *South Zone* (103) and *East Zone* (102) job posts were published during six years.

It is observed from figure 5.15 that the University Newsweekly published the majority of LIS jobs to the West Zone, especially for the Maharashtra state. Whereas, the Employment News weekly published the LIS job advertisement for the North Zone, especially for Delhi.

5.5.4 Job Opportunities in Four Metro Cities in India

Four metro- cities are very significant in terms of choices of working in India. Saini and Singh (2019) discussed the preferences of LIS students in India and found that the majority of the LIS professionals want to work in the four metro cities because of the

status and high living standards. There are chances of career development and a good package of salaries and other factors attract the LIS job aspirants.

Therefore, this study also categorized the LIS job opportunities found from the content analysis of the job advertisement in the data sources covered. The data observed is given in figure 5.16.

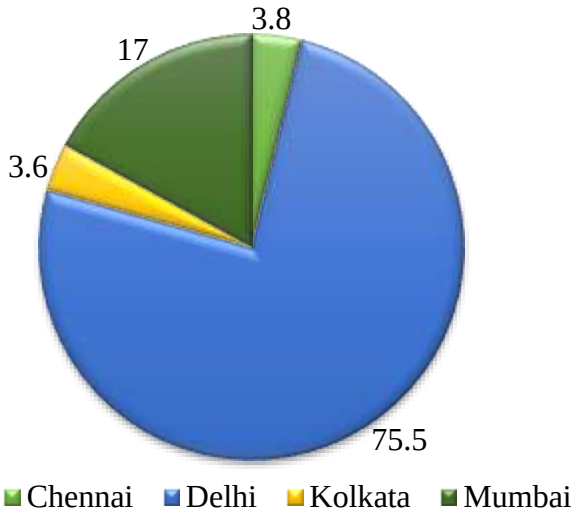


Figure 5.16: Job Opportunities in Four Metro Cities in India

The analysis in figure 5.16 showing the percentage of LIS job opportunities in four metro cities in India where it reveals that *Delhi* among the other metro cities occupied 75.5% (1171) portion of the total LIS posts created during the six years followed by *Mumbai* where 17% (263) posts for the LIS professionals were generated. The other two metro cities i.e. *Chennai* and *Kolkata* were shared almost equal i.e. 3.8% (58) and 3.7% (57) LIS job opportunities in India.

The *Employment News* and *LIS-Links* published 418 and 739 positions to Delhi respectively while the *University News* the most i.e. 63 positions published to Mumbai along with *LIS-Links* where 263 were published to Mumbai.

5.6 LIS JOB OPPORTUNITIES AT VARIOUS LEVELS

The study aimed to analyze LIS job opportunities at different levels such as qualifications or level of education, level of management where different functions perform and level of pay scales and pay bands or salaries packages, etc. the employers offer to the Job aspirants in India. The salaries in the private sector and pay band in the

government sector are very important factors those laid foundations of acquiring LIS education at undergraduate or postgraduate levels qualification by LIS job aspirants. This study attempt to solve various problems of the LIS job seekers like how much salary packages are they may get to achieve, what are the perspectives and scope of LIS education at a different level. The study educates to the LIS students about their suitability at various managerial levels and their competencies to achieve that deserving level of management in a library.

However, there are prescribed pay scales by the government of India, yet it was not clear that how many jobs have created a particular pay band or grade pay hence, it was important to find out the opportunities based on the pay scales. The data obtained with the help of content analysis of the LIS job ads are presented under subsequent tables and figures.

5.6.1 Level of LIS Education in India

Library and Information Science is an academic discipline that aims to educate and train students to create and manage libraries in an effective manner. It also developed a service approach and attempts to enhance ethical values in the students aspiring to be Library and Information professionals (Kaur, (2015). In India, there are multiple levels of education for LIS professionals. It begins from the Certificate to Diploma and Under Graduate (UG) to Post Graduate (PG) Degree to the Master of Philosophy (M.Phil.) and Doctoral i.e. Ph.D. level (Kumar and Sharma, 2010).

The LIS courses are generally categorized into semiprofessional and professional. The courses responsible to create semiprofessional are Certificate and Diploma while the other courses those create professional courses are begins from the undergraduate degree i.e. Bachelor of Library and Information Science.

The different level of education were identified for which job openings created such as the UG degree i.e. Bachelor of Library Science (B. Lib) or Bachelor of Library and Information Science (BLISc.) and the PG degree i.e. Master of Library Science (M. Lib) or Master of Library and Information Science (MLISc.) (Singh, 2003; Kumar and Sharma, 2010).

Library and Information Science is an amalgamation of Library Science and Information Science together. Library Science is considered traditional whereas,

Information Science regarded as an advanced field of study. Information Science studies diverse aspects of information largely an application of ICT in the libraries. The data on the level of education obtained from the job ads are presented in table 5.10 and figure 5.17.

Table 5.10: LIS Job Opportunities based on Level of Education

Education Level	Employment News		University News		Lis-Links		Total Ads		Total Posts	
	Ads	**Posts**	**Ads**	**Posts**	**Ads**	**Posts**	**Ads**	**%**	**Posts**	**%**
M. Lib. I. Sc.	283	378	579	609	1682	2138	2544	55	3125	52.7
B. Lib. I. Sc.	282	391	12	16	1315	1607	1609	34.8	2014	34
Certificate in Lib. Sc.	80	173	5	10	175	352	260	5.6	535	9
Diploma in Lib. Sc.	37	45	1	1	97	127	135	2.9	173	2.9
Ph.D. in Lib. I. Sc.	11	11	0	0	63	70	74	1.6	81	1.3
Total	**693**	**998**	**597**	**636**	**3332**	**4297**	**4622**		**5928**	

Sources of Level of LIS Education: UGC Curriculum Model LIS, 2001; Singh, 2003; Kumar and Sharma, 2010.

Analysis in table 5.10 reveals that the majority i.e. 55% (2544) of the LIS job advertisements where 52.7% (3125) of posts were demanded post-graduate degree i.e. *Master of Library and Information Science* (*M.Lib. I.Sc.)* from the LIS job aspirants during the six years covered under this study. In the 34.8% (1609) job advertisements, an undergraduate degree in library science i.e. *Bachelor of Library and Information Science (B. Lib. I. Sc.)* for 34% (2014) posts in LIS job market in India. Table 5.10 also shows that both *UG* and *PG* degrees in the LIS occupied more than 85% of the job market in India. It is also observed from the analysis that both PG and UG degrees are the most preferred qualifications by the employers in India. The tables 5.10 also reveals that *the Certificate* level of qualifications was published only in 5.6% (260) ads for 9% (535) positions whereas 2.9% (135) ads for 2.9% (173) LIS positions were based on *Diploma* level course in Library science. As regards the research degree in LIS i.e. Ph.D. only 1.6% (74) advertisements in which 1.3% (81) posts were asked the doctoral degree. However, the post was lesser in numbers, yet it was observed that all were for the higher level and mid-career positions based on certain experiences in a particular role.

The bachelor and master degrees are important in the Library and Information Science that create professionals to carry out operational and middle-level management responsibilities. These also help to develop the competencies and skills required to

manage housekeeping activities, innovative library services and solving day to day problems. In continuation of table 5.11, the level of education is categorized based on percentages in figure 5.18

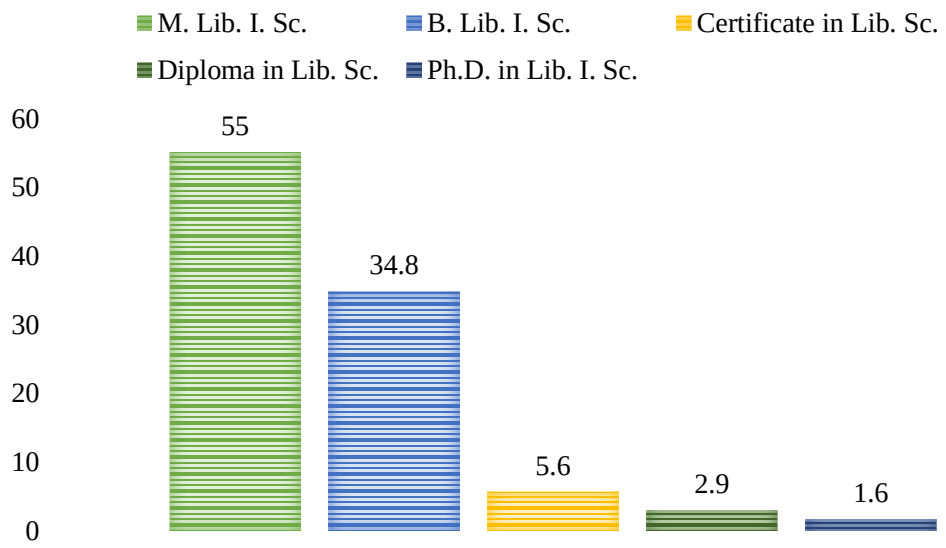


Figure 5.17: % of LIS Jobs Advertisements Asked Level of Education

In continuation of table 5.10, figure 5.17 also reveals the percentage of the LIS job advertisement asked for various levels of courses and education in LIS in India. The LIS courses are offered at six levels, the M. Phil is missing in the above analysis because it has appeared as a desirable condition in LIS job advertisements. The LIS course may be divided into two broad categories, first professional level courses i.e. Bachelor, Master, MPhil, and Ph.D. usually conducted at university or institution level and second belong to semi-professional level courses i.e. Certificate and Diploma in LIS education usually conducted by an association or polytechnic level as a non-formal way of education.

5.6.2 Level of Management in LIS Job Opportunities in India

Management is a process of creating and maintaining an environment where individuals work together in a group efficiently to achieve organizational goals. The definition stresses the execution of work that includes planning, organizing, staffing and controlling, etc.

The organizational functions are based on the level of management. Stoner, Freeman, and Gilbert (2015) defined the three-level of management that are included in this study for the collection of data from the LIS job advertisements. The working definition of all levels of management considered in this study has already explained in chapter 1 under the operational definition of the key terms.

5.6.2.1 Top Management in Library Organization

Top-level management referred to the administration concerned with planning, policy-making and setting up the goals to be achieved. The main function of top-level management is to conceptualize, visualize and plan of setting objectives of the organization. For this study, top management consist with Librarian and Deputy Librarians in a university library, Directors in a public library, chief librarians, Sr. Library & information officers in a special library who comes in the grade pay of Rs.8000/- and above as per 6th Central Pay Commission (CPC) and Level 12A and above in the 7th Central Pay Commission. In the top management, the skill of conceptualization is the key.

5.6.2.2 Middle Management in Library Organization

The management is responsible for the implementation of policies and plans framed by the top management. The manager at this level functions as a bridge between top and first-line i.e. Lower Management. The middle management also referred to as the executive level responsible for the organization and direction to the lower management. It requires human skills like organizing, motivating, and establishing human relationships that help in coordinating at lower management. For this study, the officer/staff from a range of grade pay of Rs. 5400- Rs. 7600 as per the 6th CPC and Level 10 to Level 12 as per 7th CPC under which the post of Assistant Librarians and

Assistant Librarian and Information Officer, Documentation Officer, etc. were considered for collection of data in this category.

5.6.2.3 First Line Management in Library Organization

Management is responsible for operating employee those cannot supervise manager at top and middle management, categorized as '*First*' or *Lower* Management in the organizational hierarchy. The employee at this level is responsible for the execution of work without authority and passes instructions to others. This level of management is called 'First Line' Management by Stoner, Freeman, and Gilbert (2015). For this study, the library attendants, MTS-Library, Library Assistants, and Semi-Professional Assistants, etc. Such posts consist of grade pay of Rs 1800/- to Rs. 3600/- were categorized as lower management.

It is important to mention that in a library a range of grade pays from Rs. 4200/- to Rs. 4800/- between first-line management and middle management was also identified among the LIS job advertisements.

For example, the post of *Professional Assistants* in a university Library with grade pay of Rs. 4200/- to 4800/- may be categorized as 'Operational Management' The role of operational managers is to ensure that the products and services are always available for the library users. They also ensured continue routine housekeeping activities. Thus, the Operational management' responsible to improve overall productivity in the library services. For this study, the 'Operational Management' has merged in the first-line management for data collection.

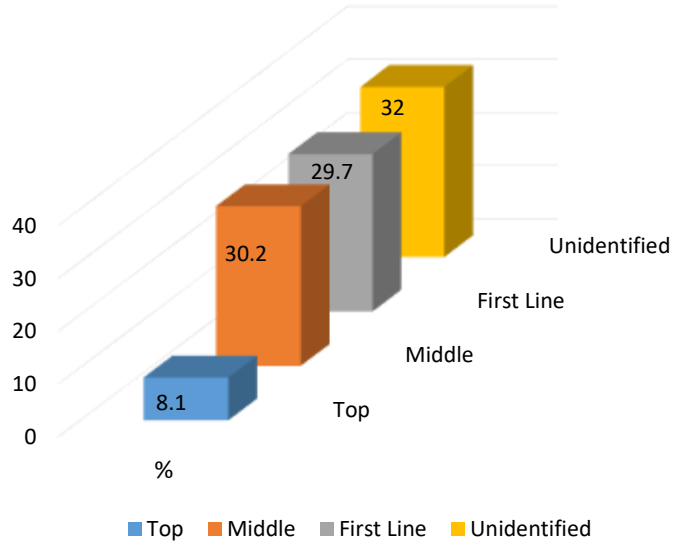
To find out the LIS job opportunities at various levels of management, attempt have been made to find out the LIS jobs under the criteria. The data collected are given in table 5.11

Table 5.11: LIS Job Opportunities and Level of Management

Level of Management	Employment News	University News	Lis-Links	Total	%
Top	75	28	379	482	8.1
Middle	259	466	1071	1796	30.2
First Line	597	37	1127	1761	29.7
Unidentified	67	105	1717	1889	32
Total	**998**	**636**	**4294**	**5928**	**100**

Source of Level of Management: Stoner, Freeman, & Gilbert, 2015

Analysis in table 5.11 shows that the maximum number i.e. 30.2% (1796) LIS positions were created in the *Middle Management*, while almost equal i.e 29.7% (1761) LIS positions were also generated in the *First Line Management* during the period of study. Table 5.11 also reveals that only 8.1% (482) LIS positions for the *Top Management* were published among the LIS job advertisements.



Source: Stoner, Freeman, & Gilbert, 2015

Figure 5.18: LIS Jobs Advertised based on Level of Management

As the data in figure 5.18 indicates a maximum of 32% (1889) LIS job positions were *Unidentified* for any of the levels of management. Analysis for the *Middle* and *First Line* managements also indicates that almost equal LIS job positions emerged during the period of the study. However, as far as the top management is concerned, only 8.1% of LIS job has appeared among the advertisements for LIS professionals.

The data pertained to the level of management can be useful for the future LIS professionals for deciding their goals of selecting a particular level of management.

5.6.3 LIS Job Based on Pay Scales and Grade Pays

The 6th Central Pay Commission (6th CPC) formed in October 2006 and submitted its recommendations in March 2008 which were implemented from January 2006 for all the central government employees in India. For this study, the pay bands, grade pays and pay scales recommended for by the 6th CPC were adopted for the data collection and analysis. However, due to the course of time in data collection and

recommendations received in the pre-submission of Ph.D. presentation, the pay scales, metrics, and levels of initial basic pay recommended by the 7th Central Pay Commission (7th CPC) were also considered later on for the data analysis in this study.

5.6.3.1 LIS Job Opportunities Based on Pay Scales

The study attempted to find out the possibilities of LIS job opportunities based on the pay scales, grade pays and range of amount in fixed salaries offered by the employers. As per the 6th CPC, there was no change in the designations of library academic staff cadre. However, the pay scales, grade pays and promotion criteria were at par with teachers in the universities and colleges. As per the pay fixation criteria in 7th CPC followed in the academic pay structure, the concept of pay band and grade pay merged as academic level and cells. The first academic level (corresponding to AGP-6000/- 10) is numbered as 11, 12, 13A, 14 and 15 where each cell in an academic level is at 3% higher than the previous cell at that level. It also needs to mention that the Index of Rationalisation (IOR) is 2.67 in less than AGP of less than Rs. 10000/- and 2.72 for the AGP of Rs. 10000/- and above was adopted for the central government employees in the academic field. The data related to the pay scales and grade pay of the LIS positions found among the job advertisement is arranged in table 5.12 and figure 5.20.

Table 5.12: LIS Job Opportunities Based on Pay Scales

Levels 7th CPC	Pay Scales (6th CPC)	Employment News	University News	LIS-Links	Total	%
1 to 5	5200-20200	303	27	620	950	16
6 to 9	9300-34800	301	10	524	835	14
10 to 13	15600-39100	251	466	1104	1821	30.7
13A to 14	37400-67000	83	28	346	457	7.7
Total		**938**	**531**	**2594**	**4063**	**68.5**

Source: 6th & 7th Central Pay Commission Reports, 2008 & 2017.

Analysis in table 5.12 shows that most numbers i.e. 30.6% (1821) of the LIS jobs were published for the Pay Band of Rs. *15600-39100* (for Level of 10 to 13 as per 7th CPC) were published during six years covered under the study. In the *University News* data source, the majority of posts in pay band 3 appeared. Whereas, for the Pay Band of Rs. *5200-20200* (for Level 1 to 5 as per 7th CPC) 16% (950) LIS jobs were published followed by the Pay Band of Rs. *9300-34800* (for Level of 6 to 9 as per 7th CPC) for which 14.2% (835) LIS jobs were published. Table 5.12 also shows that only 7.7%

(457) LIS posts for the Pay Band of 37400-67000 (level 13A to 14 as per 7th CPC) were published. Table 5.12 reveals that there were 68.5% (4063) LIS job advertisements where pay scales and grade pays were mentioned.

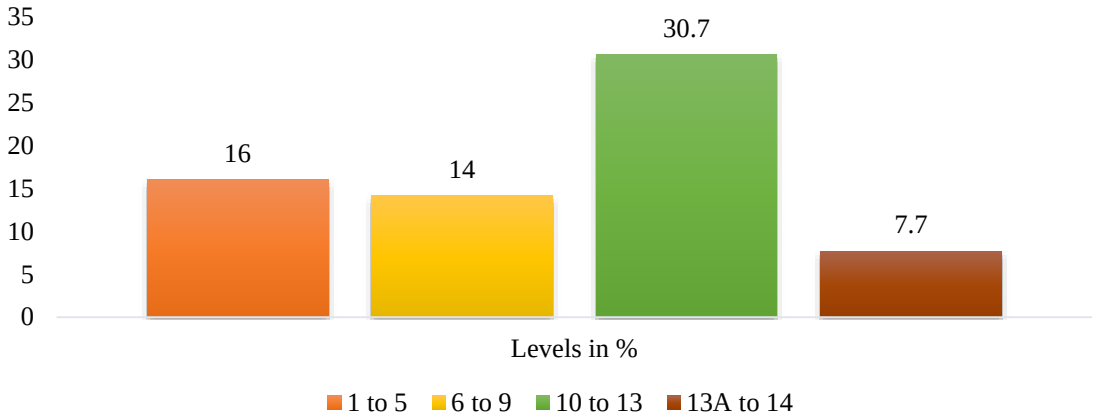


Figure 5.19: LIS Jobs as per 7th CPC Levels of Initial Pay

The analysis of 7th CPC included after suggestions received from the pre-PhD seminar which is given in figure 5.19 that shows that pay level from *10 to 13* received the most i.e. 30% of occurrences for the LIS job opportunities followed by 16% by the level from *1 to 5* which fall under the pay band of Rs. 5200-20200 as per the 6th CPC. The figure 5.19 also supports that the posts from the top-level i.e. level 13A to 14 pay scales were less appeared while at the initial entry pay level i.e. level 6 to 9 only 14% LIS jobs have appeared in the LIS jobs.

The other advertisements comprised with few remarks and where the pay scales were not found are separately categorized under the table 5.13 and figure 5.20 that also supplemented the table 5.12.

Table 5.13: LIS Positions where Pay Scales Differently mentioned

Pay Scales	Employment News	University News	LIS-Links	Total	%
Not Available	4	36	1190	1230	20.7
Fixed Salaries	29	5	285	319	5.3
Negotiable	0	11	184	195	3.2
As per norms	27	53	41	121	2
Total	**60**	**105**	**1700**	**1865**	**31.2**

The table 5.13 indicates that there were 31.3% (1865) total advertisements where in place of the pay scales few remarks (as given in table 5.13) were found. The analysis reveals that 21% (1245) job advertisements where the details of pay bands, etc. were not mentioned. It was observed that such cases were noted in the majority of the LIS job opening in the private sector. Analysis in table 5.13 also shows that there were 5.5% (331) job advertisements where the fixed salaries were mentioned for the LIS jobs. In 3.2% (195) LIS jobs advertisements have appeared for the jobs where the pay scales were on basis of 'Negotiation' while, there were 1.6% (94) LIS job advertisements were published with the remark 'as per norms' of the parent intuitions where the libraries functions and run by their management.

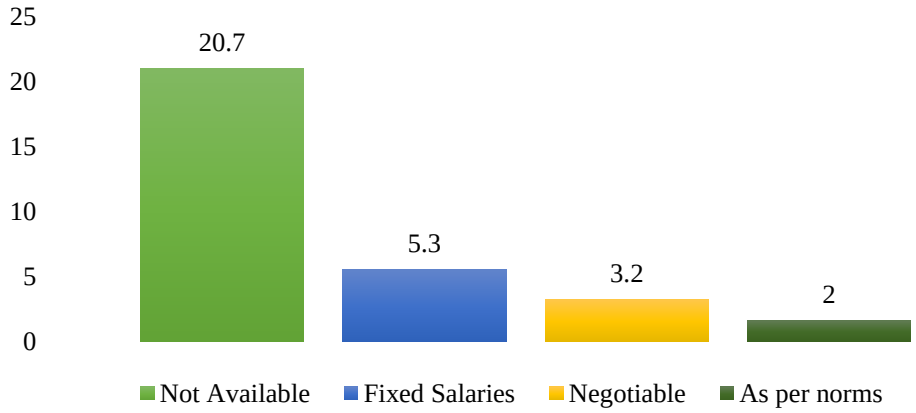


Figure 5.20: Parameters Used in Place of Pay Scales

Figure 5.20 arranged to show the percentile of different parameters that appeared in place of the pay band and pay scales for the LIS jobs. The analysis in table 5.13 indicates the source wise analysis also where it is clear that no LIS position was appeared based on '*Negotiable*' and '*As per norms'* remarks. While in the University News the remark 'as per norms' was appeared in the most numbers of advertisements, whereas, in the LIS Links there was majority i.e. 184 LIS job advertisement appeared.

5.6.3.2 LIS Job Opportunities Based on Fixed Salaries

The LIS job aspirants are usually curious about the salary packages and fixed overall amount in an LIS position. The trend of fixed salary has been noticed in the LIS job published for the private sector. There were a total of 331 LIS job positions were published where the fixed salary was offered to the LIS job aspirants. The contribution of *Employment News* was just only 29 LIS posts, while University News contributed only 5 LIS jobs. But in the LIS-Link online data source, 297 LIS job positions for the fixed salaries were offered were published.

Based on the frequency of fixed salary amount few ranges (as given in table 5.14) were created to obtain a clear picture of the fixed salary range in the LIS job market offered by the employers. During data collection, it was observed that the majority of the LIS post offered fixed salaries belong to the private sector. The data collected and presented based on the range of fixed salary is given in table 5.14 and figure 5.22.

Table 5.14: Range of Fixed Salaries for LIS Jobs

Range of Fixed Salary	Employment News	University News	LIS Links	Total	%
< 10000	4	0	39	43	13.4
10001-15000	5	0	80	85	26.6
15001-20000	6	2	57	65	20.3
20001-25000	2	1	47	50	15.6
25001-30000	3	0	27	30	9.4
3000-35000	3	1	10	14	4.3
> 35000	6	1	25	32	10
Total	**29**	**5**	**285**	**319**	

Analysis in table 5.14 reveals that most i.e. 20.5% (68) of LIS jobs offered *less than Rs. 10000/-* per month to the LIS job aspirants while 18.7% (62) of LIS posts offered a range fixed salary between *Rs 10,001 to Rs.15000/-* per month. Table 5.14 shows that 20% (66) of the LIS position offered a range of fixed salary between Rs. *15001 to Rs. 20000/-* per month whereas, 15.7% (52) posts were offered based on a range of fixed amount that ranges between *20001/- to 25000/-* per month. As regards to the range of *Rs. 25001 to 30000/-* and Rs 30001/- to 35000/- per month are concerned, a range between 4.8% (16) and 9.6% (32) LIS post was received among the LIS job advertisement. The analysis in Table 5.14 also shows that there were 10.5% (35) LIS

job openings were found where a range of *more than Rs. 35000/-* per month was offered to the LIS job aspirants in India.

The separate percentiles of the ranges of fixed salaries were also categorized which given in figure 5.21.

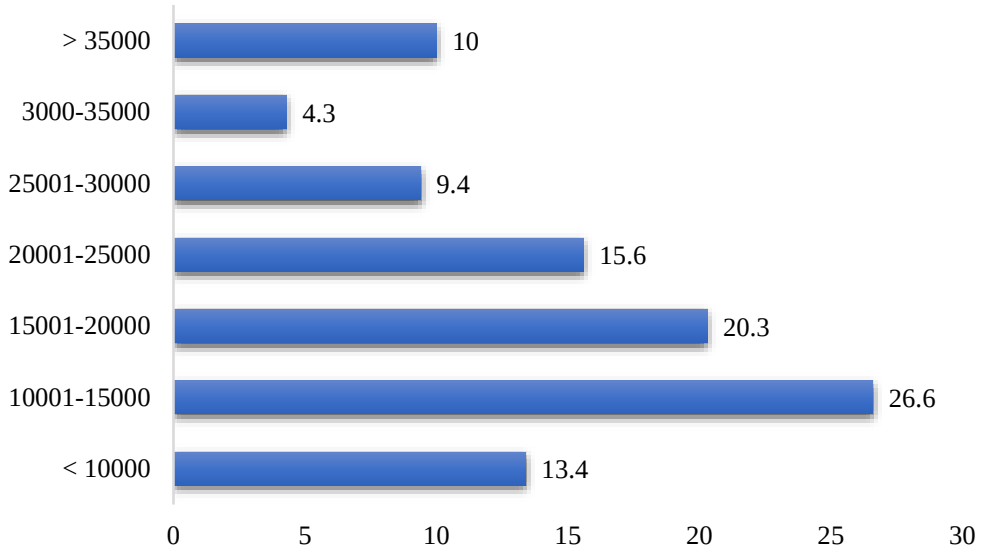


Figure 5.21: LIS Jobs Advertised based on Range of Fixed Salaries

It is observed from the data given in figure 5.21 that the condition of the LIS job market, especially where the employer offers fixed salaries has not been developed yet. Still, there are cases have noticed where less than Rs. 10000/- offered by the employers and accepted by the job seekers. In the competitive environment, the LIS job aspirants accept less than Rs 10000/- per month which is however not appropriate for a professional who qualified master's or bachelor's degree in Library and Information Science. It is worthy to mention that there are many areas for LIS job opportunities where a LIS job seeker may find a respectable position based on his/her knowledge and attitude of problem-solving.

In figure 5.21, an emerging trend in the LIS job opportunities has been noticed by which an atmosphere of higher salary packages has been started in the Indian LIS job market. The trend was started after the implantation of the 6th pay commission report.

5.6.3.3 LIS Job Opportunities Based on Grade Pay

The grade pays were introduced by the 6th CPC in 2006 which is considered an important factor for fixing the basic salary of individual staff on a particular pay scale. The grade pays also separate various pay bands and pay groups. The grade pay system is being followed by all central and state govt. endeavours, sometimes in the private sector also, but not necessarily.

For this study, the grade pays given by the 6th CPC were initially considered for the data collection, but later on, the collected data were also categorized as per the levels and initial basic pay matrixes recommended by the 7th CPC and implemented the same from January 2016 onwards in centrally funded institutions. The data collected is given in table 5.15.

Table 5.15: LIS Job Opportunities Based on Grade Pay

Level 7th CPC	Initial Basic Pay (7th CPC)	Grade Pay 6th CPC	Employment News	University News	LIS-Links	Total	%
1	18000	1800	84	8	152	244	4.1
2	19900	1900	42	2	85	129	2.1
3	21700	2000	59	7	145	211	3.5
4	25500	2400	22	0	53	75	1.2
5	29200	2800	92	10	178	280	4.7
6	35400	4200	211	10	393	614	10.3
7	44900	4600	85	0	119	204	3.4
8	47600	4800	2	0	2	4	0.06
9	53100	5400	30	4	111	145	2.4
10*	57700	6000	124	443	648	1215	20.4
11	67700	6600	27	0	57	84	1.4
12	79800	7600	18	0	35	53	0.8
12*	79800	8000	47	19	188	254	4.2
13	123100	8700	13	0	32	45	0.7
13A*	131400	9000	9	6	60	75	1.2
14*	144200	10000	66	22	319	407	6.8
Others			7	0	17	24	0.4
Total			**938**	**531**	**2594**	**4063**	**67.66**

Source: https://7thpaycommissionnews.in/7th-cpc-pay-matrix-chart- & MHRD, letter No. 1-7/2015-U/II(1) dated 2/9/2017.

Analysis in table 5.15 shows that from the grade pay of Rs. 1800/- to Rs. 2800/- (Corresponding to the Level from 1 to 5 as per 7th CPC recommendations) those referred to the lower management in a library. The trend in table 5.15 reflects that there was a range from 1% to 5% of LIS jobs was appeared during the period covered under the study. Table 5.15 also shows that the posts on initial grade pay of Rs. 1800/- (Rs. 18000/- initial basic pay in the 7th CPC) 4.1% (244), while for the grade pay of Rs. 1900/- (Rs. 19000/- initial basic pay in the 7th CPC) 2.1% (129), whereas, for the grade pay of Rs. 2000/- (Rs. 21700/- initial basic pay in the 7th CPC) 3.5% (211) while the grade of Rs. 2400/- (Rs. 25500/- initial basic pay in the 7th CPC) only 1.2% (75) LIS posts whereas, for the grade pay of Rs. 2800/- ((Rs. 29200/- initial basic pay in the 7th CPC) 4.7% (280) LIS jobs were published in the advertisements covered under the study.

Table 5.15 also reveals that the grade pay of Rs. 4200/- to Rs. 5400/- (As corresponding to the Level from 6 to 9 as per 7th CPC recommendations) for which a range of percentage from 0.06% (4) to 10.4% (614) LIS jobs have appeared among the LIS job advertisements. The analysis in table 5.15 shows that for the grade pay of Rs. 4200/- (level 6 in 7th CPC), 10.3% (614) LIS positions were published whereas, for the grade pay of Rs. 4600/- (level 7th in 7th CPC) 3.4% (204) was published. Table 5.15 also consists of The Academic Grade Pay (AGP) which starts from the grade pay of Rs. 6000/- (i.e. level 10 in 7th CPC) and above. The academic levels in 7th CPC were also included levels 12, 13A and 14) that came up from the grade pays of Rs. 8000/-, Rs. 9000/- and Rs. 10000/- from the 6th CPC.

Table 5.15 also shows that most 20.4% (1215) of the LIS positions have appeared for the grade pay of Rs. 6000/-(level 10 in 7th CPC) for six years. Whereas, the grade pay of Rs. 8000/- appeared in 4.2% (254) posts, while for the grade pay of Rs. 9000/- (level 13A in 7th CPC) only 1.2% (75) LIS positions were published. The grade pay of Rs. 10000/- (level 14 in the 7th CPC) were published during the six years

During the content analysis, it was observed that sometimes the employer designed the grade pay according to their local needs through the pay-scale and pay bands remained the same. The observations recorded in the other option in table 5.15 where a total of

04% (24) LIS positions were found in which different grade pay such as Rs. 1400/-, Rs. 2600/- Rs. 3200/- and Rs. 3900/- etc. though these were not mentioned in the 6th CPC. The data collected and presented in table 5.15 represents both 6th and 7th CPCs. Therefore, for a clear picture, the data related to the level of 7th CPC has separated which is given in figure 5.24.

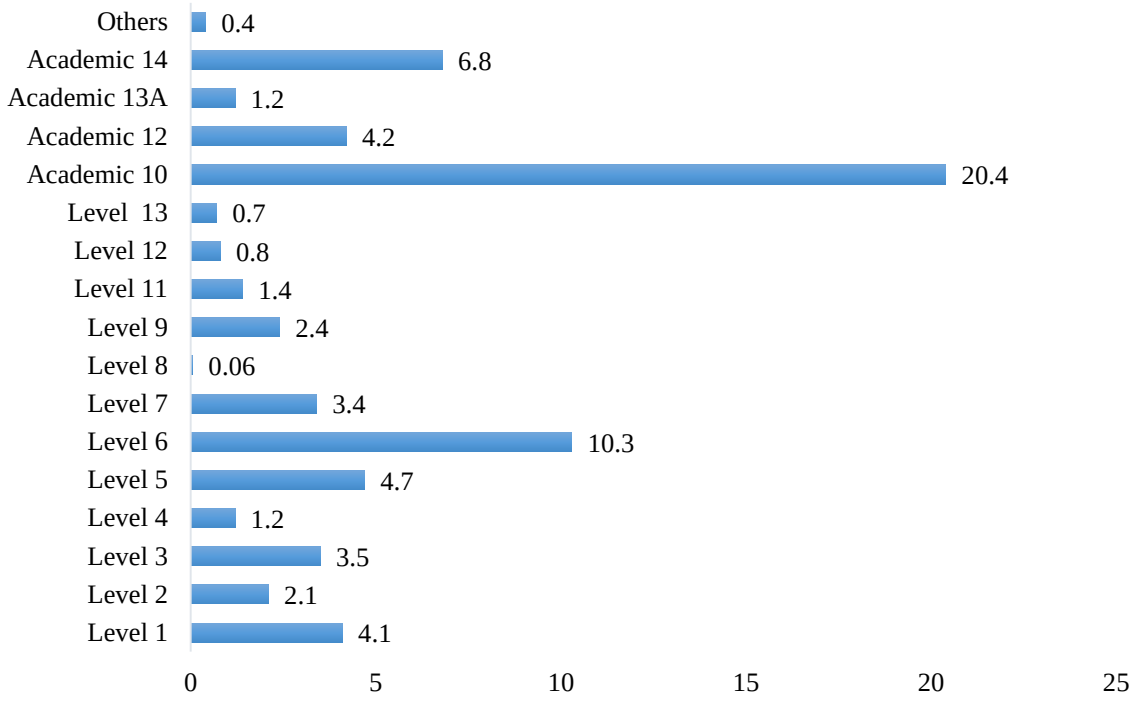


Figure 5.22: LIS Jobs Advertised and Levels of 7th CPC

Analysis in figure 5.22 shows that there were 20.4% job opportunities published for the Academic Level 10 followed by level 6 of initial basic pay as per 7th CPC. It is observed that most of the LIS jobs at academic level 10 belong to the Asst. Librarian in a University and Librarian in a college Library. The figure 5.22 reveals that there were level 6, level 14, level 5, level 12 and level 1 as per 7th CPC were found significant for the LIS job opportunities in India during the period of study. All these levels belong to the entry, mid-career and higher level of LIS positions for the semi-professional to professional posts that appeared in the librarianship. The analysis may helpful for the LIS job seekers to support their decision to choose the professional career and look at opportunities at different levels of positions and salary options at the 7th CPC.

5.7 LIS JOBS IN PUBLIC AND PRIVATE SECTOR LIBRARIES

Through the incorporation of ICT applications, the role of Library and Information Science Professionals has been developed into several micro fields in libraries. The doors have been opened in every sector there public or private. The basic difference between public and private opportunities is that in the public sector usually a government-controlled by the public fund. The private sector concerned with the intuitions running by private funding agencies. The LIS job seekers look for jobs in both sectors because of the pros and cons. But, this study is focused on the numbers of LIS job opportunities in both sectors.

5.7.1 LIS Job Opportunities in Public and Private Sectors

The study aims to find out the LIS job opportunities in public and private sectors, therefore the data related to the sectors were also collected, the observations obtained through content analysis are presented in table 5.16 and their percentile in figure 5.25.

Table 5.16: LIS Job Opportunities in Public and Private Sectors

Sectors	Employment News	University News	LIS-Links	Total	%
Central Govt.	817	79	1726	2622	44.2
State Govt.	177	551	1408	2136	36.1
Private	4	6	1160	1170	19.7
Total	**998**	**636**	**4294**	**5928**	**100**

Analysis of table 5.16 reveals that in *Employments News* 81% (817) LIS post was published for the *Central Govt.* LIS jobs while 17.7% (79) of posts were published for the *State Govt.* whereas, only a few i.e. 4 posts have appeared for the private sectors. In the *University News*, the majority i.e. 86.6% (551) LIS posts were published for the *State Government* for six years. Whereas, 12.4% (79) jobs from *Central Government* and only just 0.9% (6) post were published for the *Private Sector* positions. It is observed that in the offline data sources, the majority of the LIS job opportunities were created for the *Public Sector* while in the online data source i.e. *LIS-Links* a significant number i.e. 27% (1160) posts were identified for the *Private Sector* LIS job posts.

The table 5.16 shows that most i.e. 44.2% (2622) of LIS jobs were found for the Central Government, while for the *State Government* there were 36.1% (2136) and only 19.7%

(1170) posts were published for the *Private Sector*. The reasons for such number of the job found for the *Private Sector* on LIS-Links may be the interest of the members of LIS-Links who found those jobs and upload on the website of the online data source.

During content analysis, it was also observed that these advertised (from private sectors) were the cutting of the various newspapers published from across the country. Therefore, in this sense, the LIS-Links data source represents, the country in real meaning. It is believed that up to the maximum extent, the study may represent the country in terms of numbers of ads covered. The data sharing between the public and private sector posts in percentage is given in figure 5.25.

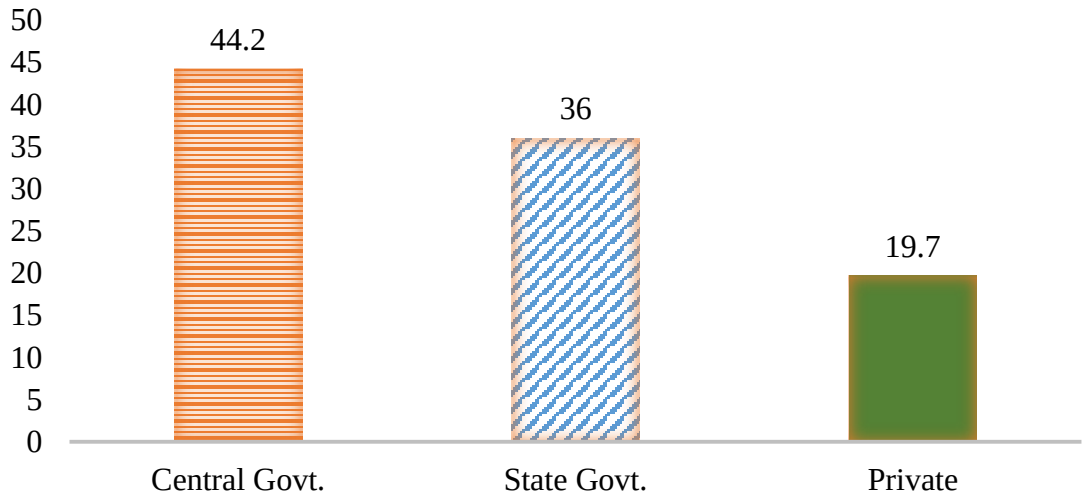


Figure 5.23: LIS Job Opportunities in Public and Private Sectors

The figure 5.23 shows that there were 44.2% (2622) LIS jobs published for the *Central Govt*. and 36% (2136) for the *State Government* whereas, there were only 19.7% (1170) LIS jobs for the Private Sector positions in their libraries were published. During data analysis, it was also observed that most of the jobs in private and public sector positions are being uploaded on their respective websites, therefore, particularly in private sectors relatively published fewer job ads on the commercial publication sources than the public sector. Whereas, for the public sector in India, the employers mandatorily published job advertisements.

5.7.2 LIS Job Opportunities in Different Types of Libraries in India

The study also aimed to find LIS job opportunities in different types of libraries and information centres in India. It may be useful for the LIS job aspirants in terms of finding appropriate places where they look for LIS job opportunities. The Libraries were categorized into three major types (Kumar, 2001) i.e. Academic, Special, and Public Libraries. The data related to types of libraries is presented in table 5.17 while the percentage of the data is listed in figure 5.24.

Table 5.17: Job Opportunities in Different Types of Libraries

Types of Libraries	Central Govt.	State Govt.	Private	Total	%
Academic	1226	1723	1058	4007	67.5
Special	1362	395	107	1864	31.4
Public	34	18	5	57	1
Total	**2622**	**2136**	**1170**	**5928**	**100**

Source of Types of Libraries: Kumar, 2002.

Analysis in table 5.17 shows that there are 67.5% chances for the LIS job seekers to find their jobs in Academic Libraries as the majority i.e. 4007 LIS positions were published for the academic libraries for both public and private sectors. The 31.4% (1864) LIS positions have also appeared for the Special Libraries in which libraries of few special research institutes e.g. AIIMS and IIM libraries were merged. Table 5.17 reveals that only 1% of LIS positions were published for public libraries.

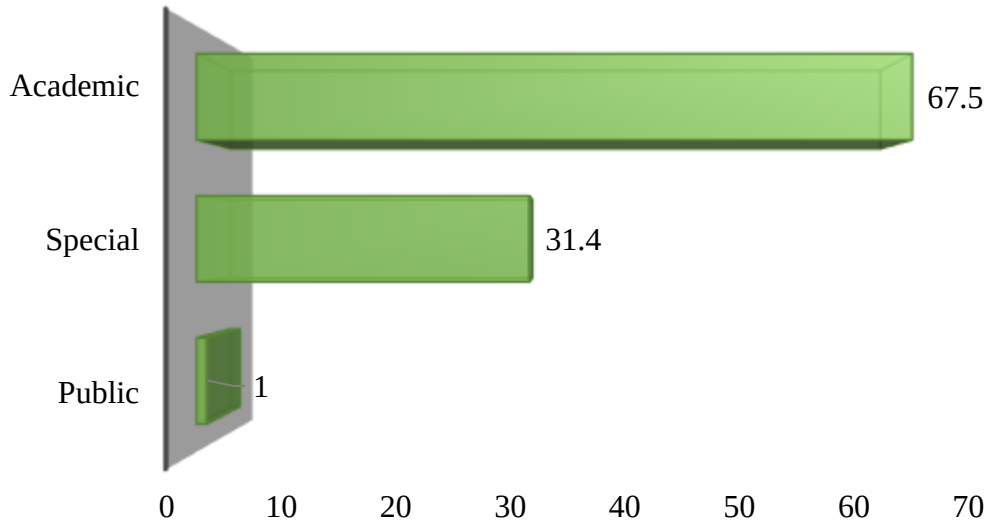


Figure 5.24: % LIS Jobs in Different Types of Libraries

The analysis in figure 5.24 shows that 67.5% of LIS job opportunities published for academic libraries especially for the higher education system in India. However, school and other research institutes of national importance were found also significant for the LIS job opportunities. The special libraries such as medical, engineering, management and other specialized subject libraries were also found important for LIS professionals. As assumed in this study, that there are no significant numbers of LIS positions in the Public Libraries, the analysis in figure 5.24 reveals and supports the assumptions.

Three categories of the types of libraries were further divided into subgroups to find out the LIS positions in the school, colleges and university levels, the academic libraries were subdivided in the group. The details of data grouped into further subdivisions of types of libraries are given in table 5.18.

Table 5.18: LIS Job Opportunities in Various Types of Institutions

Areas	Central Govt.	State Govt.	Private	Total	%	Rank
College	452	898	445	1795	30.2	1
University	744	750	130	1624	27.3	2
Special	962	395	107	1464	24.6	3
School	30	75	483	588	9.9	4
NIT	158	0	0	158	2.6	5
IIT	115	0	0	115	1.9	6
AIIMS	80	0	0	80	1.3	7
Public	34	18	5	57	0.9	8
IIM	47	0	0	47	0.7	9
Total	**2622**	**2136**	**1170**	**5928**		

Analysis in table 5.18 shows that 27.3% (1624) LIS positions were demanded in *Colleges* followed by 27.3% (1624) jobs in *Universitie*s whereas, 9.9% (588) LIS positions were published for the *School* level. The LIS positions for the *Special* libraries appeared in 24.6% (1464) posts. The data also shows that in the *Public Libraries* just only 0.9% (57) posts were published for six years. This status of the LIS professionals in *Public Libraries* reveals the real situations of available staff positions in the public libraries in India. The literature also supports that there is an insufficiency of the library staff in the public libraries (Sinha & Pandey, 2014; Yadav & Banker, 2016).

The study also covered the scenario of LIS positions in the libraries of the reputed technological, medical and research institutes i.e. IITs, AIIMS, IIMs, and NITs, etc. The data concerned to these institutions find a range from just under 1% to 3% LIS job opportunities for their libraries in India.

The data concerned with the types of libraries and information centers which were sub-grouped is arranged based on the percentage is given in figure 5.27.

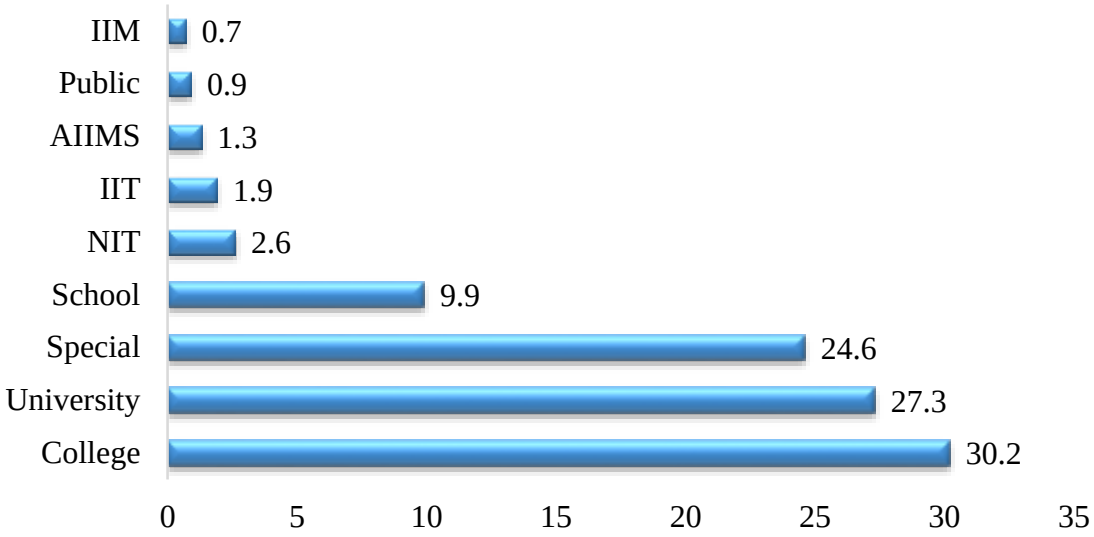


Figure 5.25: Types of Libraries for LIS Jobs

During data collection, it was observed that the LIS professional is being demanded almost every field, from banking, industries, media, engineering, medical, public libraries, parliament, high courts and education institutions from school, college, and universities, etc.

The graphical presentation of the percentage of data collected and grouped based on types of libraries in figure 5.25 shows that most of the LIS positions have appeared for the *Colleges* and *Universities* followed by the *Special* libraries. These three combined libraries and information centres significantly dominated the LIS job market in India.

5.8 TEACHING AND NON-TEACHING LIS POSITIONS

A study (Saini & Singh, 2019) shows that there are a majority of LIS professionals who desired teaching jobs in India. But it is difficult to find because the maximum LIS undergraduate and postgraduate courses are being offered at the university level only. Out of more than 500 Universities, only 185 universities offered LIS education both in public and private sectors. The LIS degree courses are not conducted at school level while only less than 5% of colleges offered in India. Therefore, it was easy to the assumption that the ground reality to get a teaching job is difficult because of the less job creation. The data observed from the LIS job ads are given in the subsequent tables and figures.

5.8.1 Distribution of LIS Teaching and Non-Teaching Positions

The Indian government made certain provisions through its regulations for the academic and other academic staff in colleges and universities by which the gap between teachers and librarian have reduced up to some extent. The post of Assistant Librarian, Deputy Librarians, and University Librarians are now considered at par with the Assistant Professors, Associate Professor, and Professor respectively as regards the pay scales and promotion criteria. Therefore, it does hardly affect any loss to other academic staff like librarians.

Since, the study aimed to find out the gap between teaching and non-teaching LIS job opportunities for LIS professionals, therefore, the data collected on this aspect which is presented in figure 5.26

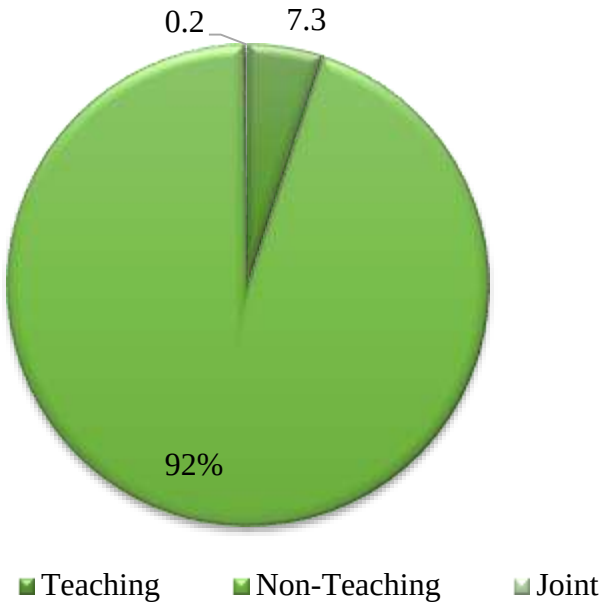


Figure 5.26: Distribution of LIS Teaching and Non-Teaching Positions

Analysis in figure 5.26 shows that the majority i.e. 92% (5492) of the LIS posts published during 2012-2017 was the *Non-Teaching* in nature while only 7.3 (436) jobs for the LIS *Teaching* positions have appeared in the LIS job advertisements. During the study, it was observed that few i.e. 0.2% LIS posts were published as '*Joint*' in nature that can be categorized for both the positions. It also shows that in the *Non-Teaching* working area there is greater scope for LIS jobs in India.

In this study, the subcategories of teaching posts were also attempted to find, so that a clear picture of these posts could be achieved.

The Assistant professor, Associate Professor, and Professor positions are prescribed in the Gazette of India. Few posts, those were difficult to categorize either in teaching or non-teaching positions were also observed. Such posts have been classified as "*Other*' options. The data collected are given in figure 5.19.

Table 5.19: Teaching Positions in LIS Jobs

Post Name	Employment News	University News	LIS-Links	Total	%	Rank
Assistant Professor	46	19	219	284	65.1	1
Associate Professor	17	8	77	102	23.3	2
Professor	0	1	41	42	9.6	3
Other	0	0	8	8	1.8	4
Total	**63**	**28**	**345**	**436**	**100**	

The analysis in table 5.19 shows that 65.1% (284) LIS jobs were published for the *Assistant Professor* which is an entry-level post in teaching. Whereas, for the *Associate Professor,* 23.3% (102) posts have appeared in the LIS job openings while for the *Professor* only 9.6% (42) posts were published during six years covered in the study. As table 5.19 shows that there '*Other*' positions were also identified which were difficult to consider for either of teaching or non-teaching positions. Such posts include *Teacher Librarian, Library Teacher,* and *Librarian cum teacher,* etc. The other positions related to the teaching have appeared only in 1.8% (8) of LIS job advertisements. The percentiles of the teaching positions are given in figure 5.27.

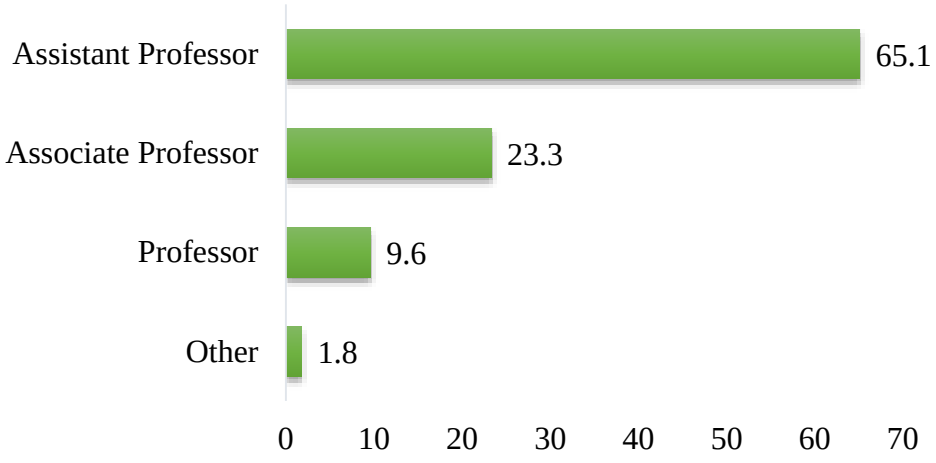


Figure 5.27: Designations in Teaching Positions in Percentage

In an academic setup, both teachers and librarians are together supporting education direct or indirect. Therefore, it is beneficial for higher education to achieve its goals through the joint efforts of teachers and librarians. Figure 5.28 shows that there are better chances of teaching jobs at the entry-level position i.e. Assistant Professor, whereas, for the Associate Professor a mid-career position in the Indian environment a certain experience is required. As far as the highest teaching position is concerned, limited options were available for the teaching job seekers in the library and information science.

As regards the detailed analysis of non-teaching LIS positions and vacancies, the same has already discussed in the previous section 5.3.

5.9 HARD AND SOFT SKILLS REQUIRED IN LIS JOB

One of the objectives of this study also includes to find out hard and soft skill sets in the changing scenario of LIS job openings in India. The hard skills are the basic and core skills of the librarians which are learned through a formal course of study which is essentially required to perform a specific job. For example, for the technical processing in a library, the knowledge of cataloging and classification is an essential requirement to catalog and classify a document. Whereas, the soft skill of a person may his/her presence of mind and approach to solving a problem encountered in the daily routine of a working environment. The soft skills are concerned with personal attributes like communication skills and command over languages. Such soft skills may be learned through a formal course or training or it may be an implicit trait of individuals.

For this study, both the skills were identified and observed from the LIS job advertisements published in the period covered. The data collected on this aspect is presented under the subsequent tables and figures.

5.9.1 Hard Skills and Knowledge for LIS Professionals

The hard skills that were observed and recorded from the 2831 LIS job advertisements published during the period of study. More than 50 hard skills were found out of which 30 skills are listed in table 5.20. The same is also ranked based on their frequency count which are also given in figure 5.28.

Table 5.20: Hard Skills Required for LIS Jobs in India

Hard Skills & Knowledge	Frequency	%	Rank
Knowledge of Library Management Software	744	26.2	1
Certificate in Computer Applications	578	20.4	2
Ability to Innovative Library Services	532	18.7	3
Skills of Managing Library resources	525	18.5	4
Knowledge of ICT Applications	496	17.5	5
Post Graduate Diploma in Computer Applications (PGDCA)	489	17.2	6
Skills of Library Budgeting	428	15.1	7
Creating and Designing Digital Library	425	15	8
M.Phil./Ph.D.	381	13.4	9
Knowledge of Database Management system	363	12.8	10
Knowledge and skills in Digitization Software	347	12.2	11
Diploma in Computer Applications	342	12	12
Post Graduate Diploma in Library Automation & Networking (PGDLAN)	312	11	13
Knowledge of Programming Library Software	289	10.2	14
Diploma in Manuscript Management	228	8	15
BSc (Science subjects)	196	6.9	16
Advance Diploma in Computer Science	178	6.2	17
Proficiency in Foreign Language	125	4.4	18
Knowledge of Ubuntu/Linux Operating System	102	3.8	19
MCA	88	3.1	20
B. Tech	63	2.2	21
Handling Braille systems and peripherals	55	1.9	22
Knowledge of MARC format	44	1.5	23
Knowledge of Handling Reference Queries	36	1.2	24
M. Tech	27	0.9	25
E-Reference management tools	24	0.8	26
Organizing and Conducting extension activities	24	0.8	26
BSc in Mathematics	24	0.8	26
E-resource Management	23	0.7	27
MSc. Geoinformatics	16	0.5	28
Knowledge of Newspaper Clipping	13	0.4	29

Analysis in table 5.20 shows that "*Knowledge of Library Management Software*" is the highest i.e. 26.2% (744) preferred hard skill appeared in the LIS job advertisements and get the 1st rank. The '*Certificate in Computer Applications'* got the 2nd rank with 20.4% (578) appearances in LIS job ads while the knowledge and experience of implementing to*' Innovative Library Services'* for the users which were appeared in 18.7% (532) LIS jobs with 3rd rank among other hard skill sets. It was observed in the post of *University Librarian* and *Deputy Librarian* where it was necessary to have innovative library services as per the directives of the Government. The other important hard skill at the 4th rank with 18.5% (525) was the *Skills of Managing Library Resources* whereas, the

Knowledge of ICT Applications which was covered in 17.5% (496) with 5th rank job ads for library and information science professionals. It is also observed that as many as 17.5% (489) job opportunities demand *Post Graduate Diploma in Computer Applications (PGDCA*) that ranked at 6th position. This skill especially demanded the schools and public service commission positions for the LIS posts.

In this changing scenario, various significant hard skills were also found in the LIS job advertisements those include, skill for budgeting 15.1% (428) at the 7th rank, Knowledge of designing Digital Library' 15% (425) 8th rank, while the important qualifications i.e. Mphil/Ph.D. appeared in 13% (381) LIS positions that received 9th rank among other hard skills in the table 5.20. The Mphil/Ph.D. was the desired eligibility condition before the implementation of the recommendation of the 7th CPC for the post of *University Librarian* and *Deputy Librarian* in the university libraries. In the age of digital environment, the qualification of *Post Graduate Diploma in Library Automation & Networking* (PGDLAN) was required in 11% (312) posts, knowledge of *E-Reference Management Tools* required in 0.8% (24) whereas, in 0.7% (23) LIS posts the skill of *E-resource Management* in modern libraries was demanded by the employers during the period covered.

The table 5.20 also reveals that there many other significant hard skills set like *Knowledge of Database Management system* appeared in 12.8% (362) LIS positions, *Proficiency in Foreign Language* published in 4.4% (125) LIS jobs, while the requirement of *knowledge of MARC formats* also appeared in the 1.2% (36) LIS post among the job eligibility criteria mentioned in the advertisements. In addition to above hard skills, the *Knowledge of Handling Reference Queries* was also demanded in 1.2% (36) LIS job advertisements followed by an important hard skill for the public library staff i.e. *Organizing and Conducting extension activities* in 0.8% (24) LIS opportunities for the period covered under the study.

The list of top 20 ranked hard skill sets are also arranged in figure 5.28 for a quick overview of the Library and information science professionals.

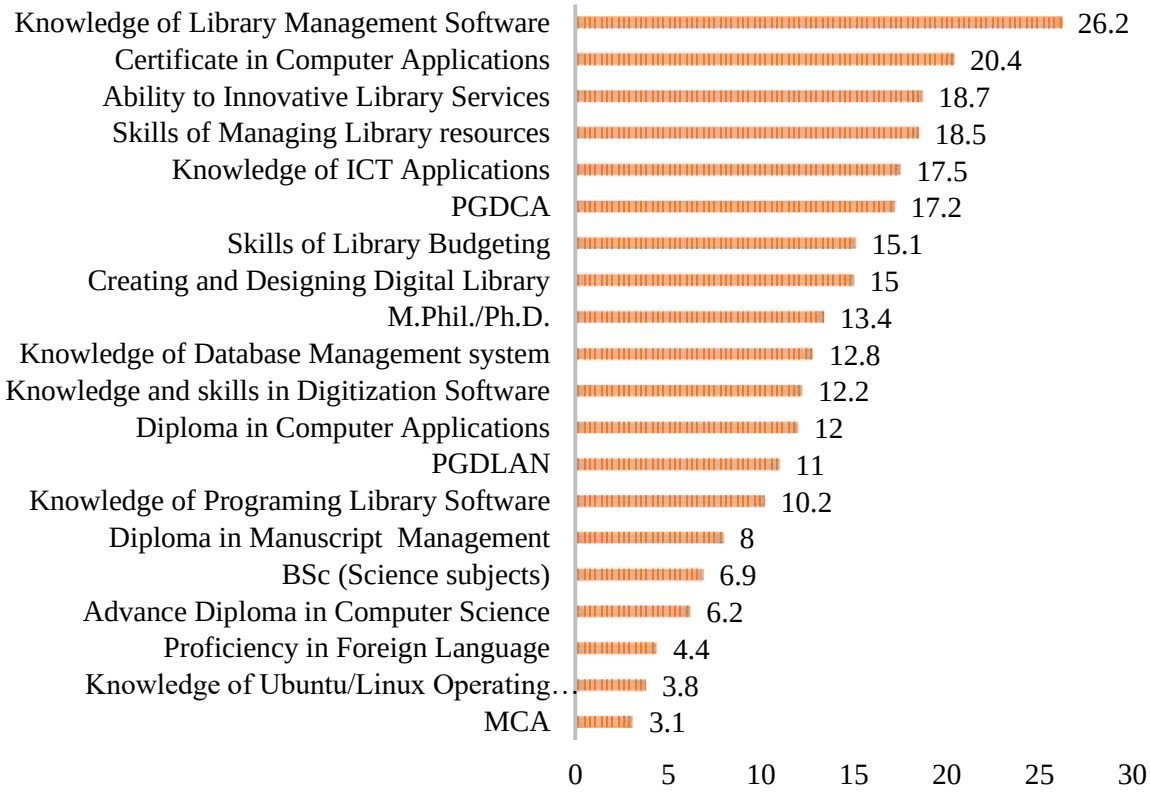


Figure 5.28: Percentage of Hard Skills for LIS Positions

In addition to the table 5.20, it is also indicated from the figure 5.28 that the bachelor degree in science (BSc.), technology (B.Tech.) and certificate & diploma in computer applications can play a significant role to enhance the chances of jobs in Librarianship. The special libraries like AIIMS, IITs, and defense sectors required science and technological background of the candidates of LIS jobs in India. As regards the master's degree along with the library science, master of computer applications (MCA), Geoinformatics, etc. were also observed in table 5.20.

The other hard skills for LIS also includes the knowledge of braille systems and equipment, and knowledge of programming languages, knowledge of various operating systems like *Ubuntu and Linux, digitization software like DSpace,* etc. and *MS-Office* like word and spreadsheet, etc. Therefore, if people want to join the LIS field the need to acquire the hard skills given in table 5.20.

5.9.2 Soft Skills Required for LIS Professionals

The soft skills nowadays have become an integral part of the generic skills of library and information science which are expected by the employers. The requirement of soft skills at entry and mid-level LIS jobs is different from each other. In this study, 1021 LIS job advertisements there were more than 40 soft skills were found for multiple positions. The soft skills were observed and recorded from the LIS job advertisements are listed in table 5.21

Table 5.21: Soft Skills for LIS Jobs

Soft Skills sets	Occurrences	%	Rank
Creative /Innovative skills	543	53.1	1
Communication Skills	503	49.2	2
Inter-Personal Skills	472	46.2	3
Computer Skills	255	24.9	4
Language Proficiency	248	24.2	5
Working Teamwork	245	23.9	6
Good Command in English	227	22.2	7
Forecasting ability	203	19.8	8
Leadership Skill	185	18.1	9
Liaison with Academic Staff	175	17.1	10
Presentation Skills	169	16.5	11
Result oriented and creative	163	15.9	12
Flexibility	154	15	13
Resolve routine operational problems	136	13.3	14
Acquisitions ability	132	12.9	15
Positive Attitude	125	12.2	16
Managerial Skills	114	11.1	17
Writing & Publication Skills	95	9.3	18
Knowledge of e-resources	87	8.5	19
Planning of Library Services	82	8	20
Motivated	74	7.2	21
Web 2.0 Skills	64	6.2	22
Team management Skill	63	6.1	23
Reading ability	48	4.7	24
Enthusiastic	46	4.5	25
Comprehend to follow instructions	45	4.4	26
Time Management	42	4.1	27
Cultural Knowledge & Awareness	32	3.1	28
Book Care and preservation skills	24	2.3	29
Analytical Skills	12	1.1	30

Analysis in table 5.21 reveals that the preferred soft skills for LIS professionals, the majority i.e. 53.1 % (543) LIS positions have appeared for '*Creative/ Innovative Skills* with 1st rank followed by '*Communication Skills'* appeared in 49.2% (503) LIS job advertisements with 2nd rank. It is also observed during data collection that '*Inter-personal Skills* is among other significant soft skills appeared in 46.2% (472) of LIS positions with 3rd rank in the table 5.21.

The *Computer Skills* appeared in 24.9% (255) occurrences with 4th rank, Language Proficiency was also published in 24.2% (248) LIS positions whereas working as a team was also seen in 23.9% (245) places for the LIS positions. The computer skill may be part of the hard skills also, but using it depend on the soft skill of an individual, how one can use the computer skill in the library services, it depends upon the willingness of the individual. Proficiency in language the key facto skill which works in all situations and regions. India is a country having many languages, here proficiency in language can be beneficial for LIS professionals. *Good Command in English* 22.2% (227), *Forecasting ability* 19.8% (203), *Presentation Skills* 16.5% (169), *Result oriented and creative* 15.9% (163), *Flexibility of working* in day and night shift 15% (154) while *Resolving routine operational problems* 13.3% 136) LIS positions demanded at the entry-level posts especially in the private sector in India. However, the *Leadership Skill* 18.1% (185), and *Liaison with Academic Staff* 17.1% (175) appeared mostly in the LIS positions for the mid-career level posts.

The soft skill of *Positive Attitude* is very important in terms of getting a job in any field of study because it is the parameter by which interviewers considered a candidate. Library and Information Professionals also observed on this parameter as it was demanded by 12.2% (125) LIS positions. *Managerial* Skills are mostly considered for the upper-level LIS positions as it was observed in *11.1% (114),* LIS job posts while *Writing & Publication Skills* is considered for 9.3% (95) for the LIS positions of academic status. There were other important LIS soft skills were also considered those included *Knowledge of e-resources* by 8.5% (87), whereas, *Planning of Library Services* was also considered in the 8% (82), LIS posts. As regards the modern day soft skill i.e. *Web 2.0 Skills* was also appeared in 6.2% (64) LIS posts. The *Team management Skill* which is considered an important managerial soft skill was published in 6.1% (63). It was also observed that the *Reading ability* was considered by 4.7% (48) of the LIS employers while Time Management by 4.1% (42). Analytical Skills,

however, appeared just only in a 1.1% (12) LIS position, yet it is a technical skill that may be considered as an essential soft skill that can help to get a job in the competitive scenario in India.

The libraries are in India are heading towards open source technologies through the incorporation of library automation, digitization, and e-resources. Therefore, the libraries are expected the future staff should various implicit traits to achieve the desired goals. Keeping given the fact and objectives of the study, an attempt to find important soft skills required by the present employers has made. In this study, to present an overview of the aspect of soft skills required for the LIS posts, the top 20 soft skills have been arranged in figure 5.29.

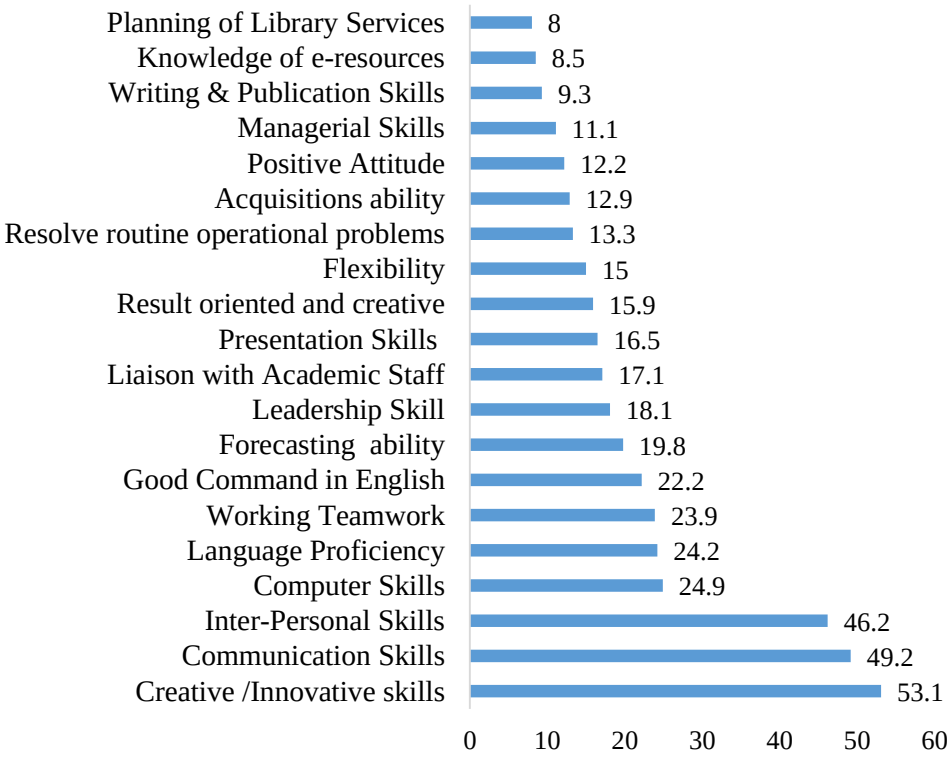


Figure 5.29: Soft Skills for Non-Traditional LIS Jobs in India

Nowadays, the Libraries are expected to build interpersonal relationships especially not only inside academic staff of the institutions but also outsider stockholders. Therefore, the inter-personal skill sets are being demanded by the LIS job providers. Communication skill has always been important for professional in India. Figure 5.29 shows that this particular soft skill gets the 2nd rank among other skills that appeared from the LIS job advertisements. The LIS job seekers should also be focused to enhance their communication for getting a job. One of the important emerges soft skills also

includes the writing and publishing research output for their institutions. In this technological environment, web 2.0 technology skills may prove influential for LIS professionals. As figure 5.30 throws light on the need for teamwork and leadership skills are among the major emerging skills in the modern-day LIS job environment.

5.10 STATUS OF AGE REQUIREMENT FOR LIS JOBS

The age factor can play a significant role in the career of individuals because up to a particular age one can apply against a specific post. However, for the majority of the posts, age limits as prescribed by the regulations of the government, yet certain discrepancies were observed in the age requirement during the data collection. Hence, the data may be helpful for the LIS job seekers to know what the trends for the age requirement have appeared in the LIS job advertisements. The data collected has given in the subsequent tables and figures.

5.10.1 Age Requirement for LIS Jobs

In the study, the trend of age requirement has differently appeared in LIS job advertisements. The parameters were included based on which they published in the advertisements. The details of the same are given in table 5.22.

Table 5.22: Age Requirement for LIS Jobs

Age	Employment News	University News	LIS Links	Total	%
Not Mentioned	314	239	2396	2949	49.7
Mentioned	672	129	1574	2375	40
As per Norms	10	268	288	566	9.5
No Bar	2	0	36	38	0.6
Total	**998**	**636**	**4294**	**5928**	

Analysis in table 5.22 shows that there were 49.7% (2949) LIS job positions the age '*Not Mentioned'* whereas it was '*Mentioned*' in 40% (2375) LIS positions in six years. The 9.5% (566) LIS job was found with the remark as '*As per norms'* either of the parent organization or the controlling agencies like UGC and MHRD, or sometimes regulations of the particular university or institutions of the particular posts.

As regards the data sources where the majority of the age was *mentioned* was the *Employment News*' where 67.3% (672) whereas, in 31.2% (314) LIS job advertisements were *not mentioned* that age requirement for the different positions. In the rest of two other data sources i.e. *University News* and *LIS-Links*, the majority of the LIS job advertisements the 'age' limits were not mentioned.

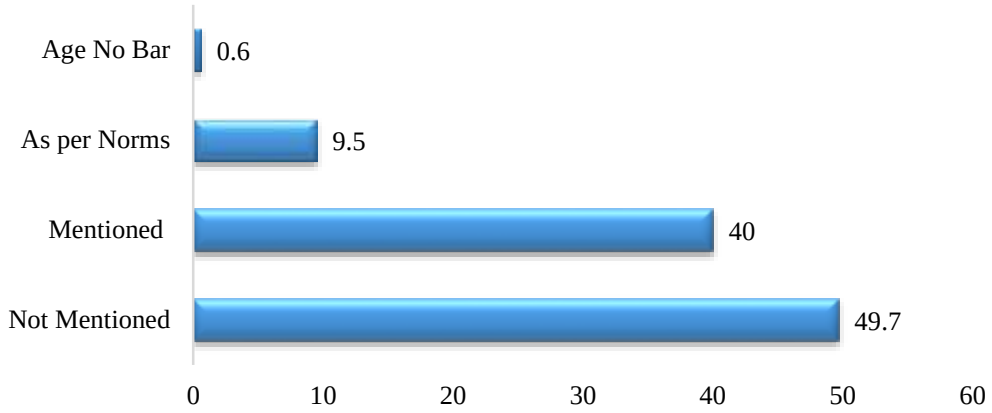


Figure 5.30: Age Requirement for LIS Jobs

The analysis in figure 5.30 shows that there were different remarks were appeared in the LIS job advertisements published for six years. As mentioned earlier that in the maximum LIS positions the age was not given. It was also observed from the LIS job advertisements published for the LIS positions in the private sector were remarked as 'As per norms' for the maximum their ads and positions. There were 40% of the advertisement where the age requirement was mentioned. Out of this 40 % of LIS job advertisements, the range of their frequency was recorded which is given in table 5.23.

Table 5.23: Age Requirement for LIS Jobs

Frequency of Age	Employment News	University News	LIS Links	Total	%
< 25	0	0	0	0	0
25-29	154	18	207	379	15.9
30-34	123	22	293	438	18.4
35-39	178	2	425	605	25.4
40-44	18	64	228	310	13
45-50	84	0	222	306	12.8
> 50	115	23	199	337	14.3
Total	**672**	**129**	**1574**	**2375**	

Analysis in table 5.23 shows that no vacancy has appeared for the LIS positions for the age group of *fewer than 25 years*. The age ranges from *25-29* years published in 15.9%

(379) job published for the LIS positions whereas, the age range form 30-34 years appeared in 18.4% (438) jobs. The age ranges between 35-39 years maximum i.e. 25.4% (605) jobs were published. However, the age ranges from the year 40-44 13% (310), 45-50 12.8% (306), and greater than 50 years were published in 14.3% (337) LIS job positions. The data related to the 'age' among the all the data sources and complete advertisement for all positions was also given in the figure 5.31 for getting a clear picture of the age requirement for different age groups.

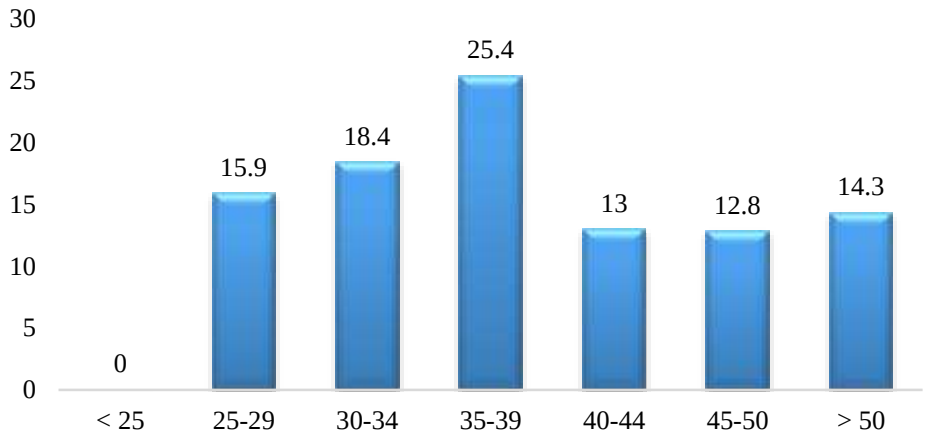


Figure 5.31: % Age Requirement for LIS Jobs

The criteria for the age requirement was observed for the different age groups and their frequency as they appeared in the LIS job advertisement for various positions as given in figure 5.31. Usually, different age limits require different LIS positions as per the regulations set up by the government. As observed in figure 5.31, it is obvious that the LIS job opens for almost every age group which is more than 25 years. The age group of between 30 to 40 years their many opportunities in the Library and Information Science field.

5.10.2 Scene of Age Requirement in Private Sector for LIS Jobs

An attempt to find out whether the standards for the requirement of "Age" of the particular post were also identified. The data obtained from the analysis is arranged in table 5.24 and figure 5.32

Table 5.24: Age Requirement in Private Sector of LIS Jobs

Age	Numbers	%
Not Mentioned	908	77.6
As per norms	115	9.8
Mentioned	112	9.5
Age No Bar	36	3
Total	**1171**	

The analysis in table 5.24 shows that in the majority i.e. 77.6% (908) of the job advertisements, the requirement of age was *Not Mentioned*, however, only in 9.5% (115) advertisements the age requirement was *mentioned,* for the LIS professionals. The remark *as per norms* has appeared in 9.8% (112) of the job positions. Those remarks were also categorized in which the respective agencies like, AICTE, UGC, and the respective institutions, etc. were mentioned. For, getting a clear picture of the status of age published in the LIS job advertisement, the percentage of age frequency is given in figure 5.32.

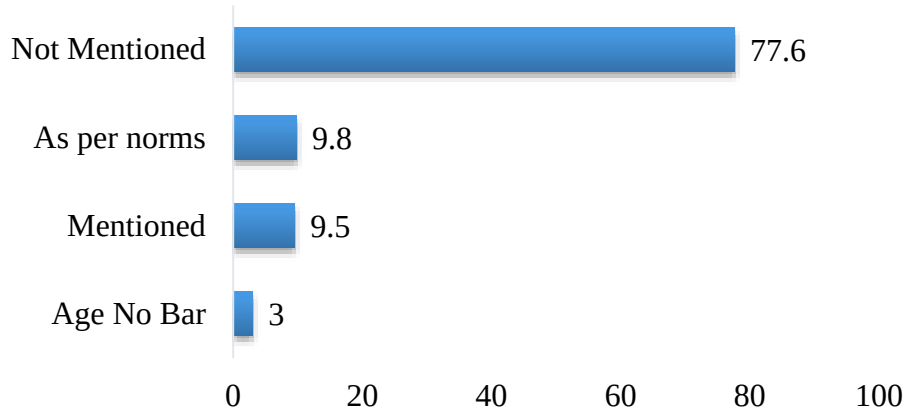


Figure 5.32: Age Requirement in Private Sector for LIS Job Posts

Table 5.24 and figure 5.32 also show that 9.5% of the Ads were mentioned among the LIS ads, while 3% of advertisements given remark by which *Age No Bar*. It depends upon the choice of employers, which age group, how much experience and what pay

scale they need to offer to the LIS job aspirant according to their profit and budget. Nevertheless, there must be vast opportunities for LIS professionals in the Private sector.

5.11 EXPERIENCE REQUIRED FOR LIS POSITIONS

The experience is a kind of knowledge or skill acquired from doing a certain job or activity over some time. It means something that can be achieved through a practical contact or observation of facts and events. It is also known as life experience gained and learned through involvement with an action or program. For example, positions like Dy. Librarian and University librarians are usually based on certain experiences in a university or college library. In this study, an attempt to find out the requirement of the experience for the LIS jobs at different level positions. The positions in LIS may be categorized into two types first the position required experience and others those do not require. The earlier also is known as a mid-career level while other for those experience do not have a criterion for appointment, are known as Entry level position (both type positions have discussed separately in section 5.12). The data collected for the aspect of the experience is discussed under subsequent tables and figures.

5.11.1 Experience Required for LIS Positions

Because of the above elaboration, the experience is the parameter that separates the entry and mid-level LIS positions in the job market in India. First, let us look at the data on experience requirements collected from LIS job advertisements covered under study which is listed in the succeeding tables and figures.

Table 5.25: Break-up Details of Experience in LIS Positions

Experience Types	Employment News	University News	LIS Links	Total	%
As per norms	159	29	491	679	11.4
Specific Grade Pay	51	23	103	177	3
Library Management Software	25	8	82	115	2
Relevant Experience	33	12	119	164	2.6
Mentioned in the Years	278	10	986	1274	21.4
Not Mentioned	452	554	2513	3519	59.3
Total	**998**	**636**	**4294**	**5928**	

Analysis in table 5.25 shows that the majority of LIS job ads i.e. 59.3% (3519) did *Not Mention* the requirement of experience for the LIS posts, however, only 21.4% (1274) LIS advertisements *Mentioned the Experience in Years*. There were the LIS ads those mentioned few remarks such as *'Relevant Experience'* i.e. 2.7% (162) for the LIS jobs whereas, significant numbers i.e. 11.4% (679) advertisements remarks '*As Per Norms'* for LIS posts. However, such advertisements were specific to mentioned the norms of their parent institutions or government statutory bodies like UGC and AICTE, etc.

The data were also grouped based on the percentage received on the aspect of the experience found in the overall LIS job advertised in all the data sources. The data is given in figure 5.33 below.

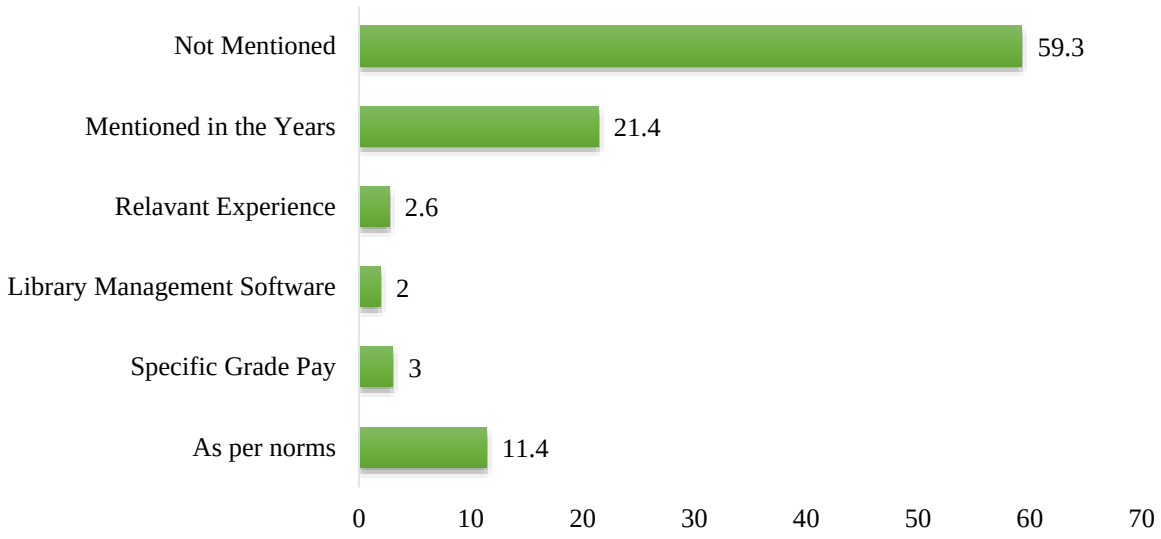


Figure 5.33: Status of Experience in LIS Jobs

Figure 5.33 shows that in the majority of the LIS job positions, the experience did not found, the reason may be' *Entry-Level Post* as the data suggest in the figure. However,

the experience in the LIS field is an important component for success in getting LIS job posts. For getting experience, many LIS professionals settled to work on a training basis in a nominal stipend offered by the employers. The requirement of the experience in the LIS is always been uncertain because, how much experience can be sufficient no one can sure about it.

To know about this fact, the range of years of experience was created based on its frequency appeared in the LIS job advertisements. The data collected about the length of experience needed for LIS job positions shown in table 5.26.

Table 5.26: Length of Experience in LIS Positions

Experience Length	Employment News	University News	LIS Links	Total	%
< 1 Year	24	0	42	66	5.1
1 - 2	95	3	216	314	24.6
2.1 - 4	33	3	156	192	15
4.1 - 6	72	1	282	355	27.8
6.1 - 8	21	0	67	88	6.9
8.1 - 10	11	1	78	90	7
> 10 Years	22	2	145	169	13.2
Total	**278**	**10**	**986**	**1274**	

Analysis in table 5.26 shows that the 4-5 years of experience was asked by the 27.8% (355) employers for their LIS posts. It shows that the initial 5 years are crucial for enhancing the chances of getting jobs in mid-level career positions for LIS professionals.

To perform any task effectively and efficiently, the experience is essential that enhance the knowledge, skills, and competencies of LIS professionals. The data gathered supports that the experience enhances the chances of getting jobs at a higher level. The experience on a specific post, period and grade pay does help to get a higher level of posts in the LIS field in India. It is because the higher posts are interconnected and based on a certain experience with specific criteria laid down by the government.

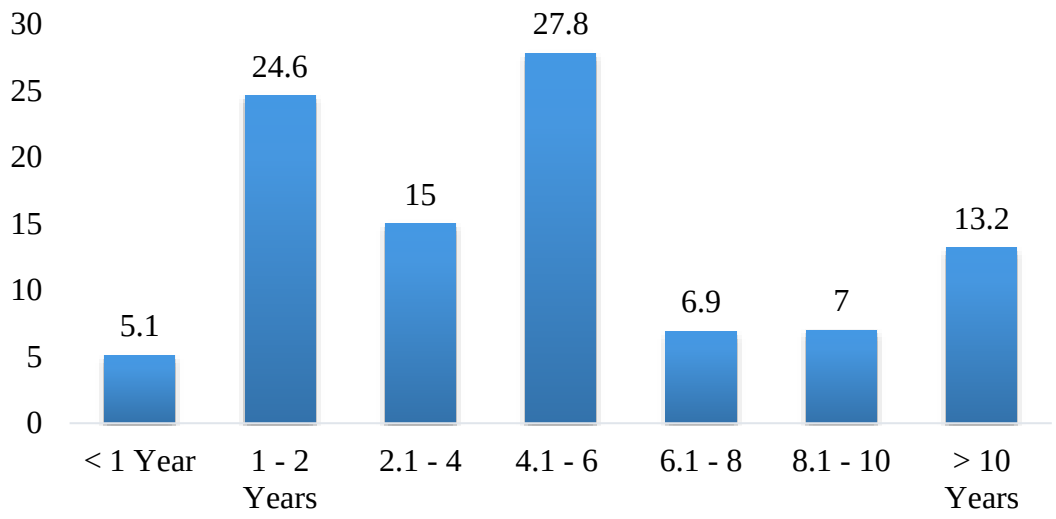


Figure 5.34: Length of Experience Required for LIS Job

Analysis in figure 5.34 shows that 1-2 years of experience also significant for the new LIS professional, however, that does not guarantee to get a job at a higher level, but it ensures to get preferences at the entry-level LIS job positions and help in shortlisting among fresher.

The data also reveals that 15% (192) posts were also prescribed those required from '*2-4 years*' experience. The LIS post that asked for an experience of *Greater than 10 Years* 13.2% (169) posts belonged to the top-level managerial posts like directors in public libraries, librarians, and deputy librarians in university libraries respectively.

5.11.2 Experience for the LIS Positions in Private Sector

In continuation, the data related to the experiences required for the LIS posts in the private sector was also analyzed as per the objectives of the study which is presented in table 5.27 and ranked of the same in figure 5.35.

Table 5.27: Experience in Private Sector for LIS Jobs

Experience	Numbers	%
As per norms	21	1.8
Mentioned	182	15.5
Not Mentioned	968	82.7
Total	**1171**	

Analysis in table 5.27 also shows that in 82.7% of the LIS job advertisements, the experience required was *Not Mentioned*, only 15.5% of the LIS ads were *mentioned* the experience required for different LIS positions. The trend found in the table shows that

the majority of the LIS positions in the private sector the UGC criteria were not being followed. The percentage-wise detail of the experience is also given in figure 5.35.

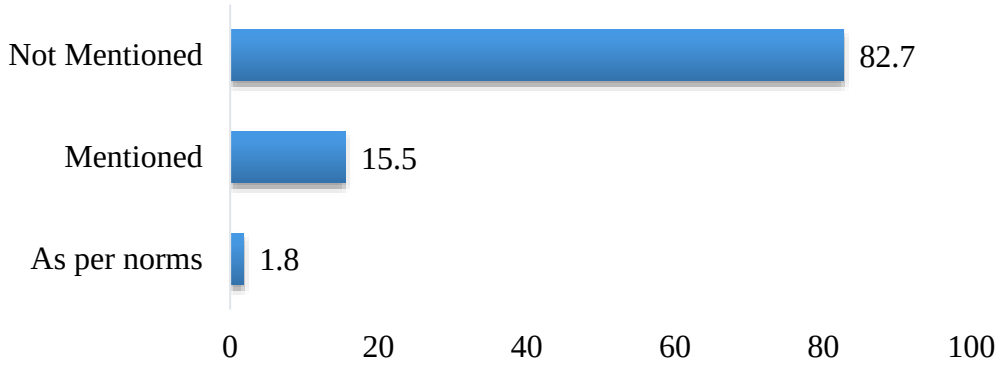


Figure 5.35: Experience in Private Sector for LIS Jobs

Table 5.27 and figure 5.35 also report that in the private sector positions the employers tactfully remarked *as per norms*, among the 2% advertisements. The empirical experience of the researcher also observed that the norms mentioned in the job ads just only for formalities, in reality, maximum post are based on the negotiation irrespective of the experience. However, they also offered and give weight to the experienced and deserving candidates.

5.11.3 Pay Scales for LIS Positions in Private Sector

The libraries in the private sector though perform well to satisfy their client yet, from the staff point of view it fails to satisfy. Usually, the salary packages are handsome, yet these are not at par with the standards set by the UGC. The fact is also supported by the data obtained from the job advertisements. The employer in the private sector did not disclose the salaries rather they remark as *no limit for the deserving candidates.* It does mean that the options for the '*Negotiation*.' The data obtained from the data sources are given in table 5.28 and figure 5.36.

Table 5.28: Pay Scales Found in Private Sector LIS Jobs

Parameters	Frequency	%
As per norms	23	1.9
Fixed Salary	65	5.5
Pay Scales mentioned	77	6.5
Negotiable	148	12.6
Pay Scales Not mentioned	858	73.2
Total	**1171**	

The analysis in table 5.28 shows that 73.2% (858) of the job advertisements did *Not Mention* the pay scales. There were 12.6% (148) advertisements which remark as *'Negotiable'* salaries. However, only 6.5% (77) of the LIS advertisements, the pay scales in the *Fixed Salaries* were given only 5.5% (65) of LIS job advertisements. The data in Table 5.28 shows that only in 2% of the advertisements the salaries or pay scale was *mentioned.*

For getting a clear picture of the pay scales parameters found in the private sector, the data is also categorized in figure 5.36.

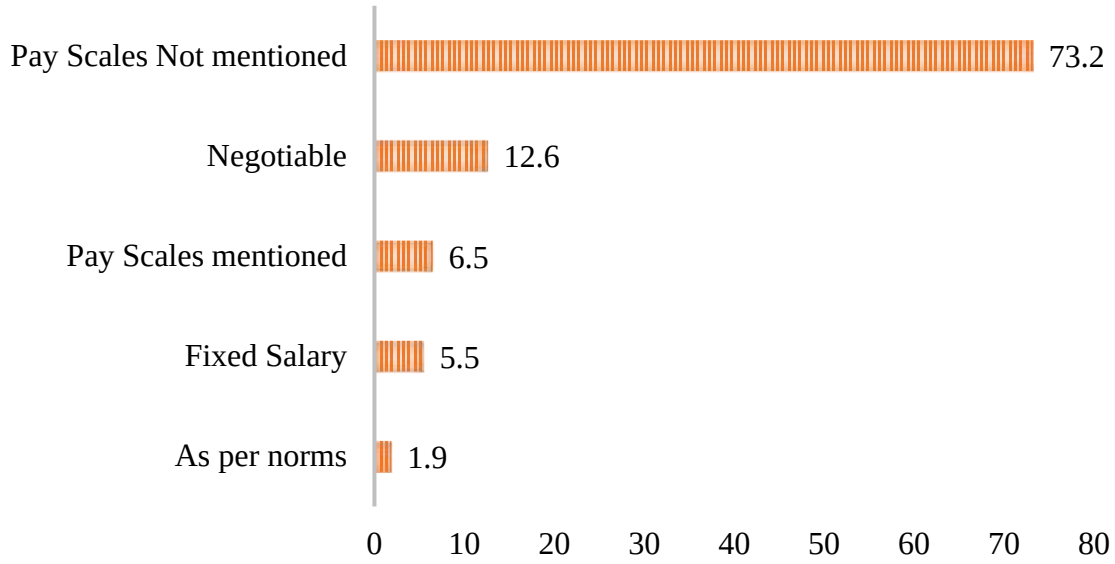


Figure 5.36: Pay Scales in Private Sectors LIS Job Ads

The analysis in figure 5.36 indicates that the majority of the LIS positions published for the private sector the pay scales or salary packages not mentioned. It does create confusion regarding the salaries and other allowances, etc. among the LIS job seekers. It also causes increases the chances to negotiate the salaries at the time of the interview by the employers. Besides, it may be a kind of violation of the UGC standards and other government bodies that control employment and personnel management in the country.

A trend in the LIS job advertised was also noticed that pay scales and all other requirements fixed by the government agencies, the employers prescribed the minimum requirement of the pay scales, etc. mentioned in their respective advertisements.

5.11.4 Qualifications & other Parameters LIS positions in Private Sector

In addition to the pay scales in the Private sector, the qualifications and other important parameters (as listed in table 5.28 and figure 5.36), were also identified among the LIS advertisements published for the LIS positions for six years. The qualifications and other parameters found in the LIS job advertisement are listed in the table 5.29.

Table 5.29: Various Parameter in the Private Sector

Parameters	Total	%
Qualification is given	1171	43.5
Qualification Not given	706	26.2
Incomplete Ads	296	11
Missing Information	198	7.3
Very short Information	145	5.3
Post not mentioned	79	2.9
Designation not mentioned	60	2.2
Third-party service providers	35	1.3

The analysis in table 5.29 shows that only in the 43.5% (1171) job advertisements from the private sector opportunities the *Qualifications were given*, whereas the 26.2% (706) job ads in the private sector *No Qualifications* for the respective positions were given. There are other important parameters, like the *completeness of the ads* by 11% (296), *missing information* 7.3% (198), *Very short of the information* was available in 5.3% (145) LIS job advertisement.

The table 5.29 also reveals that there were LIS posts for which the designation not mentioned in 2.2% (60) LIS job advertisements, etc. were among another parameters those confirm that the most of the employers in the private sectors do not follow the UGC Standards in appointment of Library and Information Science professionals, though they claim to follow the norms and standards of the respective agencies and ministry of government.

Figure 5.37 shows a clear picture of the parameters found in the LIS positions created in the private sector.

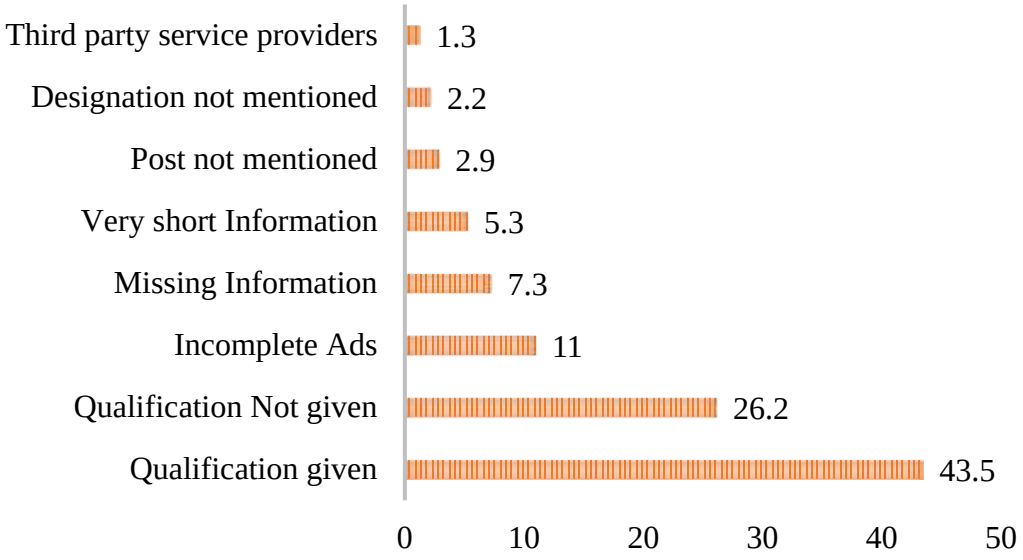


Figure 5.37: Qualifications & other Parameter in the Private Sector

Figure 5.37 also ranked the parameters in the percentiles which confirm that majority i.e. 56.5% (the combination of all parameters) were not adopted among the LIS advertisements published for private sector LIS positions. Only 43.5% of the LIS positions the qualification were found for the LIS positions. It was observed during data collection that the majority of LIS job advertisements were the cutting of the various newspapers and other places wherever they found by the LIS members. Therefore, the majority of them the full information could not find in the advertisement.

5.12 ENTRY AND MID- LEVEL LIS POSITIONS AND PAY SCALES

The posts required such experience (usually more than 5 years) may be categorized as mid-career level or mid-level positions in librarianship. Such positions in the public and special libraries are also required certain experience. The pay scales are also higher than those of the early level positions.

As the name implies itself that the posts by which a fresher LIS job seeker begins his/her career either in teaching or non-teaching librarianship irrespective of pay scales and qualifications. For example, the lower positions like library attendant, library assistant or middle-level posts like semi-professional assistant and professional assistant and the higher level post like an assistant librarian in a university library may be grouped as the entry-level LIS positions.

5.12.1 Entry Level LIS Position

The entry-level positions were categorized based on the experience, pay scales and as prescribed through regulations of the government. The entry-level positions found in the LIS job advertisements from all data sources are listed in table 5.30

Table 5.30: Entry Level LIS Positions

Entry Level LIS Positions					
Name of Posts	**EN**	**UN**	**LIS**	**Total**	**%**
College Librarian	24	490	567	1081	23.00
Assistant Librarian	106	25	570	701	14.91
School Librarian	25	0	470	495	10.53
Library Assistant	85	11	366	462	9.83
Professional Assistant	64	7	155	226	4.81
Library Attendant	49	7	139	195	4.15
Semi-Professional Assistant	56	6	109	171	3.64
MTS- Library Attendant	35	0	36	71	1.51
Junior Librarian	3	0	24	27	0.57
Cataloguer	2	0	24	26	0.55
Junior Library Attendant	1	0	8	9	0.19
Library Binder	5	0	2	7	0.15
Library Restorer	0	0	7	7	0.15
Junior Professional Assistant	0	0	4	4	0.09
Restorer-cum-Attendant	0	0	3	3	0.06
Book Attendant	0	0	2	2	0.04
Classifier	1	0	1	2	0.04
Library Helper	0	0	1	1	0.02
Total	**456**	**546**	**2488**	**3490**	**74.26**
Mid-Career Level LIS Positions					
University Librarian	143	42	666	851	18.11
Deputy Librarian	52	17	213	282	6.00
Chief Librarian	13	0	39	52	1.11
Senior Librarian	2	0	23	25	0.53
Total	**210**	**59**	**941**	**1210**	**25.74**
Grand Total	**666**	**605**	**3429**	**4700**	**100.00**

Analysis in table 5.30 shows that there are many entry-level positions were found in the LIS job advertisements. The entry-level positions that appeared in the most i.e. 23% (1081) of LIS posts were the '*College Librarian'* followed by Assistant Librarian by 14.9% (701) positions appeared in 10.5% (495) LIS posts. The few entry posts such as *Library Assistant* 9.83% (462), *Professional Assistant* 4.81% (226), *Library Attendant* 4.15% (195), *Semi Professional Assistant* 3.64% (171), and *MTS-Library Attendant* 1.5% (71) have also appeared in the LIS job advertisement those were significant in terms of being entry-level positions. The entry-level post was at the lower usually found

at the lower and middle management level qualifying for certificate and degree level of requirements.

As regards the Mid-Career Level of LIS positions for the non-teaching professionals the *University Librarian* was demanded in 18.1% (851) LIS job advertisements while the post of *Dy. Librarian* was demanded in 6% (282) of LIS posts. It was also observed that these posts were found for the higher level of pay grade and level of basic pay as per the 7th CPC. The LIS post at mid-level career positions demands from 5 to 15 years of working experience depend upon the pay scales and tenure of the positions.

Table 5.31: Summary of Level of LIS Positions

Levels of Positions	EN	UN	LIS	Total	%
Mid-Level Career	210	59	941	1210	25.40
Entry Level LIS Positions	456	546	2488	3490	74.26
Total	**666**	**605**	**3429**	**4700**	**99.7**

Analysis in table 5.30 shows that there were a majority i.e. 74.2% (3490) LIS positions have appeared for the *Entry Level LIS Positions* while for Mid-Level Career positions there were only 25.4% of posts were published in the advertisements.

The source wise details of the Entry and Mid-career levels of LIS posts are also included in this analysis for use of the LIS job seekers to take benefits from the data collected and arranged for this analysis given as below in figure 5.38

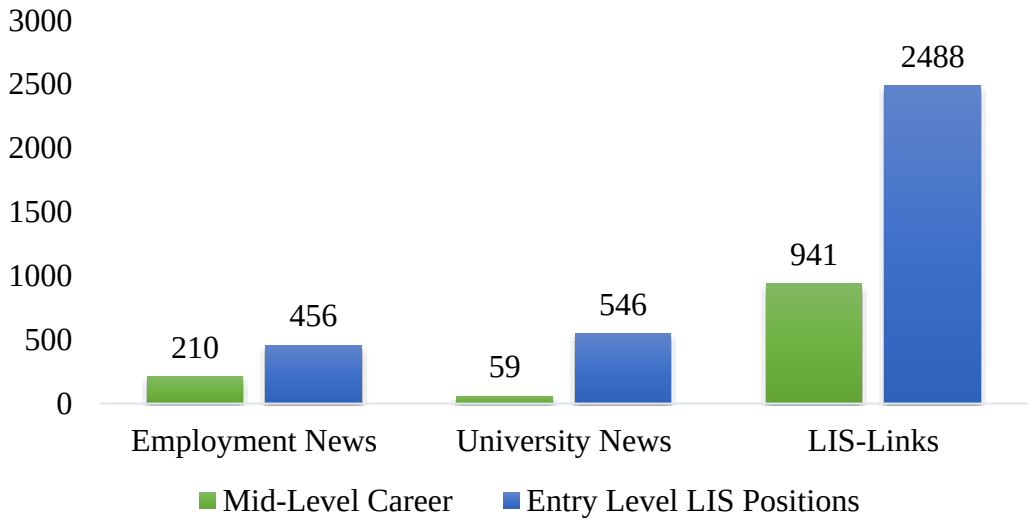


Figure 5.38: Entry and Mid-Career levels for LIS Job in all Sources

Analysis in figure 5.38 shows that in all the Data sources i.e. Employment News, University News, and LIS-Links, the *Entry Level LIS Positions* were published in the most numbers. It shows that the trend of LIS job was opened for the fresher and newly pass out LIS professionals who do not possess working experience. There is no doubt that the *Entry Level LIS Positions* can be helpful for the new professionals who just looking and finding their LIS career opportunities. As the trend for the *Entry Level LIS Positions*, it was also observed that these posts generally belong to the pay band 1 to 2 for group B and C posts as per prescribed in the 6th CPC.

In the *Employment News* (456) and *University News* (546) i.e. the majority of the positions were published for the *Entry Level LIS Positions*. The same trend has also appeared in the online data source i.e. LIS links in which the majority of LIS positions were published for the Entry Level LIS Positions for the LIS professionals in India.

The same details of the two levels of LIS positions were also separated based on its percentage as they appeared in all the data sources which are given in figure 5.39.

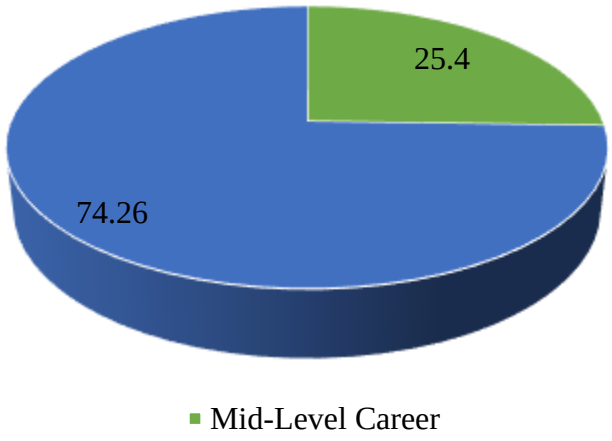


Figure 5.39: Percentage of Entry and Mid-Level LIS Jobs

Analysis in the figure 5.39 reveals that that 74.2% of the Entry Level LIS Positions were looked in all the LIS job advertisements while only 25.4% of the positions were available for the Mid-Career Level of LIS positions at a higher level. The higher level of positions may be in terms of experience required or the pay scales for which the post was advertised.

5.12.2 Entry and Mid-Career Pay Levels and Grade pay for LIS Position

Similarly, with the Entry Level and Mid-Career LIS Positions, the study also focused on the pay scales and the level of Initial basic pay announced in the 7th CPC. The details regarding pay scales received from the LIS data sources are given in table 5.31

Table 5.32: Entry and Mid- Career Level Pay Scales in LIS Positions

Entry Level Pay Scales in LIS Jobs							
Level 7th CPC	**Initial Basic Pay (7th CPC)**	**Grade Pay 6th CPC**	**EN**	**UN**	**LIS**	**Total**	**%**
1	18000	1800	84	8	152	244	4.1
2	19900	1900	42	2	85	129	2.1
3	21700	2000	59	7	145	211	3.5
4	25500	2400	22	0	53	75	1.2
5	29200	2800	92	10	178	280	4.7
6	35400	4200	211	10	393	614	10.3
9	53100	5400	30	4	111	145	2.4
10*	57700	6000	124	443	648	1215	20.4
	Total		**664**	**484**	**1765**	**2913**	**48.7**
Mid- Level Career Pay Scales in LIS Jobs							
7	44900	4600	85	0	119	204	3.4
8	47600	4800	2	0	2	4	0.06
11	67700	6600	27	0	57	84	1.4
12	79800	7600	18	0	35	53	0.8
12*	79800	8000	47	19	188	254	4.2
13	123100	8700	13	0	32	45	0.7
13A*	131400	9000	9	6	60	75	1.2
14*	144200	10000	66	22	319	407	6.8
	Others		7	0	17	24	0.4
	Total		**274**	**47**	**829**	**1150**	**18.96**
	Grand Total		**938**	**531**	**2594**	**4063**	**67.66**

Analysis in table 5.32 shows that the 10th level of 7th CPC which is also considered entry-level academic grade for the teaching and non-teaching positions has appeared in the most i.e. 20.4% (1215) LIS positions followed by the level 6th of 7th CPC by 10.3% (614) positions. The pay scale mentioned in Table 5.31 also shows that the two levels i.e. level 1 and level 3 have also appeared 4.1% (244) and 3.5% (211) were also published for LIS jobs. The LIS positions at the 5th level were also noticed significantly i.e. 4.7% (280) in the LIS job advertisements.

As regards the other levels of the 7th CPC under 10 it is observed from Table 5.31 that a range of 0.4 to 1.4 % published for the LIS posts.

Analysis in regards to the Mid- Level Career Pay Scales in LIS Jobs, those start from the level 10 to level 14, the table 5.32 shows that most 6.8% (407) of the LIS jobs were published for the academic level 14 which is considered a higher-level position in the LIS field. 4.2 % (254) and 3.4% (204) Mid- Level Career Pay Scales have appeared for the academic 12th level and 7th level LIS positions respectively.

The summary of the Mid- Level Career Pay Scales and Entry-level scales appeared in the LIS job advertisement was also given in table 5.33.

Table 5.33: Entry and Mid- Career Level Pay Scales in LIS Positions

Levels of Pay Scale in LIS Jobs	Employment News	University News	LIS-Links	Total	%
Entry Level Pay Scales	664	484	1765	2913	48.70
Mid-Level Pay Scales	274	47	829	1150	18.96
Total	**938**	**531**	**2594**	**4063**	**67.7**

Analysis in table 5.32 reveals that in the pay scales also the *Entry Level Pay Scales* for LIS positions were in the majority i.e. 48.7% (2913) LIS positions followed by the *Mid-Level Pay Scales* with just only 18.9% (1150) posts for the Library and Information Science professionals in India.

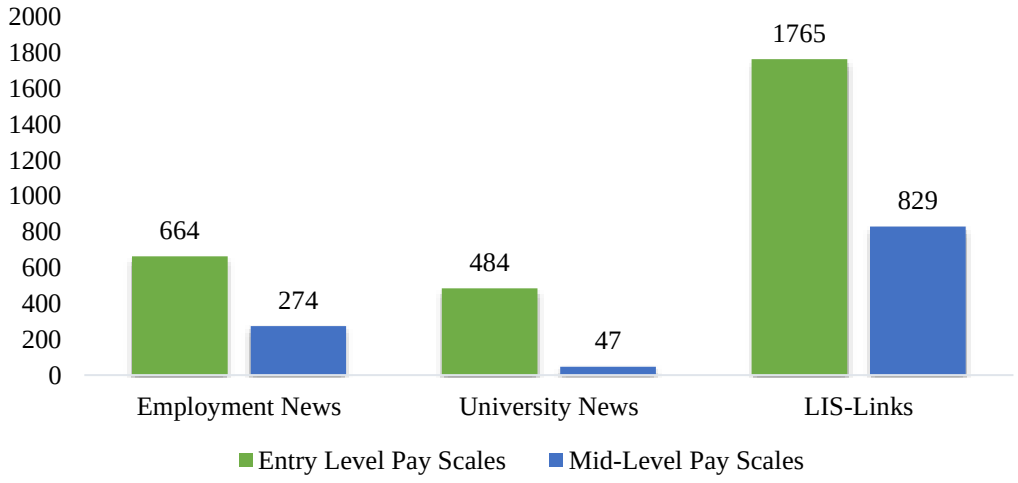


Figure 5.40: Length of Experience Required for LIS Job

Analysis in figure 5.41 shows that in all the Data sources i.e. Employment News, University News, and LIS-Links, the *Entry Level Pay Scales* for LIS positions were distributed in the most numbers. As the trend for the *Entry Level LIS Positions*, it was also observed that these post generally belongs to the pay band 1 to 2 for group B and C posts as per prescribed in the 6th CPC.

In the *Employment News* (664) and *University News* (484) i.e. the majority of the positions were published for the *Entry Level LIS Pay Scales*. The same trend has also appeared in the online data source i.e. *LIS links* in which majority (1765) of LIS positions were published for the *Entry Level LIS Positions* for the LIS professionals in India.

The same details of the two levels of LIS pay scales were also separated based on its percentage as they appeared in all the data sources which are given in figure 5.41.

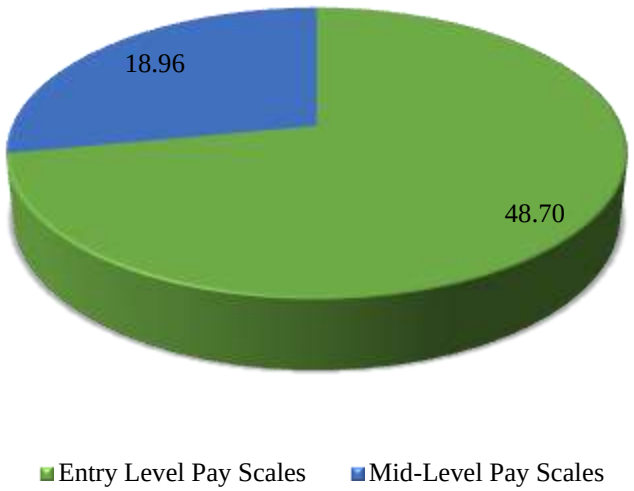


Figure 5.41: Length of Experience Required for LIS Job

Analysis in the figure 5.42 reveals that that 48.7% of the *Entry Level LIS Pay Scales* were looked in all the LIS job advertisements while only 18.9% of the positions were available for the Mid-Career Level of LIS Pay Scales at a higher level were found in the LIS job advertisements.

5.13 DETAILED PROCEDURE FOR TESTING OF HYPOTHESES

A hypothesis is a shrewd guess intended to explain certain facts or observations on the topic of study. The five hypotheses were proposed in this study to be tested. The detailed procedure of hypotheses testing has been discussed in the previous chapter 3. The hypotheses of this study are being tested as below:

5.13.1 Hypothesis: 1

There is no significant relation between the LIS job opportunities in private sector and the UGC eligibility criteria for LIS professionals in India.

- Nature of Hypothesis

  Null Hypothesis i.e. **H0** (As given in the Table 5.34)
- Level of Significance chosen = 0.05 & Confident Interval Level = 95
- Selection of Appropriate Test

```
*Nonparametric Tests: Independent Samples.
NPTESTS
  Chi2/INDEPENDENT TEST (Exp_Pvt_Sec, Age_Prvt_Sec, Pay_Pvt_Sec)
GROUP (Ads_Pvt_Sec)
  /MISSING SCOPE=ANALYSIS USERMISSING=EXCLUDE
  /CRITERIA ALPHA=0.05 CILEVEL=95
```

Table 5.34: Distribution of Chi-Square Test Summary

	Null Hypothesis	**Test**	**Sig**	**Decision**
1	There is no significant relation of experience in private sector and LIS job Opportunities	Independent Sample-Mann Whitney U Test	.126	Retain the null hypothesis
2	There is no significant relation of age in the private sector and LIS job Opportunities	Independent Sample-Mann Whitney U Test	.136	Retain the null hypothesis
3	There is no significant relation of the pay scale in the private sector and LIS job Opportunities	Independent Sample-Mann Whitney U Test	.217	Retain the null hypothesis

Asymptotic significances are displayed. The significance level is **.05.**

Selection of the **Nonparametric Tests: Independent Samples** in **IBM SPSS 20** to identify the significance association of the Group i.e. LIS job opportunities (Independent Variable) with Experience, Age and Pay Scales (Dependent Variable) for LIS Jobs in private sector. The result of the test statistic are as under:

p value for Experience found as = 0.126 i.e. **p** > 0.05

p value for Age found as = 0.136 i.e. **p** > 0.05

p value for Pay scale found as = 0.217 i.e. **p** > 0.05

- *Examine:* The researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H_0.

- *Outcome:* The result of the test presenting in table 5.34 confirmed that there is No significant experience, age and Pay scales for LIS professionals and the employment opportunities in private sector LIS jobs in India. Thus, retain the null hypothesis and the hypothesis accepted that all dependent variables have No significant association with the Independent Variable i.e. LIS job opportunities in the private sector in India. It is important to note that the *Experience, Age*, and *Pay Scales* are all considered as the '*UGC Standards'* as the main eligibility criteria for the LIS posts demanded by the employers.

5.13.2 Hypothesis: 2

There is no significant relation between the emergence of positions in Public Libraries in India and LIS job opportunities in current scenario.

- *Nature of Hypothesis*

  H_0 = There is ***No Significance Relation*** between the emergence of positions in Public Libraries in India and LIS job opportunities in the current scenario.

  H_1 = There is a ***Significance Relation*** between the emergence of positions in Public Libraries in India and LIS job opportunities in the current scenario.

- *Level of Significance chosen* = 0.005
- *Selection of Appropriate Test*

  Selection of the ***Pearson's Chi-Square Test*** in ***STATA 14.0*** to identify the significant association between the job opportunities in LIS (Independent Variable) and Types of Libraries especially for the public libraries (Dependent Variable). The selection of the Chi-Square two-way table with measures of the association was made based on nature of data i.e. categorical and display in the contingency table.

Tabularize job Opportunities in LIS and Types of Libraries for LIS Jobs,

cchi2 chi2

cchi2 chi2

Key
frequency chi2 contribution

Table 5.35: Chi Distribution of Type of Libraries

LIS Job Opportunities	Type of Libraries			
	1 (Academic)	2 (Public)	3 (Special)	Total
1	3,781 0.7	35 3.6	1,199 1.3	5,015 5.6
2	337 1.0	11 8.9	131 1.4	479 11.3
3	104 0.0	0 1.4	38 0.2	142 1.6
4	60 0.0	1 0.1	20 0.0	81 0.1
5	24 5.6	2 4.5	26 13.5	52 23.5
6	101 2.5	8 27.4	50 2.9	159 32.8
Total	4,407 9.9	57 45.8	1,464 19.3	5,928 75.0

Pearson chi2 (**10**) = **74.9626** Pr = **0.000**

Kwallis job_oppn_code (LIS Job Opportunities), by (library_type_code) i.e. Type of Libraries **Kruskal-Wallis equality-of-populations rank test**, was applied to find the significant value of LIS jobs in Public Libraries

Types of Lib	Obs	Rank Sum
1	4,407	1.29e+07
2	57	209541.00
3	1,464	4.46e+06

Chi-squared = **15.397** with **2** d.f. probability = **0.0005,** chi-squared with ties = **39.082** with **2** d.f. probability = **0.0001**

P Value for Public Library Jobs = 0.001 i.e. < 0.05

- *Examine:* Researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H0.

- *Outcome:* The result of the test presenting in table 5.35 confirmed that there is No Significance Relation between the emergence of positions in Public Libraries in India and LIS job opportunities in the current scenario. Thus, the null hypothesis retains and accepted that the Dependent Variable has no significant association with the Independent Variable i.e. LIS job opportunities in India in the current scenario.

5.13.3 Hypothesis: 3

There is a significant relation between Lower level Management positions and LIS job opportunities in India.

- *Nature of Hypothesis*

  H0 = There is ***No Significant Relation*** between Lower level Management positions and LIS job opportunities in India.

  H1 = There is ***A Significant Relation*** between Lower level Management positions and LIS job opportunities in India.

- *Level of Significance chosen* = 0.005
- *Selection of Appropriate Test*

  Selection of the ***Pearson's Chi-Square Test*** in ***STATA 14.0*** to identify the significant association between the job opportunities in LIS (Independent Variable) and Levels of Libraries especially for the Lower level Management (Dependent Variable). The selection of the Chi-Square two-way table with measures of the association was made based on the nature of data i.e. categorical and display in the contingency table

Tabularize job Opportunities in LIS and Level of management for LIS Jobs,

cchi2 chi2

cchi2 chi2

Key
frequency chi2 contribution

Table 5.36: Chi Distribution of Level of Management

LIS Job Opportunities	Level of Management				
	0 (Not Found)	**1 (Top)**	**2 (Middle)**	**3 (Lower)**	**Total**
1	1,681 7.3	745 9.4	1,305 1.1	1,284 33.4	5,015 51.3
2	82 31.0	29 18.8	109 1.2	259 91.7	479 142.7
3	33 3.0	8 6.2	21 6.2	80 32.6	142 48.0
4	15 4.3	3 5.6	24 0.6	39 8.8	81 19.3
5	14 0.3	1 5.0	8 2.0	29 11.4	52 18.8
6	35 4.4	1 19.2	31 2.1	92 40.8	159 66.5
Total	1,860 50.4	787 64.3	1,498 13.2	1,783 218.6	5,928 346.5

Pearson chi2 (**15**) = **346.5340** Pr = **0.000**

Kwallis LIS Job Opportunities (ob_oppn_code), by the Level of Management (code_level__management) **Kruskal-Wallis equality-of-populations rank test,** was applied to find the significant value of LIS jobs by level of management.

code_level__management	**Obs**	**Rank Sum**
0	1,860	5.20e+06
1	787	2.09e+06
2	1,498	4.33e+06
3	1,783	5.95e+06

Chi-squared = **130.966** with **3** d.f. probability = **0.0001** chi-squared with ties = **332.425** with **3** d.f. probability = **0.0001**

Chi-square (First level of Management) = **11.4440**

P Value for First Line Management Library Jobs = 3.3828 i.e. > 0.05

- *Examine:* Researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H0.

- *Outcome:* The result of the test presenting in table 5.36 confirmed that there is Significance Relation between Lower Level Management (Dependent Variable) and the Independent Variable i.e. LIS job opportunities in India. Thus, the null hypothesis not retain and rejected based on the result shown in the analysis i.e. p = 3.3828 > 0.05

5.13.4 Hypothesis: 4

There is no significant relation between LIS job opportunities and working experience of LIS professionals in India.

- *Nature of Hypothesis*

H0 = There is **No** significant relation between LIS job opportunities and working experience of LIS professionals in India.

H1 = There is **a significant relation** between LIS job opportunities and working experience of LIS professionals in India.

- *Level of Significance chosen* = 0.005
- *Selection of Appropriate Test*

  Selection of ***Pearson's Chi-Square Test*** in ***STATA 14.0*** to identify the significant association between the job opportunities in LIS (Independent Variable) and Experience for LIS Jobs (Dependent Variable). The selection of the Chi-Square

two-way table with measures of the association was made based on the nature of data i.e. categorical and display in a contingency table

Tabularize job Opportunities in LIS and Experience for LIS Jobs,

cchi2 chi2

Key
frequency chi2 contribution

Table 5.37: Frequency Chi2 Contribution of Experience of LIS Jobs

Job_Opp(n) _Code	**All Experience Code**						
	1	2	3	4	5	6	Total
1	2,935 0.6	1,113 1.2	123 1.8	85 1.6	151 0.0	608 2.0	5,015 7.1
2	300 0.9	88 2.2	28 16.4	18 8.2	14 0.0	31 10.4	479 38.0
3	98 2.2	22 2.4	2 0.9	6 3.8	5 0.1	9 3.2	142 12.8
4	61 3.5	13 1.1	2 0.0	1 0.2	1 0.8	3 4.2	81 9.9
5	23 2.0	17 3.0	2 0.2	3 3.9	0 1.6	7 0.2	52 10.9
6	102 0.6	21 5.1	7 1.5	2 0.4	6 0.3	21 0.4	159 8.4
Total	3,519 9.8	1,274 14.9	164 20.9	115 18.1	177 2.9	679 20.4	5,928 87.0

Pearson chi2 (25) = **86.9973** **Pr = 0.000**

Degree of Freedom (df) = (r-1) x (c-1)

= 6-5 x 6-1

= 5x5 = 25.

Where r = Number of levels for one category variable and

c = Number of levels for another category variable

Chi-square $(x2) = 86.9973$

p-value found as = 9.3275 Thus

p > 0.05

- *Examine:* The researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H0.

- *Outcome:* The analysis presenting in Table 5.37 confirmed that there is a significant relationship in the working experience of LIS professionals and the employment opportunities in India. Thus, the hypothesis accepted that both variables have a significant association.

5.13.5 Hypothesis: 5

There is a significance relation between entry-level job positions and job opportunities for LIS professionals in India.

- *Nature of Hypothesis*

  H0 = There is ***No Significance Relation*** between entry-level job positions and job opportunities for the LIS professionals in India.

  H1 = There is ***A Significance Relation*** between entry-level job positions and job opportunities for the LIS professionals in India.

- *Level of Significance chosen* = 0.005

- *Selection of Appropriate Test:* Selection of the ***Pearson's Chi-Square Test*** in ***STATA 14.0*** to identify the significant association between the job opportunities in LIS (Independent Variable) and Experience for LIS Jobs (Dependent Variable). The selection of the Chi-Square two-way table with measures of the association was made based on the nature of data i.e. categorical and display in a contingency table

Tabularize job Opportunities in LIS and Entry and Middle Level of LIS positions,

cchi2 chi2

Key
frequency chi2 contribution

Table 5.38: Chi Distribution of Entry-Level LIS Jobs

Job_Opp(n)_Code	Entry_Mid_Codes			
	0 (Not found)	1 (Entry Level)	2 (Mid-Career level)	Total
1	565	3,073	1,377	5,015
	0.2	4.2	13.2	17.7
2	49	365	65	479
	0.7	12.0	24.7	37.3
3	23	107	12	142
	2.7	3.1	15.4	21.2
4	6	68	7	81
	1.2	5.3	8.6	15.1
5	8	39	5	52
	0.7	1.1	4.9	6.6
6	31	118	10	159
	8.8	2.8	22.1	33.8
Total	682	3,770	1,476	5,928
	14.3	28.5	88.9	131.7

Pearson chi2 (**10**) = **131.6857** Pr = **0.000**

Kwallis Entry and Mid-Career Level of LIS positions by LIS job opportunities (job_oppn_code) **Kruskal-Wallis equality-of populations rank test** were also applied to find out the p-value of the Entry Level of LIS positions.

job_op~e	**Obs**	**Rank Sum**
1	5,015	1.52e+07
2	479	1.29e+06
3	142	344863.00
4	81	212972.50
5	52	128817.00
6	159	365456.50

Chi-squared = **66.124** with **5** d.f. Probability = **0.0001 Chi**-squared with ties =**91.101** with **5** d.f. probability = **0.0001**

Chi square $(x2) = 66.124$

p- value found as = 8.13166 Thus

p > 0.05

- *Examine:* The researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H0.

- *Outcome:* The analysis presenting in the table 5.38 confirmed that there is a significant relation in Entry Level of Job positions and the employment opportunities in India. Thus, the hypothesis accepted that both variables have a significant association.

Chapter 6
Findings, Conclusion and Suggestions

Chapter 6

FINDINGS, CONCLUSION AND SUGGESTIONS

6.1 INTRODUCTION

Employment opportunities for librarianship in India however not exciting as the data analysis shown in this study, though there is no shortage of employment for the capable professionals having soft skills along with the core hard skills. The LIS opportunities have appeared largely for the traditional positions however, there were non-traditional positions that were also visible in the changing technological environment. Domination of the traditional LIS positions, hard skill sets taught in LIS schools and ICT based competencies requirements for the LIS jobs were also noticed. A gap between teaching and non-teaching LIS positions in the public and private sectors for different types of libraries has also seen in the study. The cumulative collection of the LIS job ads has discovered that the online information source of LIS job is useful those provides immediate information about a particular job as it publishes.

6.2 FINDINGS OF THE STUDY

The findings based on the content analysis of the LIS job advertisements published from the three major data sources and the data analysis and interpretations are given below:

6.2.1 Growth of LIS Jobs

The growth of LIS jobs in India found slow and steady using the information found in the different data sources covered in the study. The growth of LIS jobs has also measured on the following basis.

6.2.2 Growth of LIS Jobs in Online and Offline Sources

The study found the diverse average rate of LIS jobs in the six years covered in the study. The year-wise account of the average number of job opportunities for the LIS professional in the study found that the large average of LIS job opportunities published in the online data source i.e. LIS-Links. The study found that the offline data sources i.e. *Employment News* and *University News* contain fewer LIS jobs than the online source covered in the study. It is found that the growth pattern of the LIS jobs in online data source was comparatively greater in terms of many job opportunities. The offline sources covered 19% of the total LIS opportunities while 81% of the advertisements found from the online data source (Reference Table 5.1 & Figures 5.1 & 5.2).

6.2.3 The ratio of LIS Ads, Jobs, and Vacancies

The average of the LIS job opportunities in the employment news data sources consists of 115 ads, 166 posts, and 400 vacancies per year. It is found that the average of LIS job opportunities in University news consists of 100 ads, 106 posts, and 121 vacancies per year for the LIS professional which was the lowest among other data sources covered in the study. It is found that an average of 555 advertisements, 715 posts, and 1970 LIS vacancies per year announced during 2012-2017 on the LIS-links (Ref. Table5.1 & Figure 5.2).

6.2.4 Growth Rate of LIS Jobs

It is found that the year wise growth rate of the advertisement in the *Employment News* was comprised between 15% to 20% distribution per year in six years. The study found that other offline data sources namely *University News* produces a growth rate of LIS job opportunities from 13% to 18% per year (Ref. Tables 5.3, 5.4, 5.5 & Figure 5.2).

6.2.5 Overall Growth of LIS Jobs

The overall growth rate of the LIS job opportunities among all the data sources found that an average of per year 770 ads, 988 posts, and 2491 vacancies were published

during 2012-17. The study found that the growth of library and information science job opportunities was slow and steady during the period covered under the study (Ref. Figures 5.6 & 5.7).

6.2.6 Traditional and Non-Traditional LIS Positions

It is found in the study that the majority 84% of the LIS job opportunities published for the traditional librarian post. However, 16% of the Neo-traditional sources were found emerging. (Ref. Figure 5.8).

6.2.7 Major Traditional Functions

Finding on the traditional functional area reveals that still the *Circulation of the Books, Cataloging, Classification, Reference, Accessing, Shelving, and Display of Periodicals* are among the top traditional housekeeping functional areas for which LIS positions created by the employers for LIS professionals (Ref. Table 5.7).

6.2.8 Major Non-Traditional Functions

Finding on the Non-Traditional Functions reveals that the implementation of the *Innovative Library Services, Computer Proficiency, Documentation, Digitization of Library Documents, Digital Resource Management,* and *Database Management, Administration* such as *Planning and Policy Formation, etc.* were the major non-tradition functional areas for which LIS positions were emerged (Ref. Table 5.8).

6.3 Geographical Distribution of LIS Jobs

The findings on the geographical aspects are as under:

6.3.1 Distribution of LIS Jobs in the Indian States

Findings on the geographical distribution of job opportunities for library and information science professionals reveal that *Delhi* among the top-ranked states, where 20% of the LIS job created. It is also found that *Maharashtra* (11%), *Uttar Pradesh* (9%), and *Haryana* (5%) were found significant states for LIS jobs appeared

in the LIS job advertisements during 2012-17. It is also found that the LIS professional has job opportunities in almost every state or region of India (Table 5.9).

6.3.2 Zones wise distribution of LIS Jobs

The zone-wise breakup of the LIS job opportunities in the study found that the *North Zone* created significant job opportunities for the LIS professionals followed by the *West Zone* It is also found that the *University News* published jobs for the *West Zone* especially, for Maharashtra state, while, the *LIS Link* and *Employment News* contained LIS opportunities for the *North Zone* (Ref. Figure 5.14 & 5.15).

6.3.3 LIS Job Distribution in Four Metro Cities

As regards to the LIS job opportunities in the four metro cities of India, it is found that *Delhi* occupied 75% of the total posts published in the four metro cities of India. While in the rest of the metro cities i.e. Chennai, Kolkata, and Mumbai found only 25% of the total LIS jobs produced in these metro cities of India (Ref. Figure 5.16).

6.4 LIS Job Opportunities at Different Levels

The findings on various levels such as education level, level of management, and level of pay scales (as per 6^{th} and 7^{th} CPC) were also found in the study.

6.4.1 Level of Education

The study found that the majority of the LIS positions were based on the master's degree in Library & Information Science. Whereas, the Bachelor's degree in LIS also provides significant (34%) opportunities for LIS jobs in India (Ref. Table 5.10 & Figure 5.17).

6.4.2 Level of Management

The study found that the LIS job opportunities for *Middle-Level Management*, followed by *First Line Management*. However, a significant number (32.8%) of the post have remained unidentified (Ref. Table 5.11 & Figure 5.18).

6.4.3 Levels of Pay Scales (6th & 7th CPC)

Findings on the LIS job opportunities based on the pay scales prescribed by the govt. of India in 6th & 7th CPC, reveals that most (31%) of the LIS job opportunities created in the Pay Scale of *Rs. 15600-39100* (6th CPC) as well as Level 10 -13 (7th CPC) followed by 16% in the *Pay Scale* of *Rs. 5200-20200* (Level 1 -5 in 7th CPC). It is also found that the pay scale of *Rs. 9300-34800* (subsequent level of 6-9 in 7th CPC) also emerged as a significant scale where 25% of the LIS job was published (Ref. Table 5.12 & Figure 5.19).

6.4.4 LIS Jobs on Fixed Salaries

Findings on the fixed salaries revealed that most (26%) of the LIS positions (in the private sector) have offered a range of *Rs 10,000 to Rs. 15,000/-* per month while a range of Rs. *15001/-* to *20000/-per month* have offered in the 20% LIS job advertisements (Ref. Table 5.13, 5.14 & Figure 5.20 & 5.21).

6.4.5 Grade Pay (6th & 7th CPC)

The study found that the grade pay of Rs. 6000 (Academic Level 10 in 7th CPC) was the most significant level of the LIS posts that published the majority of the LIS positions in the academic and non- academic arena (Ref. Table 5.15 & Figure 5.22).

6.5 LIS Job Opportunities in Different Sectors

It is found that the majority (80%) of LIS Jobs were created in the Public Sector in which 44% were found in Central Government and 36% were in the State government. Only 20% of LIS positions were found in the private sector (Ref. Table 5.16 & Figure 5.23)

6.6 LIS Jobs in Different Types of Libraries

The major working areas where the LIS job aspirant looks for their careers, the study found that in the college and universities, there are many scopes for LIS job opportunities in India. The study found that academic libraries are dominating a large scale of the LIS job market in India. However, the study also found a constant decreasing LIS opportunity in the public libraries (Ref. Table 5.17, 5.18 & Figure 5.24).

6.7 Desirable Hard and Soft Skills for LIS Professionals

It was essential to find out the most preferred hard and soft skill sets required for the LIS positions in India. The study also aims to look into and find the most common skill sets demanded in the LIS job advertisements in the six years. The finding on these aspects is given as under.

6.7.1 Hard Skill for LIS Professionals

The finding under the study reveals that '*Knowledge of Library Management Software'* is the most preferred desirable skill found in the LIS job advertisements while certificate in the computer application found another significant hard skill. The study also found that '*Implementing Innovative Library Services*' is a hard skill that helps to obtain mid-career level LIS positions (Ref Table 5.20 & Figure 5.27).

6.7.2 Soft Skills for LIS Professionals

The study found that the '*creative or innovative*' soft skill of the LIS professionals was the most demanded skill set by the employers of LIS job opportunities in the six years covered in the study. It is also found that 'communication skill, 'interpersonal skill and computer skills were also among the most preferred soft skill those appeared in the LIS advertisements (Ref Table 5.21 & Figure 5.28).

6.8 Teaching and Non-Teaching LIS Positions

The findings on the distribution of the teaching and non-teaching aspects are given as under:

6.8.1 Distribution in Teaching and Non-Teaching LIS Jobs

The study found that there is a significant gap between public and private sector market place for library and information science professionals in India. A total of 80% of opportunities covered by the public sector with a sharing of 44% by the central government and 36% by the state government, only, 20% of the LIS job opportunities generated in the private sector, as published data showing in the study (Ref. Figure 5.25).

6.8.2 Proportion of Teaching and Non-teaching LIS job

The study found that the majority i.e. 92% of the total LIS jobs were generated for the non-teaching positions, whereas, only 8% of the jobs for the teaching profession were created in India (Ref. Figure 5.25).

6.8.3 Teaching Sub-Categories

As regard sub-categories of teaching post, the study found that the majority of the entry-level teaching positions were published for assistant professors (Ref. Table 5.19 & Figure 5.26).

6.8.4 Non-Teaching Sub-Categories

The finding on the traditional Non-Teaching opportunities for the LIS professionals, it is found that the majority of traditional post created for the "*Librarians*" a top-level post in university and college libraries, followed by the *Library Assistant* a lower level post in the university library (Ref Table 5.8, 5.3 & Figure 5.9).

6.9 Parameters for Eligibility for LIS Jobs

The finding of the parameters criteria found in the LIS job advertisements during the study are given below:

6.9.1 Age as an Eligibility Criteria for LIS Jobs

Findings on the 'Age' as an eligibility criterion reveals that most 25% of the LIS jobs demanded an age group of 35-39 years followed by the age group between 30-34 years for which 18% LIS jobs were created in six years (Ref. Table 5.23 & Figure 5.30).

6.9.2 Age as a Parameter for LIS Jobs

The study also found that overall 49% of LIS job advertisements did not publish the age requirement. Whereas, as regards the age requirement in private sector LIS jobs 77% of LIS job advertisements published without mentioning the age criteria (Ref. Table 5.22, 5.24 & Figure 5.29, 5.31).

6.9.3 Experience as a Parameter for LIS Jobs

It is found that the Experience did not found in 59.3% of LIS jobs. As regards the private sector LIS positions, 82.7% of the advertisements did not mention the experience in its eligibility requirements (Ref. Table 5.25, 5.27 & Figure 5.32, 5.34).

6.9.4 Range of Experience in LIS Jobs

The study found that most (28%) of LIS positions were published in which a range of 4.1 to 6 years' experience was demanded whereas, a range of 1 to 2 years' experience was also demanded in 24% of the LIS job advertisements (Ref. Table 5.26 & Figure 5.33).

6.9.5 Pay Scales in Private Sector LIS Jobs

The study found that in the majority i.e. 73% of the LIS job advertisements the pay scales did not mention for the LIS positions (Ref. Table 5.28 & Figure 5.35).

6.9.6 Qualifications in Private Sector LIS Jobs

As regards the qualifications in the private sector, the study found that only 43.5% of LIS job advertisements were mentioned the qualification criteria (Ref. Table 5.29 & Figure 5.36).

6.10 Entry and Mid-Career Level LIS positions and Pay Scales

The findings on the entry and mid-career level LIS positions in India are given as under:

6.10.1 Entry Level LIS Positions

The study found that College Librarians, Assistant Librarians, School Librarians, and the Professional Assistant were the Entry Level LIS non-teaching positions created at large scale. It is also found that overall 74% of LIS positions were published for the Entry Level positions (Ref. Table 5.30, 5.31 & Figure 5.37, 5.40).

6.10.2 Mid-Career Level LIS Positions

The study found that University Librarian, Deputy Librarian, Chief Librarian, and Senior Librarian were the major LIS positions at Mid-Career Level that were published on a large scale. It is also found that only 25% of the LIS positions were published for the mid-career level LIS positions in the six years covered under study (Ref. Table 5.30, 5.31 & Figure 5.37, 5.40).

6.10.3 Entry Level Pay Scales and Pay Levels

It is found that at the Entry Level LIS positions, Rs 6000/- (Academic Pay Level 10 in 7th CPC and initial basic pay Rs. 57700/-) was published the most i.e. 20% of LIS positions followed by the Rs. 4200/- (Level 6th in 7th CPC i.e. Rs 35400/-) (Ref. Table 5.32 5.33 & Figure 5.39 5.40).

6.10.4 Mid-Career Level Pay Scales and Pay Levels

It is found that at the Mid-Career level LIS position Rs. 10000/- (Academic Pay Level 14 in 7th CPC and Basic pay Rs. 144200/-) was published the most i.e. 6.8% of the LIS positions (Ref. Table 5.32 5.33 & Figure 5.39 5.40).

6.11 RESULTS OF THE HYPOTHESES TESTS

A hypothesis is a tentative guess based on a shrewd guess to test the relationship between two or more variables. It is a particularly testable forecast about the expectation of the result of the study. For example, a study designed to look at the relationship between job opportunities (Independent variable) and eligibility criteria (Dependent Variable) and the test performance that might have to establish negative or alternate relationships helps to prove validity scientifically. A hypothesis is an insightful supposition intended to explain certain facts or observations on the topic of study. For the present study, the following hypotheses are proposed to be tested. It is important to mention that the data analysis presented in chapter 5 also supports the results of the hypotheses tests.

The detailed procedure of the hypotheses tests adopted in this study has been given in section 5.13 of the previous chapter 5. In this section, the final results of the hypotheses tests are being discussed that disclosed how closely the hypotheses for this study were formulated. The final result of the hypotheses tests are given under subsequent sections:

6.11.1. Hypothesis: 1

There is no significant relation between the LIS job opportunities in private sector and the UGC eligibility criteria for LIS professionals in India (Null Hypothesis- H_0).

The first hypothesis formulated to test whether there is no significant relationship between the LIS job opportunities in the private sector and the UGC standards (i.e. eligibility criteria) for the proficiency of Library and Information Science (LIS) professionals. The analysis of this aspect was covered based on experience, age and pay scales, published in the LIS job advertisements in private sectors.

The Independent samples in IBM SPSS 20 to identify the significant association of the group i.e. *LIS job opportunities* (Independent Variable) with *Experience, Age,* and *Pay Scales* (Dependent Variables) for LIS Jobs in private sector applied. The result of the test statistic is as under:

p-value for Experience found as	= 0.126	i.e. **p** > 0.05
p-value for Age found as	= 0.136	i.e. **p** > 0.05
p-value for Pay scale found as	= 0.217	i.e. **p** > 0.05

Therefore, the researcher does not have enough justification to reject the null hypothesis (H_0) hence, it is failed to reject the Null Hypothesis formulated in this study.

Result

The result of the test presenting in Table 5.34 (in Chapter 5) confirmed that there are no significant relations among *Experience, Age* and *Pay scales* (Eligibility criteria) for LIS professionals and the *Employment Opportunities* in private sector LIS jobs in India.

The null hypothesis accepted because all dependent variables have No significant relation with the Independent Variable i.e. LIS job opportunities in the private sector LIS jobs in India.

Thus, the hypothesis failed to reject Null Hypothesis and hence accepted. (Reference: Table 5.34).

6.11.2. Hypothesis: 2

There is no significance relation between emergence of positions in Public Libraries in India and LIS job opportunities in current scenario (Null Hypothesis- H0).

The Pearson's Chi-Square Test in STATA 14.0 used to identify the significant association between the job opportunities in LIS (Independent Variable) and Types of Libraries especially for the public libraries (Dependent Variable). The Chi-Square two-way table with measures of the association was made based on categorical data and displayed in table 5.35 in chapter 5.

Chi-squared = **15.397** with **2** df. Probability =**0.0005,** Chi-squared with ties = **39.082** with **2** df. Probability = **0.0001**

P-Value for Public Library Jobs **=** 0.001 i.e. < 0.05

Therefore, the researcher does not have enough justification to reject the null hypothesis (H0), hence, it is failed to reject the Null Hypothesis formulated in this study.

Result

The result of the test presenting in Table 5.35 (in chapter 5) confirmed that there is *No Significance Relation* between the emergence of LIS job positions in Public Libraries in India and *LIS Job Opportunities* in the current scenario.

Thus, the null hypothesis *accepted* that the *Dependent Variable* i.e. *Job Opportunities in Public Libraries* has no significant association with the Independent Variable i.e. LIS *job opportunities in India* in the current scenario.

Thus, the hypothesis failed to reject and hence accepted (Reference: Table 5.35).

6.11.3. Hypothesis: 3

There is a significant relation between Lower level Management positions and LIS job opportunities in India (Alternate Hypothesis H_1).

The Pearson's Chi-Square Test in STATA 14.0 used to identify the significant association between the job opportunities in LIS (Independent Variable) and Levels of Management in Libraries especially for the Lower level Management i.e. the First Line Management (Dependent Variable). The Chi-Square two-way table with measures of the association was created based on categorical data which displayed in the contingency table 5.36 in previous chapter 5.

Chi-squared = **130.966** with **3** df. Probability =**0.0001** Chi-squared with ties = **332.425** with **3** df. Probability = **0.0001**

Chi-square (First Level of Management) = **11.4440**

P Value for First Line Management Library Jobs = 3.3828 i.e. > 0.05

Therefore, the researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H_0.

Results

The result of the test given in Table 5.36 confirmed that there is *No Significance Relation* between Lower Level Management i.e. First Line Management (Dependent Variable) and the Independent Variable i.e. LIS job opportunities in India.

Thus, the hypothesis i.e. Alternate Hypothesis H_1 is rejected (Ref. Table 5.36).

6.11.4. Hypothesis: 4

There is no significant relation between LIS job opportunities and working experience of LIS professionals in India (Null Hypothesis- H_0).

A hypothesis proposed to test whether there is a significant relationship between the job LIS Opportunities and working experience of LIS professionals. Pearson's Chi-Square Test in STATA 14.0 used to identify the significant association between the

job opportunities in LIS (Independent Variable) and Experience for LIS Jobs (Dependent Variable). The Chi-Square two-way table with measures of the association was also performed on the categorical data which is displayed in the contingency table 5.37.

p- value found as = 9.3275

Thus **p** > 0.05

The researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H_0.

Result

The analysis given in Table 5.37 confirmed that there is *No Significant Relationship* between the working experience of LIS professionals and the employment opportunities in India.

Thus, the hypothesis i.e. Null Hypothesis H_0 failed to reject (Reference: Table 5.37) and hence, the Alternate Hypothesis H_1 accepted (Ref. Table 5.37).

6.11.5. Hypothesis: 5

There is a significance relation between entry-level job positions and job opportunities for LIS professionals in India (Alternate Hypothesis H_1).

Pearson's Chi-Square Test in STATA 14.0 used to identify the significant association between the job opportunities in LIS (Independent Variable) and Entry Level LIS Jobs (Dependent Variable). The Chi-Square two-way table with measures of the association in which categorical data which is displayed in the contingency table 5.38 in chapter 5.

Chi-squared = **66.124** with **5** df. Probability = **0.0001** **Chi**-squared with ties =**91.101** with **5** df. Probability = **0.0001**

Chi square $(x2) = 66.124$, **P-value** found as = 8.13166 Thus, P > 0.05

The researcher does not have enough justification to reject the null hypothesis hence, it is failed to reject the Null Hypothesis i.e. H_0.

Result

The analysis is given in Table 5.38 that there is no significant relationship in the Entry Level of Job positions and employment opportunities in India. Thus, the Alternate hypothesis is rejected that both variables have a significant relation.

Thus, the hypothesis i.e. Null Hypothesis H_0 failed to reject (Reference: Table 5.38) and the hypothesis i.e. Alternate Hypothesis H_1 Not accepted (Ref. Table 5.38).

6.12 SUGGESTIONS DRAWN FROM THE STUDY

Suggestions derived from the literature, data analysis and the LIS job advertisements consulted in this study are given as under:

1. The Library and Information Science (LIS) job seekers should consult the online information sources for employment for wider scope and coverage to their job searches in addition to the offline information sources.

2. The LIS job seekers should register themselves on the LIS professional social networking sites or blogs to look for new LIS opportunities and getting frequent alerts about new LIS job opportunities.

3. The LIS job seekers and working professionals who want to upgrade their present posts are suggested to adopt various soft skills like communication, computer, and digital management skills along with their current hard skills.

4. It is suggested that the LIS job aspirants should apply for various jobs opening in Delhi, Maharashtra, and Uttar Pradesh as they were found the most preferred regions where employers advertised to hire LIS professionals. Although, the LIS job seekers are also suggested to look and should be ready to work anywhere in the country as the LIS job opportunities found across the country.

5. Because of the higher qualifications and skills expected from the lower and the first line management level posts such as Library Assistant, Semi

Professional Assistant, Professional Assistant, and Information Scientist, etc. The study suggested revising the eligibility criteria especially for higher educational institutional LIS positions.\

6. The study suggests that the Master's degree in the Library and Information Science may enhance the chances of the job opportunities in India, where many doors from operational level management to the top-level management are open in India. So it is suggested that the job seekers who obtained their bachelor's degrees in LIS, should also enhance it at least up to the master's level to get LIS jobs in a wide spectrum.

7. The LIS professional should prepare themselves to serve at any level of management because it allows them to fit in the system and explore the practical skills and competencies by which they may achieve desired positions later on in a better way.

8. The study suggests to stream-line the designations of library staff, prepare separate guidelines, eligibility criteria, skills requirement, pay scales and job description of various library posts in different types of institutions that need to be developed and redesigned to establish uniformity across the country.

9. The study suggests formulating an autonomous professional body to look into the matters of LIS Job creation, recruitment, and professional development. The professional body should also be responsible for filtering LIS advertisements for various positions in India and the establishment of standards for LIS human resources. Initially, the Indian Library Association may be given such responsibility.

10. Since the study found LIS job opportunities at every pay scale level, hence, the LIS job seekers suggested not to focus on specific pay scales in the field of Library & Information Science in India. The job seekers should also enhance their competency level as per the requirement of the particular pay scales for which one desires.

11. The study suggests to the LIS professionals to find their job options in the academic libraries especially in the colleges and universities in the higher education system as the study found a broader scope for the LIS job opportunities.

12. It is suggested based on the repetition observed of LIS posts that the government should create and recruit the vacant LIS posts in academic and public libraries. Specifically, the state government should produce LIS positions in public libraries and initiate to recruit the vacant positions.

13. Since there is a greater scope in the non-teaching LIS jobs, hence, it is suggested to the LIS job seekers should pay attention to the non-teaching LIS positions.

14. It is suggested that the Master's degree should be obtained for middle and top management LIS positions in India.

15. The LIS schools and department in India should take the necessary steps to review what they are teaching and should be matched with the demand of the current LIS job market. If, not they should incorporate the new skills and competencies in their LIS curricula at various levels of education.

16. The LIS Job seekers should involve in new emerging functional areas especially non-traditional and technology-based functions like computer proficiency, Documentation, digitization, electronic & digital resource management, etc. along with the traditional functions.

17. It is suggested to the employers to mention the job description of respective LIS jobs to be advertised to help job seekers and ensure the competencies before apply for the particular post.

18. It is also suggested that the private sector should mention clear cut eligibility criteria such as pay scales, experiences, age in their Job advertisements.

19. The LIS job seekers in India suggested enhancing their knowledge in Library Management Software and the working professional who want to change their present positions to implement innovative library services to the library users.

20. The fresher LIS job seekers suggested getting at least one to two years of working experience after completing their LIS degrees.

6.13 CONCLUSION OF THE STUDY

The 'librarianship' is an art as well as a science of managing library and information centers with the prime objective of providing information to the users who need it. Librarianship in India has emerged as a full-fledged discipline that became popular for the job aspirants. The functions in librarianship concerns with the acquisition, storage, retrieval, and preservation of information resources.

Library and Information Science jobs created during six years covered under the study shown a slow and steady growth of the LIS positions in India. The study concluded that the growth pattern of the LIS jobs in the online data source has comparatively greater in terms of many job opportunities. The offline sources covered 19% of the total LIS opportunities while 81% of the advertisements covered in the online data sources. A new pattern has also visible in which job searches are being performed through online employment information sources. The increasing usage of social networking sites and blogs are also helping to look for LIS job opportunities. The study also concluded that the LIS job seekers should be registered on such LIS sites those alert job openings.

The study concluded that the growth rate of the LIS job opportunities among all the information sources established that an average of per year 770 ads, 988 posts, and 2491 vacancies published during 2012-17 those were not sufficient in an environment where more than 10000 LIS professional produced in the LIS schools (Sharma, 2019). The study is important in terms of its coverage and aspects related to the LIS job opportunities because it may help the students, LIS job seekers and working professionals who intend to change their jobs. It provides an insight into the essential functions of a library system. The study reveals the traditional functions those are still

relevant and integrated part of libraries such as the circulation of the books, cataloging, classification, reference, accessing, shelving, and display of periodicals are the top housekeeping functional area preferred by the employers. The study determined major key functions the implementation of the innovative library services, computer proficiency, knowledge of documentation, digitization of library documents, digital resource management and capabilities of planning, policy formation are the major competencies and skills which are helpful to get a LIS job in changing the technological environment in India.

The study has thrown light on the latest skills and competencies demanded by LIS positions. Therefore, the LIS departments who not yet adopted those skill sets are needed to incorporate the changing needs of the employment and LIS job market. Several issues and challenges like the level of management, job description, incomplete job advertisement, absence of pay scales and standard eligibility criteria have been observed from the study those needed to pay attention by the employers.

This study confirms findings in other studies (Shongwe & Ocholla, 2011) that emphasize comprehensive training in management, information, and communication technologies, information searching, analysis and synthesis, as well as the ability to perform practical work that enhances chances of getting desired LIS job position in the anticipated type of libraries. Significantly, depending on the newspaper, job advertisements have the potential to deliver well-balanced employment information helpful for LIS job seekers. However, the triangulation of related methods, such as follow-up, reviewing is also essential.

6.14 FURTHER AREAS OF RESEARCH

The present study covered a comprehensive area of LIS job opportunities for the LIS professional across the country. Although, there are several supplementary areas on which further research can proceed are given as under:

1. Research on the evolving role of the Master of Library and Information Science (MLIS) degree on specific types of libraries through cross-sectional data from job advertisements in specific employment information sources over a particular period can be carried out.

2. Retrospective research on the status of Library and Information Science professionals can be conducted based on LIS job advertisements over 20 years in Indian perspectives.

3. A study on demand and supply of the LIS human resource in the Indian context can be carried out to understand the capabilities of LIS students

4. Research through a Content Analysis of LIS job Advertisements published Daily Newspapers editions can be conducted to find out the current market demand for core competencies and employability skills of librarianship.

5. Longitude research to find out various career opportunities and options for Information and Knowledge professionals in a particular country by analyzing online employment information sources for the LIS job market in the inter-disciplinary profession can be carried out because of enlarging the scope and boundaries of LIS profession.

6. A content analysis of LIS Job advertisement can also be carried out to find out the specific LIS skill in the context of current and future requirements, types of LIS positions, language skills essential for LIS professionals in the technology-intensive- environment of the libraries can also be carried out.

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Appendices

S. No.	Source of Advt.	Ads Qty.	Month	Year	Name of Post	Post (n)	Teaching/Non-Teaching	UR	SC	ST	OBC	Sub-Category PH/VI/OH/OL	Level of Education

Additional Qualification	Essential Qualification	Desirable Qualification	Advance Skill	Age Limits (in Year)	Experience (in Year)	Pay Scale	Grade pay	Pay Band 6th CPC	Fixed pay

Traditional/ Non-Traditional	Functional Areas	Nature of Position	Sectors	Types of Organisation /Library	Group of Post	Level of Management	City

State	Ads Language	Application Fee	Mode of Payment	Mode of apply	Time limits (in Day)	Job Responsibility	Remarks	Reference Sheet

Grade Pay 1800 to 2800 – Level 1 to Level 5

PB-1 (5200 to 20200)

GP	1800	1900	2000	2400	2800
Level	1	2	3	4	5
1	18000	19900	21700	25500	29200
2	18500	20500	22400	26300	30100
3	19100	21100	23100	27100	31000
4	19700	21700	23800	27900	31900
5	20300	22400	24500	28700	32900
6	20900	23100	25200	29600	33900
7	21500	23800	26000	30500	34900
8	22100	24500	26800	31400	35900
9	22800	25200	27600	32300	37000
10	23500	26000	28400	33300	38100
11	24200	26800	29300	34300	39200
12	24900	27600	30200	35300	40400
13	25600	28400	31100	36400	41600
14	26400	29300	32000	37500	42800
15	27200	30200	33000	38600	44100
16	28000	31100	34000	39800	45400
17	28800	32000	35000	41000	46800
18	29700	33000	36100	42200	48200
19	30600	34000	37200	43500	49600
20	31500	35000	38300	44800	51100
21	32400	36100	39400	46100	52600
22	33400	37200	40600	47500	54200
23	34400	38300	41800	48900	55800
24	35400	39400	43100	50400	57500
25	36500	40600	44400	51900	59200
26	37600	41800	45700	53500	61000
27	38700	43100	47100	55100	62800
28	39900	44400	48500	56800	64700
29	41100	45700	50000	58500	66600
30	42300	47100	51500	60300	68600
31	43600	48500	53000	62100	70700
32	44900	50000	54600	64000	72800
33	46200	51500	56200	65900	75000
34	47600	53000	57900	67900	77300
35	49000	54600	59600	69900	79600
36	50500	56200	61400	72000	82000
37	52000	57900	63200	74200	84500
38	53600	59600	65100	76400	87000
39	55200	61400	67100	78700	89600
40	56900	63200	69100	81100	92300

Grade Pay 4200 to 5400 – Level 6 to Level 9

PB-2 (9300 to 34800)

GP	**4200**	**4600**	**4800**	**5400**
Level	**6**	**7**	**8**	**9**
1	35400	44900	47600	53100
2	36500	46200	49000	54700
3	37600	47600	50500	56300
4	38700	49000	52000	58000
5	39900	50500	53600	59700
6	41100	52000	55200	61500
7	42300	53600	56900	63300
8	43600	55200	58600	65200
9	44900	56900	60400	67200
10	46200	58600	62200	69200
11	47600	60400	64100	71300
12	49000	62200	66000	73400
13	50500	64100	68000	75600
14	52000	66000	70000	77900
15	53600	68000	72100	80200
16	55200	70000	74300	82600
17	56900	72100	76500	85100
18	58600	74300	78800	87700
19	60400	76500	81200	90300
20	62200	78800	83600	93000
21	64100	81200	86100	95800
22	66000	83600	88700	98700
23	68000	86100	91400	101700
24	70000	88700	94100	104800
25	72100	91400	96900	107900
26	74300	94100	99800	111100
27	76500	96900	102800	114400
28	78800	99800	105900	117800
29	81200	102800	109100	121300
30	83600	105900	112400	124900
31	86100	109100	115800	128600
32	88700	112400	119300	132500
33	91400	115800	122900	136500
34	94100	119300	126600	140600
35	96900	122900	130400	144800
36	99800	126600	134300	149100
37	102800	130400	138300	153600
38	105900	134300	142400	158200
39	109100	138300	146700	162900
40	112400	142400	151100	151100

Grade Pay 5400 to 7600 – Level 10 to Level 12

PB-3 (15600 to 39100)

GP	5400	6600	7600
Level	10	11	12
1	56100	67700	78800
2	57800	69700	81200
3	59500	71800	83600
4	61300	74000	86100
5	63100	76200	88700
6	65000	78500	91400
7	67000	80900	94100
8	69000	83300	96900
9	71100	85800	99800
10	73200	88400	102800
11	75400	91100	105900
12	77700	93800	109100
13	80000	96600	112400
14	82400	99500	115800
15	84900	102500	119300
16	87400	105600	122900
17	90000	108800	126600
18	92700	112100	130400
19	95500	115500	134300
20	98400	119000	138300
21	101400	122600	142400
22	104400	126300	146700
23	107500	130100	151100
24	110700	134000	155600
25	114000	138000	160300
26	117400	142100	165100
27	120900	146400	170100
28	124500	150800	175200
29	128200	155300	180500
30	132000	160000	185900
31	136000	164800	191500
32	140100	169700	197200
33	144300	174800	203100
34	148600	180000	209200
35	153100	185400	-
36	157700	191000	-
37	162400	196700	-
38	167300	202600	-
39	172300	208700	-
40	177500	-	-

Grade Pay 8700 to 10000 – Level 13 to Level 14

PB-4 (37400 to 67000)

GP	**8700**	**8900**	**10000**
Level	**13**	**13A**	**14**
1	123100	131100	144200
2	126800	135000	148500
3	130600	139100	153000
4	134500	143300	157600
5	138500	147600	162300
6	142700	152000	167200
7	147000	156600	172200
8	151400	161300	177400
9	155900	166100	182700
10	160600	171100	188200
11	165400	176200	193800
12	170400	181500	199600
13	175500	186900	205600
14	180800	192500	211800
15	186200	198300	218200
16	191800	204200	-
17	197600	210300	
18	203500	216600	-
19	209600	-	-
20	215900	-	-

No Grade Pay – Hag Scales

Level 15 to Level 18

PB	**67000-79000**	**75500-80000**	**80000**	**90000**
Level	**15**	**16**	**17**	**18**
1	182200	205400	225000	250000
2	187700	211600	-	-
3	193300	217900	-	-
4	199100	224400	-	-
5	205100	-	-	-
6	211300	-	-	-
7	217600	-	-	-
8	224100	-	-	-

MINIMUM QUALIFICATIONS FOR DIRECT RECRUITMENT TO THE POSTS OF UNIVESRITY ASSISTANT LIBRARIAN/COLLEGE LIBRARIAN, UNIVERSITY DEPUTY LIBRARIAN AND UNIVERSITY LIBRARIAN

I. UNIVERSITY ASSISTANT LIBRARIAN/ COLLEGE LIBRARIAN

i) A Master's Degree in Library Science, Information Science or Documentation Science or an equivalent professional degree, with at least 55% marks (or an equivalent grade in a point –scale, wherever the grading system is followed)

ii) A consistently good academic record, with knowledge of computerization of a library.

iii) Besides fulfilling the above qualifications, the candidate must have cleared the National Eligibility Test (NET) conducted by the UGC, CSIR or similar test accredited by the UGC like SLET/SET or who are or have been awarded a Ph.D. Degree in accordance with the University Grants Commission (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degree) Regulations, 2009 or 2016 and their amendments from time to time as the case may be:

a) Provided that the, candidates registered for the Ph.D. degree prior to July 11, 2009, shall be governed by the provisions of the then existing Ordinances/Bye-laws / Regulations of the Institution awarding the degree, and such Ph.D. candidates shall be exempted from the requirement of NET/SLET/SET for recruitment and appointment of Assistant Professor or equivalent positions in Universities/Colleges /Institutions subject to the fulfillment of the following conditions:-

b) The Ph.D. degree of the candidate has been awarded in the regular mode

c) The Ph.D. thesis has been evaluated by at least two external examiners;

d) Open Ph.D. viva voce of the candidate has been conducted;

e) The candidate has published two research papers from his/her Ph.D. work out of which at least one is in a refereed journal;

f) The candidate has presented at least two papers based on his/her Ph.D. work in conferences/seminars sponsored /funded/supported by the UGC/ICSSR/CSIR or any similar agency.

Note:

i. *The fulfilment of these conditions is to be certified by the Registrar or the Dean (Academic Affairs) of the University concerned.*

ii. *NET/SLET/SET shall also not be required for candidates in such Master's Programmes for which NET/SLET/SET is not conducted by the UGC, CSIR or similar test accredited by the UGC like SLET/SET.*

II. UNIVERSITY DEPUTY LIBRARIAN

i) A Master's Degree in library science/information science/documentation science, with at least 55% marks or an equivalent grade in a point –scale, wherever grading system is followed.

ii) Eight years' experience as an Assistant University Librarian/College Librarian.

iii) Evidence of innovative library services including integration of ICT in library.

iv) A Ph.D. Degree in library science/ Information science / Documentation Science/Archives and manuscript keeping/computerization of library.

III. UNIVERSITY LIBRARIAN

i) A Master's Degree in Library Science/Information Science/Documentation Science with at least 55% marks or an equivalent grade in a point -scale wherever the grading system is followed.

ii) At least ten years as a Librarian at any level in University Library or ten years of teaching as Assistant/Associate Professor in Library Science or ten years' experience as a College Librarian.

iii) Evidence of innovative library services, including the integration of ICT in a library.

iv) A Ph.D. Degree in library science/information science/documentation /archives and manuscript-keeping.

Reference: THE GAZETTE OF INDIA: EXTRAORDINARY [PART III—SEC. 4] pages 67-68.

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