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Spring 3-22-2021

## An assessment of LIS curricula and training resources for Information Professionals in the contemporary job market in Pakistan

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## **An assessment of LIS curricula and training resources for Information Professionals in the contemporary job market in Pakistan**

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### **Abstract**

*This study examines the status of the job market for LIS professionals and the adequacy of current curricula and training resources in LIS training institutions in Pakistan. The study was based on a survey method and a questionnaire was designed for data collection from LIS faculty, LIS professionals, LIS students, and employers). Out of 154, 115 respondents participated in the survey. The results of the study revealed that the current LIS curricula and training programs in the country do not properly address current job market requirements due to inadequate teaching resources, lack of suitable ICT contents in the curricula, courses that are irrelevant to the job market, and inadequate industrial/organizational attachment for LIS students. These findings will help the academia, academic regulatory authorities, and other stakeholders in the country to improve LIS curricula and training resources in line with the present job market in Pakistan. Furthermore, it is intended that these findings could be used by the relevant authorities to assess and evaluate the adequacy of LIS curricula and training resources for Information Professionals in the present Job Market and to gain insight knowledge on the LIS faculty and students' perceptions on the study theme.*

**Keywords:** Library and Information Science curricula; LIS training; librarianship; Library science education; Librarianship; Job market; Pakistan.

### **Introduction**

The abundant growth of ICTs and the increasing importance of information as a critical commodity within the knowledge economy have propelled the field of libraries and librarianship into the 21st century. Library professionals are required to work innovatively, taking on new roles in the information age. Other challenges include lack of library funding, rising costs of library materials, the increasing complexity of user needs, and competition with other information providers. Within this challenging environment, LIS schools must produce graduates of the highest caliber, equipped with the professional recent competencies to be able to work in a rapidly changing and unpredictable information environment. One method of ensuring that LIS graduates and information professionals have the appropriate training and competencies to enter the job market is to identify their needs and to incorporate these into the curriculum. The information communication technologies (ICTs) have brought metamorphic changes in information products, information needs, and seeking behavior of the users and the overall information organization (Gayatri, 2006). ICT skills in the present age of information explosion have become important requirements for library science students and information professionals to survive in the evolving world of information explosion as such skills would give them a competitive edge in the contemporary job market. Some recent studies such as those conducted by Alshwabkah et al,

(2016); Kamba (2011); Jain (2017); Malik and Amin (2020); Kavulya (2007); Ocholla and Bothma (2007); Veralakshmi (2006) have also stressed to integrate ICT related courses in LIS programs. Access to a wider range of information requires more sophisticated information retrieval and information management skills for LIS professionals. Moreover, technology and tools for managing and retrieving information are constantly changing (De Bruyn, 2007; Weech, 2005). In response to these changes, new roles and tasks are being developed within the profession. LIS professionals are being called upon to make use of their unique skills, to focus on the crucial relevance of their skills and expertise in the information age, and market these accordingly. Hence, the inclusion of technology within the curriculum is vitally important, as librarians require ICT expertise in all areas of their work profession (Chin & Naga, 2019; Chow *et al*, 2011). According to Tihamiyu (1999), the number of subjects that information specialists need to know is increasing. The curriculum of LIS programs should be versatile, multi-faceted, and last longer than other professions. Library Science schools should collaborate with other academic departments to provide specialized courses to students. This is especially relevant for students who do not enter the traditional library unit. The changing labor market and rapidly evolving library profession demand that library schools constantly update and revitalize their curricula. Several researchers have reported that LIS schools need to equip graduates with vital skills so that they could be able to work in many different areas within the information environment (Buttlar & Du Mont, 1996; Chow *et al*, 2011; Singh & Mehra, 2013; Tadasad, 2015; Warraich & Amin, 2011). The provision of opportunities to meet the essential learning requirements of LIS professionals is a primary step towards preparing LIS schools for the evolving global society. Hence, to develop an effective library science curriculum, knowledge is needed about the attitudes held by practitioners regarding curricular content and, specifically, the knowledge, skills, and attitudes desired for new professionals. Keeping in view the need for equilibrium between the supply and demand for skills, there is a need for a study to examine the current and needed status of library science graduates' capabilities concerning the contemporary job market. Thus this study aimed to examine the present state of the job market for librarians as well as the suitability of existing courses and training resources. Further, this study also identified significant areas of training, the suitability of library science graduates for job requirements, the status of the present job market in various professional sectors in Pakistan, and important competencies needed by librarians about the present job market and performance requirements. It is hoped that the findings of this study would help LIS professionals to recognize their skill gaps, identify employability prospects, and warrant balanced task-allocations at the workplace.

## **Literature Review**

In many advanced countries, the information sector is one of the fastest-growing segments of the economy. The growth of a dynamic global information industry has created several opportunities for information professionals. The LIS profession occupies a significant position where information professionals must perform the usual professional duties assigned to them with the expectation that they have a good knowledge of the changes made in the new information age. According to Khan and Bhatti (2012), the modern information age is creating demands for librarians who are expected to act as information specialists and act as guides, translators, insiders, advisers, and quality control specialists for the end-users, who may be corporate executive, a scientist or a schoolchild. In the words of Batool & Ameen (2010), "*apart from basic Information Technology (IT) skills, the Library and Information Science (LIS) professional is expected to have advanced IT skills and proficiency in areas such as web development, computer hardware, integrated library systems, and the internet*". This trend has led to massive changes in the LIS job market. These changes can be seen in the job titles, skills need, qualifications, and training and experience requirements needed in the workplace. Such new roles call for more sets of abilities and competencies from those who must perform in libraries and information centers (Baruah, 2014). The Library science profession, during the past few decades, has become extremely competitive because of the ever-changing technological developments. These rapid developments require library schools to address the needs of the job market in their curricula. Today's job markets for library

science graduates have changed from library settings to business and private settings. Therefore, library education and training are to be so oriented that it answers the needs of a rapidly changing society, and the library personnel is recognized and accepted as one with a vital role in the progress of society. Present-day employers need personnel with diverse skills (De Bruyn, 2007; Malik & Amin 2020; Jain, 2017; Kamba, 2011; Weech, 2005). According to Veralakshmi (2006), due to advances in ICTs, tremendous changes have been observed in information handling in the last few decades. These vast changes demand new roles from librarians. It is therefore essential that the present-day librarians must possess skills relating to knowledge management, digitization, online information retrieval, and dissemination and bringing information stuff to the desktop. A study conducted by Mashiat, Roknuzzaman, and Dilara (2020) on the Employability skills of library science professionals in Bangladesh argued that people related to the profession of libraries and librarianship are required to possess several technological and non-technological skills including ICT skills, management skills, soft skills, generic skills, and personal attributes. . The current library science curricular addresses such skills more or less; however, it lacks practical skills of ICTs, skill related to the digitization of material, research and presentation skills. The study recommended that framing and implementing a nation-wide skill development policy, which should ensure uniformity in the service structure, renovating curriculum compatible with the job market, and expanding the LIS job market.

Abdulrahman (2016) urged that ICTs have modernized the acquisition, processing, management, storage, and retrieval procedures. The application of ICTs to library functions and procedures has broadened the scope of the information profession and placed more demands on the ability of librarians. Ochollla and Mthembu ((2020) stated that there is no balance between the theory and practice of LIS curricula. Thus curricula of LIS schools need to be revised as per the requirement of the present-day job market demands. They argued that present-day LIS graduates are confronted with many challenges such as lack of practical exposure to knowledge, lack of job progression, and qualification recognition. These all challenges are faced by the LIS graduates due to the lack of skills and competencies following the present job market demands. Karisiddapa (2004) stated that it is essential to properly educate and train LIS students towards sustainable professional competence. Librarianship is a skill-oriented profession and to get sufficient skills, training must occur in a suitable environment. Kamba (2011) believes that the rapid increase in the use of ICTs and e-resources in all aspects of human life has become a very promising and important element for LIS career development. This platform demonstrates the reality of the fact that teachers, students, LIS professionals including those who are connected with the provision of information services must be appropriately equipped with technological skills that will assist them to cope with both information user and the use of technology in the information search, provision, and management. Hence, the understanding of online information technology such as the internet has become significantly important to libraries and librarianship including library schools. Kamba (2011) further stated that people related to the field of information resources and services must be able to skillfully navigate information networks to deliver pertinent services to the customers. According to Edegbo (2011), the profession of librarianship these days has reached the information age where information is considered as an economic resource and a marketable commodity. In the words of Baruah (2014), “the Library and Information Science curriculum need to adapt to the changes in today’s job market requirement. The fast-changing environment fueled by Information Communication Technology (ICT) is undergoing immense transformation causing a paradigm shift in the library and information science profession both nationally and internationally. The impact of ICT in the library work environment has changed the way library and information science professionals access, manage and disseminate information. The rapid technological development and the application of ICTs in all human activities have greatly impacted the methodologies for the provision of information services, education, and training of LIS specialists (Abdulrahman & Habila, 2017). According to Wang, Li, and Yan (2009), “*LIS curricula reflect educational philosophies, explicit teaching contents, and advocate the professional knowledge and skills that the students require. Curriculum development is an important task that has a direct connection to the quality, employability, and competitiveness of students*”. In the study context, Khan (2021) argues that the level of current skills of library science graduates in Pakistan is mismatching with the contemporary job market demands.

## Objectives of the study

- To examine the present status of the job market for LIS professionals in Pakistan.
- To examine the adequacy of LIS curricula and training resources in various LIS institutions.
- To pinpoint significant areas of training and essential competencies required by library professionals about the present job market and performance requirements in Pakistan.

## Research methodology

The study is quantitative and a questionnaire was used for data collection from the target participants. The questionnaire is the most suitable data collection tool in social science research. A questionnaire used by Reagon (2005), Weech and Pluzhenskaia (2005), Kavulya (2007), and Alshwabkah (2016) was adapted for data collection to achieve the research objectives. The questionnaire contained both open-ended and close-ended questions and was sent to 154 participants (i.e. LIS faculty, LIS professionals, LIS students, and LIS employers) of the study. Table 1 shows questionnaire administration, respondents' categories, and response rate. The study used descriptive statistics such as frequency and percentages for data analysis.

Table 1

*Questionnaire administration, respondents' categories and response rate*

Population	Questionnaires sent	Questionnaires received back
LIS teachers	24	18
Students	90	64
Library professionals	30	25
LIS Employers	10	08
Total	154	115

## Results

**Respondents' perception of LIS job market:** To examine the status of the job market in Pakistan, the study participants were asked to give their opinion on a statement *viz.* "there exists an attractive job market of LIS in Pakistan". As given in Table 2, 26% of the total respondents were strongly agreed to the statement, while 40% of the total respondents opted for "agreed". Interestingly, a large majority (40.62%) of the LIS students and 37.5% of the employers (Chief librarians, library managers, and LIS Directors) disagreed that there exists a job market for library science professionals in the country. However, 44% of the library professionals were only "agree" as "against strongly agree" (36%) to the statement. Thus, our results show that there does not exist an attractive job market for library science graduates in Pakistan.

**Status of the job market by qualifications:** Participants were asked to rate the job market in the country according to various categories of qualifications. As shown in Table-3, 34% of the respondents rated master's degree as very good for job prospects, 23.47% good, 21.73% fair, 13.04% poor while 6.95% rated Masters' degree as very poor to be rated for the job market. MS/M. Phil's degree was rated very well by 67.82% of the respondents for obtaining a job. Similarly, 19.13% rated an MS/M. Phil's degree as good, 8.69% as fair, 1.73% as poor; while 2.60% rated an MS/M. Phil degree is very poor in the current market for getting a job. As far as Ph. D degree, 80% of the respondents of the survey rated a Ph. D degree as very good, 8.69% as good, 9.56% as fair, 2.73% as poor whereas none of the respondents place a Ph. D degree as very poor for obtaining a job. The respondents were also asked to rate the prospects of a bachelor's degree in LIS in the present job market. Interestingly a large majority of the respondents

(78.26%) rated bachelor's degree in LIS as very poor. A negligible percentage of the respondents rated bachelor's degrees as very good, good, and fair.

*Table 2*  
*Respondents' perception about LIS job market*

	LIS teachers (n=18) (Number of respondents (%))	LIS students (n=64)	Library Profession als (n=25)	Employers (Chief Librarians, Library Managers, Directors) (n=8)	Total (n=115)
Strongly Agree	5 (27.77%)	14 (21.87%)	9 (36%)	2 (25%)	30 (26.08%)
Agree	6 (33.33%)	20 (31.25%)	11 (44%)	3 (37.5%)	40 (34.78%)
Uncertain/No Response	2 (11.11%)	Nil	1 (4%)	Nil	3 (2.60%)
Disagree	3 (16.66%)	26 (40.62%)	4 (16%)	3 (37.5%)	36 (31.30%)
Strongly disagree	2 (11.11%)	4 (6.25%)	Nil	Nil	6 (5.21%)

*Table 3*  
*Respondents' opinions about Job Market by Qualifications*

Qualification	Very good	Good	Fair	poor	Very poor
Master degree	40 (34.78%)	27 (23.47%)	25 (21.73%)	15 (13.04%)	08 (6.95%)
MS/M. Phil	78 (67.82%)	22 (19.13%)	10 (8.69%)	2 (1.73%)	3 (2.60%)
Ph. D	92 (80%)	10 (8.69%)	11 (9.56%)	2(1.73%)	00
Bachelors degree	04 (3.47%)	2 (1.73%)	07 (6.08%)	12 (10.43%)	90 (78.26%)

**Status of the Job market in various professionals' sectors:** As shown in table-4, a large majority of the study participants were of the view that the job market in college, university, and school libraries were either very good or good. Only a negligible percentage of the respondents viewed job prospects as poor or very poor in the above sectors. The least attractive professional sectors where there are fewer job opportunities were Information Consultancy, LIS teaching, Archives, NGOs, and Special Libraries.

**Suitability of library science graduates for job requirements:** To examine the suitability of LIS graduates in the present job market in Pakistan, the participants were asked to give their views on the statement *i.e.* "if proper steps are not taken for the improvement of LIS curricula and LIS training resources, graduates of other disciplines will occupy LIS job market in the country". As shown in Table 5, 85% of the students, 61% of the LIS teachers, and 32% of the LIS professionals responded positively and endorsed the statement.

Table 4

*Respondents' opinions about the status of Job market in various professionals sectors*

Professional Areas	Very good	Good	Fair	Poor	Very poor
University libraries	58 (50.43%)	30 (26.08%)	22 (19.13%)	3 (2.60%)	2 (1.73%)
College Libraries	82 (71.30%)	16 (13.91%)	8 (6.95%)	2 (1.73%)	5 (4.34%)
School libraries	77 (66.95%)	15 (13.04%)	8 (6.95%)	12 (10.43%)	3 (2.60%)
Special libraries	20 (17.39%)	34 (29.56%)	35 (30.43%)	14 (12.17%)	10 (8.69%)
LIS teaching	5 (4.34%)	18 (15.65%)	32 (27.82%)	40 (34.78%)	20 (17.39%)
Non-Governmental Organizations (NGOs)	34 (29.56%)	36 (31.30%)	22 (19.13%)	13 (11.30%)	10 (8.69%)
Archives	28 (24.34%)	30 (26.08%)	18 (15.65%)	22 (19.13%)	17 (14.78%)
Information consultancy	05 (4.34%)	05 (4.34%)	08 (6.95%)	52 (45.21%)	45 (39.13%)

Table 5

*Respondents' opinions about suitability of library science graduates for job requirements*

	LIS teachers (n=18) (Number of respondents)	LIS students (n=64)	Library Professionals (n=25)	Employers (Chief Librarians, Library Managers, Directors) (n=8)
Agree (agree and strongly agree)	11 (61.11%)	55 (85.93%)	18 (32%)	4 (50%)
Disagree (disagree and strongly disagree)	7 (38.88%)	7 (10.93%)	6 (24%)	4 (50%)
Uncertain/No response	0	2 (3.12%)	1 (4%)	0

**Adequacy of LIS curricula and training resources in various LIS institutions:** Respondents were asked to mention the subjects they were interested in and which they think are vital for library professionals about career opportunities and job performance. They were given nine topics with a tenth as "Others" and were asked to tick one or more according to their interest. As given in table-6, the majority of the respondents suggested library automation/digitization, followed by searching techniques. While Networking/Internet ranked third. Participants took the least interest in reference services, LIS research, and communication/leadership skills which ranked 9th, 8th, and 7th respectively. Thus, the major concern of the participants was found to be library automation, digitization, searching techniques, and networking including the internet.

*Table 6*  
*Respondents' opinions about topic/subjects of interest for LIS training (n=115)*

Rank	Topic/subject	Number of respondents	%
1	Library automation software/digitization	88	76.52
2	Online searching techniques	82	71.30
3	Networking/internet	80	69.56
4	Library administration and management	77	66.95
5	Database management	77	66.95
6	Classification/cataloguing	50	43.47
7	Communication/leadership skills	46	40
8	LIS research	31	26.95
9	Reference services	18	15.65
10	Others	11	9.56

**IT skills essential for LIS professionals:** The study participants were asked to identify relevant IT skills that are essential for LIS professionals about the current job market. They were asked to tick one or more out of ten essential skills. As depicted in Table 7, hardware and software skills, digitization skills, skills relating to cloud computing, webpage designing, information marketing, and database management were rated as very useful which ranked 1st, 2nd, 3rd, 4th, 5th, and 6th respectively. While information storage and retrieval, electronic publishing, technical writing skills, and research skills were given the least priority by most of the respondents which ranked 7th, 8th, 9th, and 10th respectively.

*Table 7*  
*Respondents' opinions about IT skills essential for LIS professionals*

Rank	Essential skills	Number of respondents	%
1	Hardware and software skills	91	79.13
2	Digitization skills	89	77.39
3	Cloud computing	82	71.30
4	Web page designing	77	66.95
5	Information marketing skills	68	59.13
6	Database management	57	49.56
7	Information storage and retrieval	49	42.60
8	Electronic publishing	46	40
9	Technical writing skills	34	29.56
10	Research skills	18	15.65

**Quality of training resources and conditions:** Participants were asked to rate the quality of different instructional resources and conditions in different LIS training institutions and LIS schools. This question was open only to library professionals and employers. To avoid any potential bias that may affect the findings of this study, while LIS teachers were asked to skip this question. As depicted in Table 8, the majority of the respondents believed that the quality of teaching, training/curriculum contents, relevance of training to the present job market, competency of students admitted for training, and conducive environment are not excellent. Moreover, it is encouraging to note that a large percentage (68.04%) of the respondents rated the depth of the courses taught in various LIS training centers and institutes as excellent.



Table 8  
*Respondents' opinions about quality of instructional resources and conditions*

Resources	Excellent	Good	Fair	Poor	Very Poor
Quality of Teaching	20 (20.61%)	61 (62.88%)	11 (11.34%)	5 (5.15%)	Nil
Training/curriculum contents	20 (20.61%)	62 (63.91%)	13 (13.40%)	1 (1.03%)	1 (1.03%)
Relevance of training/curriculum contents to the present job market	34 (35.05%)	46 (47.42%)	09 (9.27%)	6 (6.18%)	2 (2.06%)
Competency of students admitted for training	39 (40.20%)	41 (42.26%)	8 (8.24%)	2 (2.06%)	7 (7.21%)
Conducive training environment	42 (43.29%)	22 (22.68%)	19 (19.58%)	8 (8.24%)	6 (6.18%)
Depth of courses	66 (68.04%)	16 (16.49%)	13 (13.40%)	9 (9.27%)	2 (2.06%)

**Importance of non-LIS subjects in the training of library professionals:** To know the importance of non-LIS subjects in the training of LIS professionals, respondents were asked the following question: do you think that in addition to LIS, non-LIS subjects such as management, public administration, computer science, psychology, English, pure and applied science are useful for producing competent librarians for the present and future job market and job performance requirements? As shown in Table 9, 66.66% of LIS teachers, 53.12% LIS students, 64% LIS professionals, and 75% of employers were strongly agreed with the statement. Only a small percentage of the LIS students and LIS professionals either disagreed (7.81% and 4.68% respectively) or strongly disagreed (4% each) with the statement. In other words, a majority of the respondents believed that knowledge of non-LIS subjects is useful in producing high-quality graduates for the present and future job performance requirement. It is generally viewed that the knowledge of non-LIS subjects broadens students' general knowledge and equips them with the necessary skills to provide better services to every type of library. It may also bring other disciplines into the field of LIS which may help in the growth and enrichment of the profession.

Table 9  
*Respondents' opinions about importance of non-LIS subjects in the training of library professionals*

Respondents	Strongly Agree	Agree	Disagree	Strongly disagree
LIS Teachers (n=18)	12 (66.66%)	06 (33.33%)	00	00
LIS students (n=64)	34 (53.12%)	22 (34.37%)	05 (7.81%)	03 (4.68%)
Library Professionals (n=25)	16 (64%)	7 (28%)	01 (4%)	01 (4%)
Employers (n=8)	06 (75%)	01 (12.5%)	01 (12.5%)	00

## Conclusion and recommendations

This study was conducted to assess the suitability of LIS curricula and training resources for LIS Professionals in the contemporary job market in Pakistan. The findings of this study reveal that the current LIS curricula and training programs in Pakistan do not adequately meet the needs of the current

job market due; to insufficient teaching and learning resources, lack of suitable ICT-related curricula, irrelevant course contents, and insufficient industrial attachment of library science students. The LIS curricula require an audit for their relevance to improving job competitiveness in the current context. The revised curricula can focus on developing a workforce that meets the requirements of the modern LIS environment. Employers prefer those graduates who have suitable skills with a particular focus on information technology. They are required to carry out several ICT-based information retrieval and dissemination. Employers expect LIS graduates to be competent enough to accept challenges and be able to adapt to change. They want graduates who can ably show professionalism. They prefer to hire more qualified librarians with sufficient experience in the field. This is evident in our findings where most of the respondents believed that fresh LIS graduates do not possess sufficient skills to run modern libraries effectively. They believed if proper steps were not taken for the improvement of LIS curricula and LIS training resources, graduates of other disciplines will occupy the LIS job market in the country. Library professionals in the present world of information explosion act as a custodian of information, as a consultant to the customers, an information broker as well as a lifelong learner. The majority of the respondents of this study thought that they need to continuously learn information technology as it is the key to survive in this profession. The main competencies identified in this study as vital for LIS practice include hardware and software skills, digitization, cloud computing, webpage designing, and information marketing. The present LIS curricula and training programs in the country do not adequately meet the present job market needs due to insufficient educational resources, a dearth of suitable ICT related contents in the courses, inadequate length of courses, courses irrelevant to the current job market, and poor industrial attachment of library science students. It is the responsibility of library science departments to train and equip their graduates as well as working librarians with essential skills to cope with the present library atmosphere of varying scope and nature ranging from the small school library to a well-established digital library. The main responsibilities of library schools are to educate their students in the philosophy, knowledge, and professional standards of the information profession. In Pakistan, Library and Information professionals are recruited in academic institutions, state-owned and private enterprises, Research and Development organizations, industries, the business sector, and other governmental and non-governmental organizations.

This study revealed a perception that educational and training resources in Pakistani libraries and information science schools are not up to the mark. This calls for efforts to ensure the availability of adequate computing infrastructure, IT labs fully equipped with the latest hardware and software, efficient internet connectivity, networking and library management software, competent teaching staff, multimedia storage facilities, up to date curricula, hands-on practical training resources, and current monographs to cover all courses being taught. Seminars, tutorials, assignments, and field tours should be effectively integrated with curricula involving outside experts and agencies. The Higher Commission (HEC) of Pakistan must see how these LIS departments could come up to international standards and the students coming out of these Departments excelled in their work. Continuing education/in-service training facilities should be recognized as an essential part of manpower development programs and sufficient financial resources may be allocated for this. The LIS students may have training in libraries, which should have an IT environment for gaining practical experience. Short-term and long-term programs such as seminars, conferences, and workshops are organized at regular intervals by library schools and library associations. The results of this study are in line with the past studies conducted on similar topics which emphasized expanding the intellectual domain of the profession and focus on Information Communication Technology (ICT) oriented contents for grabbing future employment opportunities (Addulrahman, 2016; Chikonzo *et al.*, 2014; Edigbo, 2011; Kavulya, 2007; Khan, 2021; Malik & Amin, 2020; Okello-Obura & Kingono-Bukenya, 2011).

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