



Impact of ICT on LIS jobs in university libraries: a study based on job announcements

Swati Srivastava

Assistant Librarian, Supreme Court of India, New Delhi-110001, Email: swatisrivastava179@gmail.com

Received: 09 January 2021; revised: 09 July 2021; accepted: 14 July 2021

The paper examines the employment opportunities trend in the library and information science profession based on job advertisements published in *Employment News*. Data for the analysis pertained to the years 1980, 1990, 2000, 2010 and 2019. The study reflects the impact of ICT on various aspects of vacancies advertised in libraries such as designation, required qualifications, experience, skills and competencies. It is found that there have been significant changes over the years in the required ICT related qualifications and skills. In most of the job vacancies, the recruiters are looking for candidates who have sound knowledge of information technology. It is also found that with the ICT implementation, more vacancies are published in *Employment News* in the field of library and information science.

Keywords: LIS jobs; IT skills; LIS profession; ICT

Introduction

It has been observed that with the growth and development of technology the demands for library and information science professionals are changing in terms of qualifications, technical skills, experiences, etc. The collection, services and staffing pattern of university libraries are affected by the advancements of ICT. The library professionals need to be well informed and updated with the latest developments in ICT.

Current trends of job opportunities in the LIS can be found from job advertisements published on various online job portals. The job opportunities in the LIS field are a very few in comparison to the number of LIS graduates produced in India.¹ A study that analyzed all job advertisements published in the *Times of India* revealed that proficiency in English, information communication technology and good communication skills were requisite skills for LIS jobs.²

Sinha and Pandey (2013)³ reviewed the job advertisements published in print and online. The authors used *Employment News* and the LIS Link portal for data collection. The advertisements published in 2011 were analyzed on various aspects i.e. month, state, reservation, designation, etc. The findings of this study reflected that the numbers of announced posts are very less as compared to the production of fresh LIS graduates, which generates difficulties in locating jobs in LIS field. The authors

suggested that the central and state government should come forward to produce more vacancies in the different academic institutions and public libraries so that these qualified LIS professionals would be able to get the respective positions as per their eligibility.

An analysis of the job advertisements for LIS professionals from 2005 to August 2010 published on the various online platforms like naukri.com, timesjobs.com, careerjob.com, monster.com, LIS forum and *Employment News*, reflected that the technical skills and qualifications are now mandatory for LIS professionals in India. The author attempted to identify the modifications in the designation of professionals with time.⁴

A study on the job prospects in the library and information science during 1998-2001 reflected that the central government is the major employer in this field and most of the jobs are advertised for Delhi. For job qualifications, most of the institutions followed UGC guidelines. The role of library associations and library schools were also discussed by the author in this paper.⁵

Elsewhere in the world, it was found from online advertisements published for part-time library positions in Pennsylvania and New Jersey; most of the advertisements do not contain salary and working hour's related information. Many vacancies are suitable for entry level professionals who don't have much experience.⁶

In a study of library and information science (LIS) job market in South Africa, the authors analyzed 644 LIS job advertisements published in *Sunday Times*, *The Mail* and *Guardian Weekly* during 2009-2012. The study revealed that the public sector is the main employer in the library and information science field.⁷

Another paper analyzed 165 knowledge management jobs in 2011 in the UK and examined the similarities between knowledge management and LIS jobs. The findings of the study showed that library and information science and knowledge management have similar traits. According to the author, "LIS and KM have similar traits but not necessarily of the same type. LIS can be conceptualized as a profession with clearly defined boundaries, professional routes, and frameworks, while KM is more of a cross-cutting "practice" that embodies a range of professional skills, including, but not limited to, LIS".⁸

The nature of the job market for LIS professionals in Sindh Province, Pakistan was examined based on job titles used in the advertisements. The authors analyzed LIS job advertisements published from 2004 to 2008. Four leading newspapers of Pakistan were used for data gathering, i.e., *Dawn*, *The Daily Jung*, *The News* and the *Daily Express*. The study revealed that academic librarianship dominated the LIS job market during those years. The impact of ICT on job titles of LIS professionals remains the same as in 1947 and they recommended that job titles should change with time.⁹

A study of the Australian job market for library and information professionals based on the content analysis of Australian job advertisements published in 2010 revealed that records management skills, business content management skill, web management and other information management systems skills were essential for the information professionals to sustain in the Australian job market.¹⁰

Another study demonstrated the current state of the job market for LIS professionals in United States of America with the help of content analysis of job advertisements published and posted online from 15th April 2006 to 10th May 2009. The sources for data collection were *American Libraries Journal*, Maryland iSchool discussion list, the archivists lists, USAJobs.gov and LISJobs.com. The purpose of this study was to conduct a quantitative analysis of current job advertisements and job descriptions suitable for MLIS graduates of University of Maryland. The result of the study shows that most of the jobs are available

in the academic libraries and archives but they provide an average salary to the employees. A Master's degree in LIS with experience was a requirement in most of the jobs. Very few advertisements asked for a second master's degree.¹¹

Similarly, another study examined the qualifications and skills required for library professional positions in academic libraries of United States of America. The author collected data from job advertisements for digital library positions published in *College and Research Libraries News* for nine years from 1999 to 2007. The authors focused on technology applications in academic libraries. The findings showed that a digital librarian is an emerging designation in academic libraries.¹²

A study on cataloguing positions in American academic libraries from 2004 to 2006 based on advertisements published in *American Libraries*, *College and Research Library News*, AutoCAT, American Library Association job list, HigherEdJobs.com and International University of Geneva job listing, reveals that the responsibilities of the head of the cataloguing position have increased with time. MLS/MLIS is still the basic required educational qualification for this designation. Traditional cataloguing knowledge and experience is still in very high demand and knowledge related to non-MARC metadata and digital resources are also on the rise.¹³

The content analysis of 180 advertisements of LIS during 2006-07 was presented in one study of United Kingdom. The author of the study investigated the recruiters need while they recruit library professionals. The findings reveal that a multitude of skills and qualities are required in the LIS profession.¹⁴ Another study was done by Frederiksen (2008)¹⁵ on job advertisements for access services librarians from 1977 to 2004. The author found 217 advertisements published in *College & Research Libraries News*. The paper identified the general and unique characteristics of access services positions in United States of America. The author aimed to check the changes over time as well as possible future trends for access services positions.

The job announcements published in *American Libraries* from January 1989 to December 1998 were analyzed. The duties and responsibilities, qualifications and skills, organizational and salary-related information for the post of electronic librarian were studied in this paper.¹⁶

Cullen (2000)¹⁷ analyzed LIS job advertisements published in Irish national daily newspapers during 1999. He stated that a small but steady number of positions are advertised in Library and Information Science. The findings of the study reveal that the skill requirements may be different according to designations, but communications skills and knowledge of IT is essential for all the job posts. Academic and public libraries advertised most of the vacancies, mainly in locations on the east coast of Ireland.

The findings of the literature review show that in India job opportunities in the LIS profession are not enough as compared to fresh LIS graduates. The opportunities should be increased in the LIS field. Fluency in English and ICT skills are required by most employers. The central government is the major employer in providing job in Library and Information Science in India. The foreign studies observed that the information related to salary and working hours are not provided in the advertisements. In Pakistan, the job titles in the LIS profession has remained the same since 1947. Thus, in the process of literature review, no study has been found, which examined the impact of ICT over staff strength.

Objectives of the study

- To ascertain the impact of ICT on LIS job announcements in the technological environment and to find out if the need for staff in the libraries has increased or decreased;
- To identify the role of university libraries in providing job opportunities to library professionals; and
- To identify the various designations for library science professionals in India especially in University Libraries.

Methodology

The data has been collected from *Employment News*. It is a weekly journal published by the Ministry of Information and Broadcasting, Government of India. *Employment News* was launched in 1976 to provide information on available employment opportunities to the unemployed and underemployed youth of India. The tabloid form newspaper is published in three languages. In English, as *Employment News*, and in Hindi and Urdu, it is known as *Rozgar Samachar*. The English version of the newspaper has been used for this study.

To investigate trends of the LIS job market in the last four decades, the data has been collected from the

soft copy of the newspaper for the years 1980, 1990, 2000, 2010 and 2019 as representative data. A total of 260 issues of *Employment News* were published in those years. But the data of 236 issues of *Employment News* have been searched to collect and analyse data. The data is not available for some issues published in 1980-1990. For 1980 only 42 issues and in 1990 only 39 issues have been analysed. In 2019, 51 issues have been published. For the year 2000 and 2010, 52 issues each year have been analysed. The data has been analysed especially from an ICT point of view. The delimitations of the study are that this paper only considered ICT related qualifications and skill required by the employer and only professional designations have been included for the data collection and analysis.

Analysis

The paper analyses the impact of ICT on the demand of staff. It also analyses, what type of ICT related qualifications are required by the employers. The data has been analysed only from an ICT point of view.

Total number of vacancies advertised

Table 1 shows that the highest number of LIS related job vacancies have been advertised in the year 2010 whereas; in 1980 the least number of vacancies were advertised. A total number of 366 vacancies were published in 2010 out of which, 104 vacancies were related to university libraries. In the year 1980, a total number of 76 vacancies was published in *Employment News* out of which only 1 vacancy was announced for a university library. During the five years, a total of 864 vacancies were advertised in different libraries out of which 165 were announced for university libraries. In 2010 the highest number of vacancies was published. It means that there is no decrease in demand for staff after the implementation of ICT. The data also reveals that out of all vacancies announced, approximately 19% were from university libraries. This shows that university libraries are a good source of employment for library professionals.

Table 1 — Total number of vacancies advertised

Years	Total vacancies advertised	Total vacancies advertised in university libraries
1980	76	1
1990	145	28
2000	112	5
2010	366	104
2019	165	26
Total	864	164

Designation-wise distribution of vacancies

Table 2 represents the 47 designations for posts that were published in various types of libraries. During those five years, the maximum number of vacancies were advertised for the post of Library Assistant which is also known as Library and Information Assistant or Library Information Assistant (199 posts). After Library Assistants, the post of Librarian was most advertised. The designations which have less than 4 vacancies have been considered as miscellaneous. These designations which have published only one vacancy, included Assistant Director (Library), Deputy Secretary (Documentation), Assistant Manager (Library), Senior Documentation Assistant, Scientific Documentation Assistant, Scientific Officer, Junior Scientific Officer (Library), Senior Scientific Assistant, Library and Publication Officer, Assistant Editor Library (Gujrati), Senior Technical Assistant, Map Curator and Library Pandit. Besides there, there were advertisements

that for 2 vacancies each that included Junior Project Assistant (Library Science), Head (Library Service) and Information Scientist. There were three vacancies under designations Junior Documentation Assistant, Research Assistant / Research Associate/ JRF.

Designations identified in university libraries

Table 3 represents the different designations for which posts were advertised in university libraries i.e. University Librarian, Deputy Librarian, Assistant Librarian, Professional Assistant, Semi Professional Assistant, Library Attendant, Multi-Tasking Staff, Junior executives, Library Assistant, Junior Library Assistant and Documentation Officer. There were 17 teaching posts also advertised entitled as Reader, Professor, Assistant Professor, Associate Professor and Lecturer. But those teaching posts have not been included as University Libraries posts. The data shows that in university libraries the maximum number of posts were advertised for Library Assistant

Table 2 — Designation-wise distribution of vacancies

Designations	1980	1990	2000	2010	2019	Total
Assistant Professor/ Lecturer/ Reader	0	1	4	3	9	17
University Librarian	0	3	1	0	0	4
Deputy Librarian	0	5	1	4	5	15
Assistant Librarian	8	24	13	24	6	75
Professional Assistant	0	1	6	10	9	26
Semi Professional Assistant	0	12	0	23	3	38
Librarian	25	48	16	40	28	157
Senior Librarian	2	3	0	1	0	6
Junior Librarian	4	3	2	0	1	10
Director (Library & Documentation Services)	1	1	2	0	0	4
Library Assistant/ Library & Information Assistant/Library Information Assistant	5	23	11	126	34	199
Senior Library Assistant/ Senior Library Information Assistant	1	1	2	14	0	18
Junior Library Assistant/ Junior Library and Information Assistant	2	1	0	6	2	11
Documentation Officer	3	1	1	2	2	9
Documentation Assistant	2	0	1	2	0	5
Scientist	1	0	0	13	0	14
Scientific Assistant	6	0	1	1	0	8
Junior Scientific Assistant	8	2	0	1	0	11
Library and Information Officer/ Information Officer/ Library Officer	0	1	10	2	8	21
Senior Library and Information Officer	0	0	1	0	3	4
Assistant Library Information Officer	0	0	4	4	15	23
Technical Officer	0	0	0	4	0	4
Technical Assistant Library/Scientific and Technical Assistant	0	7	4	6	0	17
Junior Technical Assistant/ Junior Technician/ Technician Library	3	4	2	0	2	11
Junior Executive assistant	0	0	1	13	0	14
Library Clerk	0	1	2	37	4	44
Library Attendant /MTS	0	1	2	25	30	58
Library Apprentice /Trainee	0	0	14	1	0	15
Miscellaneous	5	2	10	4	4	25
Not Mentioned	0	0	1	0	0	1
Total	76	145	112	366	165	864

Table 3 — Designations identified in university libraries

Designation	Vacancy Advertised					Total
	1980	1990	2000	2010	2019	
University Librarian	0	3	1	0	0	4
Deputy Librarian	0	4	0	0	5	9
Librarian	0	1	1	3	4	9
Assistant Librarian	0	5	2	7	0	14
Semi Professional Assistant	0	13	0	13	0	26
Professional Assistant	0	2	0	9	5	16
Junior Executives	0	0	0	12	0	12
Information Scientist	0	0	0	1	1	2
Library Assistant	0	0	0	41	5	46
Junior Library Assistant	0	0	0	1	0	1
Library Attendant	0	0	0	16	6	22
Documentation Officer	1	0	0	1	0	2
Not Mentioned	0	0	1	0	0	1
Total	1	28	5	104	26	164

Table 4 — ICT influence on required library qualification

Year	ICT based vacancy Analysis				
	1980	1990	2000	2010	2019
Total vacancies	76	145	112	366	165
No of vacancies in which required qualifications are not mentioned	0	11	13	96	35
Vacancies Counted for calculation	76	134	99	270	130
Vacancies required computer/ICT/ IT related qualification as essential qualification	0	3	21	35	51
Vacancies required computer/ICT/IT related qualification as desirable qualification	1	1	25	75	60
Total Vacancies required computer/ICT/IT related qualification	1	4	46	110	111
Total Vacancies required computer/ICT/IT related qualification (In %)	1.31%	2.98%	46.46%	40.74%	85.38%

(46 posts) followed by Semi Professional Assistant (26 posts) and Library Attendant (22 posts). Maximum numbers of vacancies were advertised in 2010 though the universities have implemented library automation software in the libraries much earlier. It shows that library automation and ICT do not make any adverse effect on the demand for library professionals in university libraries.

Influence of ICT on required library qualification

Table 4 gives the influence of ICT on LIS job qualifications. In the year 1980, only 1.31% of LIS vacancies asked for a computer or IT related qualification. This percentage went up to 85.38% in 2019.

ICT related qualifications required by employers

Table 5 represents the ICT skills required by the employers. The data shows that a diploma in computer application and working knowledge of computers is essential. Out of 272 vacancies, 110 vacancies required a one-year diploma in computer application and 98 vacancies asked for working knowledge and experience in computers.

Findings of the study

- i. The findings of the study show that the LIS job opportunities do not have a regular pattern. But as compared to the traditional environment the LIS job opportunities are increasing in the technological environment. In the year 2010, the number of job advertisements was at its peak. A total of 366 vacancies was advertised during this year.
- ii. The data reveals that the demands for IT skills are increasing with time. IT skills are shifting from desirable to essential skill with time. 85.38 % of vacancies required IT skill as an essential or desirable qualification in the advertisements for library professionals in 2019.
- iii. The university libraries are a good employer in providing job opportunities to library professionals. The data reveals that out of all vacancies announced during 1980, 1990, 2000, 2010 and 2019, 21% were from university libraries.
- iv. The study shows that ICT does not make any adverse effect on the demand for library professionals in university libraries. There has been an increasing demand for library staff even in the ICT era.

Table 5 — ICT related qualifications required by employers

Years	1980	1990	2000	2010	2019	Total
Basic / Certificate Computer Course (3-6 Months)	0	1	0	8	29	38
Diploma in Computer Application (1 Year)	0	0	13	57	40	110
Library Automation/ Library Management Software & Digitization / PGDLAN	0	0	4	7	10	21
BE in Computer Science	1	0	0	0	0	1
Specialization in IT	0	2	0	2	0	4
Any Experience/ Working Knowledge in Computer	0	1	29	36	32	98
Total	1	4	46	110	111	272

Conclusion

The introduction of ICT has not adversely impacted on the demand of library staff. On the contrary, staff requirements in libraries have increased. However, more requirement is for staff with ICT skills. Dr Ranganathan had given a formula to calculate the staff requirements in library. However, that formula pertained to traditional or print-based libraries. With Indian libraries continued to be understaffed, there is a need to develop a formula for calculating staff requirements in the present day libraries.

References

- Biswas R and Roy T, Job opportunities for LIS professionals in India: a study based on online job portals, *Library Philosophy and Practice*, May (2019) 1-5. Available at <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=5978&context=libphilprac> (Accessed on 06 January 2020).
- Yadav A K S and Bankar P D, Employment opportunities in LIS field in India: a content analysis of positions advertised, *Annals of Library and Information Studies*, 63 (1) (2016) 53-58. Available at <http://op.niscair.res.in/index.php/ALIS/article/view/10138> (Accessed on 10 January 2020).
- Sinha M K and Pandey B K, Status of job opportunities and employment of library and information science professional in India: an analysis of job advertisements, *IOSR Journal of Humanities and Social Science*, 19 (9) (2014) 79-93. Available at https://www.researchgate.net/publication/264038678_Status_of_Job_Opportunities_and_Employment_of_Library_and_Information_Science_Professionals_in_India_An_Analysis_of_Job_Advertisements (Accessed on 06 January 2020).
- Baruah B, Recent trends of employment in the field of library and information science in India, 2010. Available at https://www.researchgate.net/publication/235957838_Recent_trends_of_employment_in_the_field_of_library_and_information_science_in_India (Accessed on 06 January 2020).
- Jeevan V K J, Job prospects in library and information science: a study of vacancies notified in the "Employment News" From 1998 To 2001, *Annals of Library and Information Studies*, 50 (2) (2003) 62-84. Available at <http://nopr.niscair.res.in/bitstream/123456789/4114/1/ALIS%2050%282%29%2062-84.pdf> (Accessed on 08 January 2020).
- Wilkinson Z, A review of advertisements for part-time library positions in Pennsylvania and New Jersey, *Library Management*, 37 (1/2) (2016) 68-80. Available at <https://www.emerald.com/insight/content/doi/10.1108/LM-08-2015-0054/full/html> (Accessed on 08 January 2020)
- Ocholla D and Shongwe M, An analysis of the library and information science (LIS) job market in South Africa, *South African Journal of Libraries and Information Science*, 79 (1) (2013) 35-43. Available at https://www.researchgate.net/publication/259646947_An_analysis_of_the_library_and_information_science_LIS_job_market_in_South_Africa (Accessed on 08 January 2020).
- Harper R, Knowledge management through the lens of library and information science: a study of job advertisements, *Library Trends*, 61 (3) (2013) 703-734. Available at <https://core.ac.uk/download/pdf/18618872.pdf> (Accessed on 10 January 2020).
- Mustafa G and Ansari, M N, Job openings for library professionals in Pakistan: a content analysis, *Library Philosophy and Practice*, (2012) 1-7. Available at <https://digitalcommons.unl.edu/libphilprac/778> (Accessed on 08 January 2020).
- Wise S, Maureen H and Kennan M A, Changing trends in LIS job advertisements, *Australian Academic and Research Libraries*, 42 (4) (2011) 268-295. Available at https://www.researchgate.net/publication/243963199_Changing_Trends_in_LIS_Job_Advertisements (Accessed on 10 January 2020).
- Reeves R K and Trudi H, Job advertisements for recent graduates: advising, curriculum, and job-seeking implications, *Journal of Education for Library and Information Science*, 51 (2) (2010) 103-119. Available at <https://drum.lib.umd.edu/handle/1903/12126> (Accessed on 12 January 2020).
- Choi Y and Edie R, What qualifications and skills are important for digital librarian positions in academic libraries: A job advertisement analysis, *The Journal of Academic Librarianship*, 35 (5) (2009) 457-467. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0099133309001074?via%3Dihub> (Accessed on 12 January 2020).
- Zhu L, Head of cataloging positions in academic libraries: an analysis of job advertisements, *Technical Services Quarterly*, 25 (4) (2008) 49-70. Available at <https://www.tandfonline.com/doi/abs/10.1080/07317130802128072> (Accessed on 10 January 2019).

- 16 Orme V, You will be: a study of job advertisements to determine employers' requirements for LIS professionals in the UK in 2007, *Library Review*, 57 (8) (2008) 619-633. Available at <https://www.emerald.com/insight/content/doi/10.1108/00242530810899595/full/html> (Accessed on 08 January 2020).
- 17 Frederiksen L, Access services librarians: a content analysis of job advertisements, 1977–2004, *Journal of Access Services*, 3 (2) (2006) 15-27. Available at https://www.tandfonline.com/doi/abs/10.1300/J204v03n02_02 (Accessed on 10 January 2020).
- 18 Heimer G L, Defining electronic librarianship: a content analysis of job advertisements, *Public Services Quarterly*, 1 (1) (2002) 27-43. Available at https://www.tandfonline.com/doi/abs/10.1300/J295v01n01_05 (Accessed on 12 January 2020).
- 19 Cullen J, The employment market for library and information management workers in Ireland, *Library and Information Research News*, 26 (83) (2002) 17-26. Available at <https://www.readcube.com/articles/10.29173%2Fflir131> (Accessed on 08 January 2020).
- 20 *Employment News*. <http://employmentnews.gov.in/NewEmp/Home.aspx>