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An analysis of difficulties faced in job duties by academic digital library professionals working in university libraries in Delhi (India)

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Abstract: The present study aims is to analyze the difficulties faced in performing the job duties by academic digital library professionals working in university libraries of Delhi (India). The survey method was adopted in the present study. The study is based on a questionnaire containing 34 job duties performed in academic digital libraries, classified into four categories, i.e. IT system management, information organization, user services, and collection management. The respondents were 146 library professionals working in university libraries in Delhi (India). The study found that professionals rated the difficulty of job duties such as network management and operation; hardware installation & upgradation; software selection and license management; library website development; database management; troubleshooting; accessing open-source software; working on content management softwares; handling digital preservation practices; initiating and managing digitization projects; providing access to eResources; maintaining an e-learning system; creating an institutional repository and budget planning and allocation as 'high.' 'Very high' difficulty rated job duties were handling library back-end servers, system analysis, and design and working on e-resource management software. The study may help library schools review the curriculum according to the difficulties faced by academic library professionals in the job market. In addition, findings will be helpful to review the curriculum updates which should be incorporated in library schools of India.

Keywords: Delhi (India), Academic digital libraries, Job analysis, Job description, Difficulties

Introduction

Present-day libraries operate in an increasingly complex information environment. Therefore, library professionals face various difficulties in managing job duties to be able to function effectively. In addition, libraries have been facing technological advancements, globalization, and digitization of information. These have led to the automation of library operations, digitization of

information resources, e-learning, and information services based on web 2.0 technologies (Baro and Godfrey, 2015).

Universities support basic research and are responsible for the production of academic research papers. University libraries are the backbone of research projects as they offer information resources and services to researchers. University libraries are at the forefront of accommodating technological advancements. They have made many innovative changes by computerizing key library tasks. As a result, a hybrid variety of data is kept in the university libraries, and informational demands from library users are also ever more segmented and specific. Thus, university library professionals need to redefine their roles to serve library users. This process can be initiated from analysing the duties demanded from academic digital library professionals in the recruitment process.

Job announcements indicate the knowledge, skills, competencies and job duties/responsibilities needed at the workplace. Content analysis of job announcements is one of the widely used methods to observe job trends in the library profession (Bronstein, 2015; Choi and Rasmussen, 2009).

This paper aims to analyze the difficulties faced by academic digital library professionals practicing in universities in Delhi by analyzing their job responsibilities in the ever-changing environment of technological changes.

Literature review

Various research scholars have devoted significant efforts to trace the skills, qualifications, and job roles required by library professionals. Some studies were based on job ads (Gerolimos and Konsta, 2008; Xia and Wang, 2014), while others used survey questionnaires (Xu and Chen, 2000; Choi and Rasmussen, 2006) to find out the demanded skills, qualifications and duties. Although most job ads' content largely focuses on job specifications (skills, qualifications, knowledge) etc., limited number of ads emphasize detailed job responsibilities/duties (Xu and Chen, 2000).

In a study by Croneis and Henderson (2002) and Shank (2006), job descriptions for library professionals were collected from the job announcements to analyze the changing trends in duties and to derive the requirements of certain duties. Farajpahlou and Danesh (2009) designed a questionnaire regarding duties sourced from the recruitment advertisements of systems librarians. Their duties were measured on the basis of frequency and mean value.

Kim and Lee (2011) identified the duties being performed in Korean academic libraries by interviewing library professionals. The researchers in their study used questionnaires to determine the importance and difficulty of library duties. In their duty model, they categorised the duties mainly into five categories: General management, Collection management, Materials organization, User service and System management. Mouza and Grigoriadou (2016) designed a questionnaire containing five categories of duties performed in academic libraries as proposed in the study of Kim and Lee (2011). In the study, professionals at Greek academic libraries, were requested to rate their duties on the basis of importance and difficulty.

In 1948, the American Library Association compiled the first detailed list of librarian duties. The study classified 281 job duties into 13 major categories. The classified 167 duties and 114 duties were called professional and non-professional respectively. With the introduction of digital technologies and discontinuation of traditional library duties, the ALA complied list of duties became less practical.

Library Association (LA) (1963), UK, broadly classified library duties into 12 categories and further categorised them as professional and non-professional. The findings concluded 157 duties as professional and 95 duties as non-professional. In the 2nd edition published in 1974, certain contents were updated with the introduction of latest technologies in libraries. 234 library duties (classified into nine categories) were specified in 1974 edition, out of which 151 duties were classified as professional and 83 duties were classified as non-professional.

Research Methodology

Participants:

The study covered library professionals working in libraries of selected 13 universities in Delhi (India). An online questionnaire was developed in google forms. The e-mail addresses of the professionals were collected from the university websites. The questionnaires were then sent to the respective e-mail addresses of the respondents. They were reminded several times to respond to questionnaire.

In some cases, offline questionnaires were also distributed personally to the professionals. The survey was conducted between March and April 2021. In total, 146 out of the 190 professionals completed the questionnaires with a response rate of 76.84 percent. Simple percentages was used

to analyse the data. The results were presented using tables. Table I presents the list of universities chosen for the study.

S.No.	University	No. of respondents
1.	South Asian University (SAU)	6
2.	Delhi Pharmaceutical Sciences and Research University (DPSRU)	5
3.	Jamia Hamdard University	23
4.	National Institute of Educational Planning and Administration (NIEPA)	4
5.	Jamia Millia Islamia	32
6.	TERI School of Advanced Studies	2
7.	Ambedkar University	13
8.	Jawahar Lal Nehru University (JNU)	13
9.	National Lal University (NLU)	4
10.	Indian Agricultural Research Institute (IARI)	5
11.	Delhi Technological University (DTU)	5
12.	University of Delhi (DU)	24
13.	Shri Lal Bahadur Shastri National Sanskrit University	10
	Total	*146*

Table I: Statistics of participant institutions

Questionnaire composition:

In order to understand the difficulty in job duties faced by library professionals, the survey method was chosen in the study. The questionnaire was developed for the study. The questionnaire of the present research was based on the identified job roles, skills and duty specifications mentioned in the job advertisements of academic digital libraries. Then, the information was supplemented by visiting libraries and conducting interviews with library professionals. The job announcements advertised at LIS portal and LIS links were taken for the study. Through this process, we came up with a set of questions, as shown in Table II. The duties were classified into four main categories on the basis of similar content or characteristics: IT system management, Information organization, User services and Collection management. The difficulty of each job duty was surveyed using a five-point Likert scale.

Section	Questionnaire composition		Question number
I	Population statistics		7
II	Difficulty of job category	IT System management	14
		Information organization	7
		User services	6
		Collection management	7
		Total	41

Table II. Questionnaire composition

Results:

Gender distribution

Gender	No. of respondents	(%)
Male	88	60.27
Female	58	39.73
Total	*146*	*100.00*

Table III. Gender wise distribution of respondents

Out of the 146 respondents, 58 (39.73 percent) were females, while 88 (60.27 percent) were males (Table III).

Staff designation

Staff designation	No. of respondents	(%)
Librarian	3	2.05
Deputy Librarian	6	4.11
Assistant Librarian	22	15.07
Professional Assistant	34	23.29
Semi Professional Assistant	26	17.81
Senior Library Assistant	1	0.68
Library Assistant	37	25.34
Counter Assistant	2	1.37
Junior Executive Library	2	1.37
Library Attendant	13	8.90
Total	*146*	*100.00*

Table IV. Designation wise distribution of respondents

Current designations were asked from the respondents. From Table IV, the highest number (37: 25.34 percent) that responded to the survey indicated as Library Assistant, followed by Professional assistants with 34 (23.29 percent) respondents, Semi-Professional assistants with 26 (17.81) and Assistant Librarians with 22 (15.07 percent) respondents.

Staff highest qualification

Qualification	No. of respondents	(%)
BLIS	21	14.38
MLIS	103	70.55
MPhil	8	5.48
PhD/Post doctorate	14	9.59
Total	*146*	*100.00*

Table V. Highest-qualification wise distribution of respondents

The highest qualification was enquired from the respondents. Results in Table V shows that 70.55 percent (103) of the respondents holds MLISc (Master's degree in Library and Information Sciences), followed by 21 (14.38 percent) respondents who have BLISc (bachelor degree in Library and Information Science) and 14 (9.59 percent) respondents holds PhD/Post doctorate degree. The least number of respondents i.e. 8 (5.48 percent) indicated having Mphil degree.

Working experience

Experience	No. of respondents	(%)
Less than 1 year	4	2.74
From 1 to 5 years	38	26.03
From 5 to 10 years	22	15.07
More than 10 years	82	56.16
Total	*146*	*100.00*

Table VI. Experience-wise distribution of respondents

The respondents were requested to mention their working experience. Table VI shows that a maximum number of respondents i.e. 82 (56.16%) have working experience of more than 10 years followed by 38 (26.03%) respondents who indicate that they have work experience from 1 to 5 years. 15.07% (22) respondents possess working experience in between 5 to 10 years. Respondents having experience of less than 1 years are 4 (2.74%).

Job duties	Very High	High	Moderate	Low	Very Low	Total
IT System Management (14)						
Applying latest computer technologies in libraries	15 (10.27)	13 (8.90)	63 (43.15)	37 (25.34)	18 (12.33)	146 (100.00)
Network management and operation	45 (30.82)	67 (45.89)	15 (10.27)	12 (8.22)	7 (4.79)	146 (100.00)
Hardware installation & upgradation	51 (34.93)	58 (39.73)	18 (12.33)	11 (7.53)	8 (5.48)	146 (100.00)
Software selection and license mgmt.	27 (18.49)	58 (39.73)	30 (20.55)	19 (13.01)	12 (8.22)	146 (100.00)
Library website development	46 (31.51)	65 (44.52)	12 (8.22)	10 (6.85)	13 (8.90)	146 (100.00)
Handling library back-end servers	50 (34.25)	45 (30.82)	24 (16.44)	20 (13.70)	7 (4.79)	146 (100.00)
Database management	37 (25.34)	55 (37.67)	30 (20.55)	15 (10.27)	9 (6.16)	146 (100.00)
Information system security (backup, firewall)	37 (25.34)	54 (36.99)	34 (23.29)	14 (9.59)	7 (4.79)	146 (100.00)
Troubleshooting	36 (24.66)	47 (32.19)	34 (23.29)	19 (13.01)	10 (6.85)	146 (100.00)
Storing data in digital storage devices	6 (4.11)	10 (6.85)	22 (15.07)	68 (46.58)	40 (27.40)	146 (100.00)
Accessing open source softwares	34 (23.29)	51 (34.93)	33 (22.60)	15 (10.27)	13 (8.90)	146 (100.00)
System analysis and design	60 (41.10)	40 (27.40)	24 (16.44)	14 (9.59)	8 (5.48)	146 (100.00)
Working on Content management softwares (Drupal, Joomla)	37 (25.34)	42 (28.77)	31 (21.23)	20 (13.70)	16 (10.96)	146 (100.00)
Working on MS Office	10 (6.85)	9 (6.16)	10 (6.85)	38 (26.03)	79 (54.11)	146 (100.00)
Information Organization (7)						
Working on library management and digital library softwares	11 (7.53)	15 (10.27)	18 (12.33)	38 (26.03)	64 (43.84)	146 (100.00)
Metadata development	7 (4.79)	14 (9.59)	16 (10.96)	62 (42.47)	47 (32.19)	146 (100.00)

Using Classification schemes and cataloguing tools	10 (6.85)	12 (8.22)	15 (10.27)	38 (26.03)	71 (48.63)	146 (100.00)
Handling digital preservation practices	30 (20.55)	60 (41.10)	28 (19.18)	18 (12.33)	10 (6.85)	146 (100.00)
Initiating and managing digitization projects	31 (21.23)	74 (50.68)	16 (10.96)	14 (9.59)	11 (7.53)	146 (100.00)
Using E-resource management softwares (Coral, Cufts)	60 (41.10)	53 (36.30)	14 (9.59)	12 (8.22)	7 (4.79)	146 (100.00)
Indexing & abstracting in digital environment	13 (8.90)	32 (21.92)	68 (46.58)	19 (13.01)	14 (9.59)	146 (100.00)
User services (6)						
Providing access to eResources	34 (23.29)	63 (43.15)	12 (8.22)	20 (13.70)	17 (11.64)	146 (100.00)
Using web 2.0 technologies for offering information services	14 (9.59)	10 (6.85)	24 (16.44)	53 (36.30)	45 (30.82)	146 (100.00)
Providing electronic reference (emails) & online document delivery services	9 (6.16)	14 (9.59)	23 (15.75)	35 (23.97)	65 (44.52)	146 (100.00)
Conducting tutorials of using reference management tools	14 (9.59)	29 (19.86)	34 (23.29)	37 (25.34)	32 (21.92)	146 (100.00)
Maintaining an E-learning system	51 (34.93)	52 (35.62)	23 (15.75)	9 (6.16)	11 (7.53)	146 (100.00)
Applying information retrieval techniques	27 (18.49)	38 (26.03)	49 (33.56)	18 (12.33)	14 (9.59)	146 (100.00)
Collection management (7)						
Creating institutional repository	36 (24.66)	76 (52.05)	12 (8.22)	10 (6.85)	12 (8.22)	146 (100.00)
Subscription and renewal of e-resources	31 (21.23)	76 (52.05)	17 (11.64)	7 (4.79)	15 (10.27)	146 (100.00)
Budget planning and allocation	39 (26.71)	55 (37.67)	21 (14.38)	17 (11.64)	14 (9.59)	146 (100.00)
Evaluation and selection of e-resources	9 (6.16)	24 (16.44)	22 (15.07)	59 (40.41)	32 (21.92)	146 (100.00)
Negotiating and managing License of consortium/web resource	38 (26.03)	51 (34.93)	17 (11.64)	24 (16.44)	16 (10.96)	146 (100.00)
Handling copyright laws & IPR in digital environment	28 (19.18)	60 (41.10)	23 (15.75)	17 (11.64)	18 (12.33)	146 (100.00)
Tracking and preparing usage statistics reports	19 (13.01)	36 (24.66)	14 (9.59)	48 (32.88)	29 (19.86)	146 (100.00)

Table VII: Level of difficulty faced in job duties by academic digital library professionals

IT (Information Technology) System management

In table VII respondents were asked to rate the difficulty they face while performing job duties. A majority (63: 43.15 percent) of the respondents rated the difficulty in applying the latest computer technologies in libraries as moderate. The majority (67: 45.89 percent) of the respondents rated the difficulty of network management and operations to be high. An almost equal number (58: 39.73 percent) of respondents rated that they face high difficulty in hardware installation & upgradation and, software selection & license management. The majority (65: 44.52 percent) of the respondents rated the difficulty of developing library website as high. Difficulty of handling library back-end servers was rated by majority (50: 34.25 percent) to be very high. The majority (55: 37.67 percent) of the respondents rated the difficulty of database management to be high while 25.34 percent (37) of respondents rated it to be very high. The majority (54: 36.99 percent) of the

respondents rated the difficulty of security of information system to be high. The majority (47: 32.19 percent) also rated the difficulty of troubleshooting issues to be high. The difficulty of storing data in digital storage devices was rated low by the majority (68: 46.58 percent) of respondents. The majority (51: 34.93 percent) of the respondents rated the difficulty of using open source software as high. The difficulty of system analysis and design was rated very high by the majority (60: 41.10 percent). The majority (42: 28.77 percent) rated the difficulty of working on content management software as high. The respondents reported very low difficulty in working on MS office (79: 54.11 percent).

Information organization

Table VII shows that the majority (64: 43.84 percent) of the respondents rated the difficulty of working on library management and digital library software as very low. Also, the difficulty in using classification schemes and cataloguing tools was rated very low by the respondents (71: 48.63 percent). The difficulty of developing metadata was rated as low by the majority (62: 42.47 percent) of respondents. An equal number of respondents rated very high (60: 41.10 percent) and high (60: 41.10 percent) difficulty working on E-resource management softwares and handling digital preservation practices respectively. The majority (74: 50.68 percent) of the respondents rated the difficulty of initiating and managing digitization projects as high. The difficulty of indexing and abstracting was rated as moderate by the majority (68: 46.58 percent).

User Services

Table VII depicts that majority (63: 43.15percent) of the respondents rated high difficulty in providing access to e-Resources. The majority (53: 36.30 percent) of the respondents rated the difficulty of using web 2.0 technologies to offer information services low. Majority of the respondents rated the difficulty of providing electronic reference and online document delivery services to be very low (65: 44.52 percent). Majority of the respondents rated the difficulty of conducting tutorials of using reference management tools as moderate (34: 23.29 percent) and low (37: 25.34 percent). Almost equal number of respondents rated the difficulty of maintaining an E-learning system as high (52: 35.62 percent) and very high (51: 34.93). The difficulty of applying information retrieval techniques while information searching was rated moderate by the majority (49: 33.56 percent).

Collection management

Table VII shows that majority (76: 52.05 percent) of the respondents rated the difficulty of creating institutional repository and subscription and renewal of e-resources to be high. Majority (55: 37.67 percent) of the respondents rated the difficulty of budget planning and allocation as high. The difficulty in negotiating and managing license of consortium/web resource was rated high by the majority (51: 34.93 percent) of the respondents. Majority (134: 62.7 percent) of the respondents also rated the difficulty in handling copyright laws & IPR in digital environment to be high. Majority (59: 40.41 percent) of the respondents rated the difficulty in evaluation and selection of e-resources as low. Majority (48: 32.88 percent) of the respondents rated their difficulty in tracking and preparing usage statistics reports to be low.

Discussion

IT (Information Technology) System management

Library professionals should be able to apply latest computer technologies into libraries for offering digital information services. They should be familiar with systems analysis and design, digitization processes, and management of digital collections (Pearce and Davis, 2006). The present study discovered that respondents rate the difficulty in applying latest computer technologies into libraries as moderate whereas the difficulty in system analysis and design was rated as very high.

Respondents face high difficulty in network management & operation; hardware installation & upgradation; software selection & license management; troubleshooting and handling library back-end servers. According to Singh and Mehra (2012), graduates from library science degree programmes should know to install and configure networking and the ability to install and update computer hardware, operating system, applications, and software licenses to keep abreast in advances in tools and applications. In addition, they should be able to trace and articulate problems with hardware, perform advanced troubleshooting. Practical exposure to network management, hardware installation, managing software licenses, troubleshooting and handling back-end servers is also not offered in undergraduate and postgraduate library and information science programmes in LIS schools in India. LIS graduates should have understanding of the different types of security threats to an information system. They should be able to opt out appropriate security measures

such as restrictions on access, bandwidth, and content (Singh and Mehra, 2012). In the present study, respondents rated the difficulty of security of an information system to be high.

The study also found that majority of the library professionals rated the difficulty of database management and developing library website to be high. These results are supported by the findings of Ayoku and Okafor (2015) who found that library professionals of universities have no knowledge of database management and web designing. In the study, Mansour (2017) also found that library employees lack competencies in designing and developing a library webpage.

The present study showed that very low difficulty was reported by the majority of respondents in working on MS office. This finding agrees with Ayoku and Okafor (2015) who found that library professionals in universities possess good skills in word-processing tasks.

Ohaji (2010) examined vital competencies for library professionals to work in digital libraries. The study discovered that technological skills are the essentially demanded skillset for digital librarianship. In a study by Batool and Ameen (2010), lack of coverage in the curriculum was mentioned as the major constraint in learning technological skills by library professionals. Further, researchers' concluded that to offer advanced technology based information services, advance ICT knowledge and skills are needed.

Information Organization

The difficulty of working on library management & digital library softwares and using classification schemes & cataloguing tools was rated very low by the respondents. This is because these courses are offered at library and information science degree programmes in all universities of India. Theory and practical lessons are offered using softwares and tools such as Dspace, AACR2, DDC, LCSH, MARC21, etc. LIS students should have practical knowledge of digital library software as many universities/ institutions are digitize their publications. (Bharat kumar, 2010). According to Pearce and Davis (2006), library staff should be conversant with knowledge of classification and digital collection management.

Raju (2014) found that library professionals must know metadata management, digitization, and digital preservation, which are essential to work in the digital information environment. Results of table VII shows that respondents rated the difficulty of developing metadata as low. The present study agrees with Pearce and Davis (2006) who concluded that library employees should be

conversant with knowledge of assigning metadata. The study also discovered that respondents rated high difficulty in handling digital preservation practices and managing digitization projects. This finding agreed with Mapulanga (2013) when he stated that implementation of digitization projects is slow in universities because of lacking expertise in implementing and sustaining the projects.

User Services

The study results show that most of the respondents rated the difficulty of applying web 2.0 technologies for offering library services and providing electronic reference & online document delivery services to be 'low' and 'very low' respectively. The continuous rising use of social networking applications calls for library professionals to grow knowledge and skills in social media technologies. Social media services facilitate delivery of services in specialized, interactive, and value-added ways (Semode, Ejitagha and Baro, 2017). Familiarity with web 2.0 communication tools such as instant messaging, social bookmarking, video conferencing and social networking sites will support online sharing and collaboration.

In the current study, results showed that respondents face high difficulty in providing access to e-Resources. It is imperative that university libraries take a dynamic role in providing access to digital information by developing e-resource collection (Anyaoku et al., 2019). This has led to library professionals to gain new skills related to providing access and managing digital collection. Singh and Mehra (2012) concluded that e-resource management is a critical work profile for library professionals. Graduates and postgraduates from library science degree programmes should possess the ability to evaluate, configure and maintain e-resources in terms of an Open URL service, authenticated access options, and restricted access (include proxy service, single sign-on, and Shibboleth).

Respondents rated the difficulty of maintaining an E-learning system as high and very high. E-learning supports students' educational activity, assuring quality education, delivering training using digital resources (Koltay and Boda, 2008).

Difficulty in applying information retrieval techniques while information searching was rated 'moderate' by the majority of the respondents. According to Baro, Obaro and Aduba (2019), effective information retrieval for library professionals is challenging due to lack of knowledge in

advanced information retrieval techniques and lacking awareness of where to search for the material.

Collection management

The study shows that respondents rated the difficulty of subscription and renewal of e-resources, budget planning and allocation, negotiating and managing license of consortium/web resource and handling copyright laws and IPR in digital environment as high. This is perhaps because the practical exposure to these work routines was not given to professionals in their library science degree programmes.

The difficulty of creating institutional repository was rated high by the respondents. This finding agrees with Mapulanga (2013), as he described that developing and maintaining institutional repositories requires technical expertise. Although theoretically, topics on institutional repository have been discussed in library science degree programmes, practical exposure to develop an institutional repository has not been given in LIS schools of India.

The study showed that respondents rated the difficulty in tracking and preparing usage statistics reports to be low. Singh and Mehra (2012) concluded that library science graduates should possess the ability to track usage statistics, interpret the usage data for e- journal and database subscriptions, and negotiate license agreements.

The two key points concluded in the conference on Human resources for the library and information field, (1) human resources in libraries did not match the demand of automating library operations and digital libraries development; (2) library schools should have better curricula to impart the needed skills and knowledge to compete in the digital market (VNU-Vietnam National University, 2009).

Conclusion

The present study aimed to identify the difficulties faced in job roles and responsibilities of academic digital library professionals. A total of 34 duties performed in academic digital libraries were classified into four main categories (collection management, materials organization, user service and IT system management) and these were included in a questionnaire completed by 146 academic library professionals to determine the difficulties faced in job duties.

Analysing results, the study found that library professionals working in university libraries in Delhi rated the difficulty of job duties such as network management and operation, hardware installation & upgradation, software selection and license management, library website development, database management, information system security, troubleshooting, accessing open source softwares, working on content management softwares, handling digital preservation practices, initiating and managing digitization projects, providing access to eResources, maintaining an E-learning system, creating institutional repository, subscription and renewal of e-resources, budget planning and allocation, negotiating and managing License of consortium/web resource and handling copyright laws & IPR in digital environment as 'high'. 'Very high' difficulty rated job duties were handling library back-end servers, system analysis and design, using e-resource management softwares. While, storing data in digital storage devices, working on MS Office, working on library management and digital library softwares, metadata development, using classification schemes and cataloguing tools, using web 2.0 technologies for offering information services, providing electronic reference (emails) & online document delivery services, conducting tutorials of using reference management tools, evaluation and selection of e-resources, tracking and preparing usage statistics reports were rated to be low and very low.

The study showed that there is gap between what is taught in curriculum in the universities and what is required in practice in libraries. According to Murray and Welch (2009), the library schools are incapable to produce graduates with the necessary skills and competencies. Thus library schools should revise their curriculum to equip library professionals with the desired knowledge and competencies.

Future research studies should trace the required knowledge and competencies of academic digital library professionals.

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Appendix

Questionnaire

PART A: Respondent profile

1. University/College: ……………….
2. Designation: ……………..
3. Contact No. …………………..
4. Email Id: …………………
5. Gender: Male ☐   Female ☐
6. Experience:

Less than 1 year	☐	From 1 to 5 years	☐
From 5 to 10 years	☐	More than 10 years	☐

7. Highest Qualification:

BLIS	☐	MLIS	☐
MPhil	☐	PhD/Post doctorate	☐

PART B: Assessing the difficulties faced in job duties

1. How will you rate the level of difficulty in dealing with below mentioned duties while working in digital academic libraries? Please tick (✓) mark the appropriate option.

	Job duties	Very High	High	Mode-rate	Low	Very Low
IT System management	Applying latest computer technologies in libraries					
	Network management and operation					
	Hardware (Server, wireless network) installation & upgradation					
	Software selection and license management					
	Library website development					
	Handling library back-end servers					
	Database management (running database queries, migrating data to cloud based databases, etc.)					
	Information system security (backup, firewall)					
	Troubleshooting					
	Storing data in digital storage devices					
	Accessing open source softwares					
	System analysis and design					
	Working on Content management softwares (Drupal, Joomla)					
	Working on MS Office					
Information organization	Working on library management and digital library softwares					
	Metadata development					
	Using Classification schemes and cataloguing tools					
	Handling digital preservation practices					
	Initiating and managing digitization projects					
	Using E-resource management softwares (Coral, Cufts)					
	Indexing & abstracting in digital environment					
User services	Providing access to eResources (maintaining information access tools, remote access authentication –shibboleth)					
	Using web 2.0 technologies for offering information services					
	Providing electronic reference (emails) & online document delivery services					
	Conducting tutorials of using reference management tools (Mendeley, Zotero, etc.)					
	Developing & maintaining an E-learning system					
	Applying information retrieval techniques (vector space, etc.)					
	Creating institutional repository					

Collection management	Subscription and renewal of e-resources					
	Budget planning and allocation for e resources					
	Evaluation and selection of e-resources					
	Negotiating and managing License of consortium/web resource					
	Handling copyright laws & IPR in digital environment					
	Tracking and preparing usage statistics reports					