Skilled Human Capital Assessment in Library and Information Sector in Electronic Era: A Case Study of Central University Library, Delhi

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Abstract

The paper examine the Ranganathan and Modern Staffing pattern for LIS human capital and proposed a Hybrid Staffing Pattern for Skilled Human Capital Assessment in Library and Information Sector for selected central university libraries in Delhi. It has been noticed that in the past libraries have been the "repositories of knowledge", and even today, libraries work as the hub of knowledge and provide access to information. In IT era a great challenge appears worldwide to bridge the Digital Divide between the urban & the rural, rich & the poor, the educated & uneducated, information rich & information poor in view of collecting and disseminating information resources.

1. Introduction

India is one of the "unique nations" in the world having a developed culture and a developing economy. It culture is deeply embedded in a "pluralistic ethos" of age-old. Indian history providing creative expression, value-sustenance and belief pattern to society (Ministry of Culture, GOI, 2012)[1].

India, today, is on the threshold of development and in an effort to ensure resounding success in this direction; the government is promoting skill development amongst the vast human resources in our country. There has been a tremendous growth and the demographic studies reveal that in the forthcoming five years, the working age group shall increase at the rate of 2.15 percent with a population of about 1.14 billion, the net addition to the workforce will be about 89 million of which around 13 million would be graduates and postgraduates and about 57 million will be school dropout or, illiterates. This data/statistics indicate that there will be an extra ordinary requirement for skilled labor. This skilled labor that includes graduates and other people who are trained in various vocations would be able to cater only 23percent of the requirements. There is a severe shortage of vocationally trained workforce and therefore the productivity of the vocationally trained person is the lowest throughout the world. By the year 2022, India will be confronted with a target of generating skilled peoples' strength of around 500 million people (IAMR, 2011)[2].

In the 21st century information and communication technologies are redefined on a regular basis as per the characteristics the library has developed over a period of time. And, as we advance deep into the 21st century we may get all information on our desk without even going to a library. Therefore, if the libraries have to exist as temple of knowledge, as physical spaces, they have to become relevant and

essential to their users. Each LIS professional in the 21st century will be relevant if the LIS professional has made his/ her library relevant to its users. In this process librarians who will be making their libraries less relevant to their users will get weeded out and the speed of this weeding out will depend upon how effective the managements of libraries are. On the other hand the growth of relevant libraries will also depend upon how many efficient librarians get associated with them. This is sure that there is a serious shake-up of libraries going to take place and in the process many of them will be closed down. Only such libraries that are run by persons who are also knowledge experts will progress (Kaul, 2017)[3].

The holistic development of LIS human capital in planned way become essential, due to rapid growth in library and information services and changing nature of library and information science. In the present day scenario, the library has grown from a bounded to a limitless library. Due to the transformation in information needs and the rapid advances in Information Communications and Technology (ICT), the LIS professionals should acquire the requisite expertise and know-how to deliver effective services in diverse environments.

The Library and Information Sector needs to develop a skilled workforce which has the following capability:

❖ Ability to promote and defend the values of the profession;

❖ They should have the ability to understand and respond to the various requirements of clients/ stakeholders,/readers whether cultural or social;

❖ The LIS Professionals should be able to store, organize, retrieve, disseminate and preserve information enabling its free access and use.

❖ The Library Information Professionals need to be capable to develop, deliver and evaluate information facilities services, source and products according to the user needs;

❖ They should continually plan and visualize the future direction for the library and information services.

❖ They should be in constant touch with the user and the community.

In today's digital environment and with the relatively advanced developments in the area of Information Communication and Technologies (ICTs), tremendous changes can be visualized in the manner in which the information is being organized or being managed. In today's electronic information age, we are talking about marketing of information and treating information as an economic resource. The librarians need to play an energetic, effective and pivotal role in the processes of information communication system. The function of libraries is constantly changing and is also confronted with challenges, which is due to the varied demands of a vast array of information services from the users.

Due to the advent of recent methodologies relative to collection, processing and dissemination of information, the library professional should possess a complete comprehension of Information and Technology (IT) and the applications in the operations of the library and its services for the successful working in the digital environment. With the shifting role and accountability of the librarians, their professional identities are also improved and are now known as Information Officer, Information Broker, Cybernarian etc. (Mazumdar, 2007)[4].

2. Objective Of The Study

❖ To develop pattern for predicting and evolving human resource development strategies, particularly for central university libraries in Delhi.

❖ To evaluate the development in supply and need of trained human resources in Library

3. Scope

According the University Grants Commission and the Government of India, as on 2014, there were four central universities, five state universities and ten deemed universities located in Delhi. All central universities of Delhi have been selected for the study. These four central universities are providing the conventional and specialized courses. In this manner, it is a heterogeneous sample. The study will carry the sampling of the following four central universities libraries, which are arranged according to their establishment of the university.

❖ Central Reference Library, North Campus, Delhi University

❖ Jawaharlal Nehru University Library, New Delhi

❖ Central Library, Indira Gandhi National Open University, New Delhi

❖ Dr. ZakirHussain Library (Central Library), Jamia Millia Islamia, New Delhi

This study covered the required skills for LIS professionals in selected central university libraries of Delhi in order to cater to the services required by the readers. In order to comprehend the actual scenario of the LIS education system in Delhi, three central universities of Delhi, such as the Deptt of Library and Information Science, Delhi University, the Deptt of Library and Information Science, Jamia Milia Islamia University and the study center IGNOU LIS programme namely Delhi Library Association also covered.

4. LIS Human Capital

The library has potential human capital such as LIS professionals and non-LIS professionals, who are working for the library in their day to day routine work as well as are also involved in some special work also. In this study, only LIS professionals are selected.

5. Supply Of Lis Professionals

The LIS education system is producing and supplying LIS professionals for the LIS sector across the world.

5.1 Development of LIS Education

Library Science education, since its inception has undergone many changes. In India in 1910 Maharaj Sayaji Rao Gaekwad of Baroda state invited Mr. W. C. Border, an American Librarian to plant the library development in his state. Mr. Border started the first training school for librarians in India in the year of 1911. It did not receive good response from the public and only five students joined the school. Until 1940's library science education did not gain momentum and popularity. Only after India attained independence many library schools started.

The University Grants Commission has appointed various committees, time to time for the holistic improvement of University Libraries in general and library science education system in particular. The enlightened policy followed by the University Grants Commission on the recommendation of two committees headed by Dr. Shiyali Ramamrita

Ranganathan under the leadership of Dr. Chintaman Dwaraknath Deshmukh, has been an important factor towards the development of library education in India. At present number of programmes like Certificate, Diploma, Bachelor, Master, M.Phil, Ph.D courses, and training programme in special librarianship and documentation of library and information Science education are being conducted by various universities and institutions in our country.

LIS Education is conducted by numerous universities in several parts of India. Some of the universities, such as, Department of Library and Information Science, University of Delhi; Department of Library and Information Science, Jamia Millia Islamia; Department of Library and Information Science, Kurukshetra University are providing conventional along with regular mode of education. However, B.R. Ambedkar Open University, Hyderabad and IGNOU are offering LIS Education through distance mode.

During this study, three Central Universities of Delhi has been selected for the study. Accordingly, the data has been collected from the Department of Library and Information Science, University of Delhi; Department of Library and Information Science, Jamia Millia Islamia University and IGNOU's one study of center that is the Delhi Library Association, New Delhi.

The Course of Bachelors degree of Library and Information Science is provided by Department of Library and Information Science, University of Delhi, Department of Library and Information Science, Jamia Millia Islamia University and IGNOU.

The Course of Masters' Degree of Library and Information Science is provided by Department of Library and Information Science, University of Delhi and IGNOU.

The Course of Ph.D. Program of Library and Information Science is provided by Department of Library and Information Science, University of Delhi and IGNOU.

The year-wise intake and output turn in Library and Information Science is shown as under. The intake in five financial years, i.e.2010-11,2011-12,2012-13,2013-14 and 2014-15 for Bachelor Degree in Library Science of Department of Library and Information Science, University of Delhi; Department of Library and Information Science, Jamia Millia Islamia and IGNOU are presented in Table 1.

Table 1: Bachelor of Library and Information Science

	DU		JMI		IGNOU	
	Adm.	Pass	Adm.	Pass	Adm.	Pass
2010-11	54	47	40	39	175	160
2011-12	54	50	40	38	147	136
2012-13	54	46	40	38	72	61
2013-14	54	48	40	37	197	175
2014-15	54	51	40	38	186	162

The year-wise intake and output turn in Library and Information Science is given as under. The intake in five financial years i.e., 2010-11, 2011-12,2012-13,2013-14 and 2014-15 for Masters' Degree in Library Science of Department of Library and Information Science, University of Delhi and IGNOU are presented in Table 2.

Table 2: Master of Library and Information Science

	DU		IGNOU	
	Adm.	Pass	Adm.	Pass
2010-11	40	39	42	39
2011-12	40	38	43	40
2012-13	40	39	21	18
2013-14	40	37	39	36
2014-15	40	38	42	38

5.2   Areas of Employment in the LIS Sector

The areas of employment in the LIS Sector is very limited to school libraries, university libraries, public libraries, government libraries, special libraries and educational institutions. However, due to the application of information and technology in the field of library information and science, the area of employment has increased and is on the increase on a day to day basis. Earlier, LIS professionals were designated as Librarians although presently they are referred to as Library and Information Scientists in some of the government organizations. In scientific organizations, the demand of LIS professionals is increasing by leaps and bounds.

5.3   Demand Projections

5.3.1 Ranganathan Staffing Formula

The Ranganathan Staffing Pattern formula have been adopted for forecasting of skilled Human Capital that is required for Library and Information Services related to select Central University Libraries in Delhi. S.R. Ranganathan (1959) has recommended the following staff formula:

(a) Professional staff: S B+S C+S L+S M+S P+S R+S T

Explanation:

S B=Number of persons in book section

S B=A/6000=Number of books accessioned in a year/6000

S C=Number of persons in circulation section

S C= G/1500=Number of gate-hours for a year/1500

One gate hour=one counter gate kept open for one hour

S L=Number of persons as librarian and his deputies=HW/1500

    =Number of hours library is kept open in day x No. of working days in a year/ 1500

S M= Number of person in maintenance section

    = A/3000=Number of volumes accessioned in a year/3000

S P=Number of persons in a periodical section

    =P/500=Number of periodicals currently taken/500S

R= Number of persons in reference section

    = (R/50) (W/250)

    =(Number of readers per day/50) (Number of working days in a year/250)

S T=Number of persons in technical –that in classification and cataloguing- section

    = A+40D/2000

    =Number of volumes accessioned in a year+40xNo. Of periodicals abstracted and indexed in a year/2000

B=Annual budget allotment in rupees.

S=Number of seats for readers

A=Number of volumes accessioned in a year

D=Number of periodicals abstracted and indexed in year

V=Number of volumes in the library

It may be noted that the requirement of staff for each section has been calculated on the basis of experience. According to formula, the number of professionals required for a periodical section is based on the assumption that one professional is sufficient for procuring and recording 500 periodicals per year. Similar assumptions form the basis of the formula.

5.3.1.1 Central Reference Library, Delhi University:

On the basis of Ranganathan staffing formula, the projection of LIS professional staff is as under:

Table 3: Projection of LIS professional staff: CRL, DU

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	26	33	7 (Surplus)
2011-12	25	33	8 (Surplus)
2012-13	24	33	9 (Surplus)
2013-14	23	33	10 (Surplus)
2014-15	24	33	9 (Surplus)

Observation

1. In the Financial Year: 2010-11, 7 skilled LIS manpower is surplus.

2. In the Financial Year: 2011-12, 8 skilled LIS manpower is surplus.

3. In the Financial Year: 2012-13, 9 skilled LIS manpower is surplus.

4. In the Financial Year: 2013-14, 10 skilled LIS manpower is surplus.

5. In the Financial Year: 2014-15, 9 skilled LIS manpower is surplus.

6. On an average of these five financial years, 9 skilled LIS professional is surplus.

5.3.1.2 Jawaharlal Nehru University Library:

On the basis of Ranganthan staffing formula, the projection of LIS professional staff is as under:

Table 4: Projection of LIS professional staff : JNU

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
Manpower			
2010-11	21	61	40 (Surplus)
2011-12	25	61	36 (Surplus)
2012-13	24	61	37 (Surplus)
2013-14	25	61	36 (Surplus)
2014-15	22	61	39 (Surplus)

Observation

1. In the Financial Year: 2010-11, 40 skilled LIS manpower is surplus.

2. In the Financial Year: 2011-12, 36 skilled LIS manpower is surplus.

3. In the Financial Year: 2012-13, 37 skilled LIS manpower is surplus.

4. In the Financial Year: 2013-14, 36 skilled LIS manpower is surplus.

5. In the Financial Year: 2014-15, 39 skilled LIS manpower is surplus.

6. On an average of these five financial years, 38 (approximately) skilled LIS manpower is surplus.

5.3.1.3 Central Library Indira Gandhi National Open University:

On the basis of Ranganathan staffing formula, the projection of LIS professional staff is as under:

Table 5: Projection of LIS professional staff: IGNOU

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	54	16	38
2011-12	56	16	40
2012-13	56	16	40
2013-14	56	16	40
2014-15	54	16	38

Observation

1. In the Financial Year: 2010-11, 38 skilled LIS manpower is required.

2. In the Financial Year:2011-12, 40 skilled LIS manpower is required.

3. In the Financial Year:2012-13, 40 skilled LIS manpower is required.

4. In the Financial Year:2013-14, 40 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 38 skilled LIS manpower is required.

6. On an average of these five financial years, 39 (approximately) skilled LIS professional required.

5.3.1.4 Central Library, JamiaMilliaIslamia University:

On the basis of Ranganathan staffing formula, the projection of LIS professional staff is as under:

Table 6: Projection of LIS professional staff: JMI

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	28	23	5
2011-12	40	23	17
2012-13	27	23	4
2013-14	35	23	12
2014-15	35	23	12

Observation

1. In the Financial Year: 2010-11, 5 skilled LIS manpower is required.

2. In the Financial Year: 2011-12, 17 skilled LIS manpower is required.

3. In the Financial Year: 2012-13, 4 skilled LIS manpower is required.

4. In the Financial Year: 2013-14, 12 skilled LIS manpower is required.

5. In the Financial Year: 2014-15, 12 skilled LIS manpower is required.

6. On an average of these five financial years, 10 skilled LIS professional is required.

5.3.2 Modern Staffing Formula

In the present modern age, the Ranganathan staffing formula is still considered to be relevant, due to the introduction of applications of information and technology in the field of Library and Information Science and its services. Sonawane and Rath[5] had proposed modern staffing formula for estimation of LIS professionals for the library.

1. Professional staff

S B E+S C E+S L E+S M E+S P E+S R E+S T E

In the above formula the main change is E, which stand for Electronic, E-books, E-publications, E-resources, Videos, CD, DVD, Digital Library.

B=Annual budget allotment in Rupees

S=Number of seats for E readers

A= Number of E volumes accessioned in a year

D= Number of E periodicals abstracted and indexed in a year

V=Number of E volumes in the library

Explanation

SBE=Number of persons in E-book section

SBE=A/6000=Number of E-books accessioned in a year/6000

SCE=Number of persons in circulation section

SCE= G/1500=Number of gate-hours for a year/1500

One gate hour=one counter gate kept open for one hour

SLE=Number of persons as librarian and his deputies

    =HW/1500

=Number of hours library is kept open in day x No. of working days in a year/ 1500

SME= Number of person in maintenance section

    = A/3000=Number of volumes accessioned in a year/3000

SPE=Number of persons in a periodical section

    =P/500=Number of periodicals currently taken/500

SRE= Number of persons in reference section

    = (R/50) (W/250)=(Number of readers per day/50) (Number of working days in a year/250)

STE=Number of persons in technical –that in classification and cataloguing- section

    = A+40D/2000

    =Number of volumes accessioned in a year+40xNo. Of periodicals abstracted and indexed in a year/2000

5.3.2.1 Central Reference Library, Delhi University

On the basis of Modern staffing formula, the projection of LIS professional staff is as under:

Table 7: Projection of LIS professional staff : CRL, DU (Modern Staffing Formula)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	16	33	17 (Surplus)
2011-12	103	33	70
2012-13	103	33	70
2013-14	103	33	70
2014-15	103	33	70

Observation

1. In the Financial Year:2010-11, 17 skilled LIS manpower is surplus.

2. In the Financial Year:2011-12, 70 skilled LIS manpower is required.

3. In the Financial Year:2012-13, 70 skilled LIS manpower is required.

4. In the Financial Year:2013-14, 70 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 70 skilled LIS manpower is required.

6. On an average of these four financial years, 70 skilled LIS manpower is required.

5.3.2.2 Jawaharlal Nehru University Library:

On the basis of Modern staffing formula, the projection of LIS professional staff is as under:

Table 8: Projection of LIS professional staff: JNU (Modern Staffing Formula)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	50	61	11 (Surplus)
2011-12	51	61	10 (Surplus)
2012-13	58	61	3 (Surplus)
2013-14	88	61	27
2014-15	90	61	29

Observation

1. In the Financial Year:2010-11, 11 skilled LIS manpower is surplus.

2. In the Financial Year:2011-12, 10 skilled LIS manpower is surplus.

3. In the Financial Year:2012-13, 3 skilled LIS manpower is surplus.

4. In the Financial Year:2013-14, 27 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 29 skilled LIS manpower is required.

6. On an average of these two financial years, 28 skilled LIS manpower is required.

4.3.2.3 Central Library Indira Gandhi National Open University:

On the basis of Modern staffing formula the projection of LIS professional staff is as under:

Table 9: Projection of LIS professional staff: IGNOU (Modern Staffing Formula)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	69	16	53
2011-12	170	16	154
2012-13	170	16	154
2013-14	171	16	155
2014-15	170	16	154

Observation

1. In the Financial Year:2010-11, 53 skilled LIS manpower is required.

2. In the Financial Year:2011-12, 154 skilled LIS manpower is required

3. In the Financial Year:2012-13, 154 skilled LIS manpower is required.

4. In the Financial Year: 2013-14, 155 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 154 skilled LIS manpower is required.

6. On an average of these two financial years, 134 skilled LIS manpower is required.

4.3.2.4 Central Library, Jamia Millia Islamia University:

On the basis of Modern staffing formula the projection for professional staff is as under:

Table 10: Projection of LIS professional staff: JMI (Modern Staffing Formula)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	16	23	7 (Surplus)
2011-12	16	23	7 (Surplus)
2012-13	16	23	7 (Surplus)
2013-14	30	23	7
2014-15	31	23	8

Observation

1. In the Financial Year:2010-11, 7 skilled LIS manpower is surplus.

2. In the Financial Year:2011-12, 7 skilled LIS manpower is surplus.

3. In the Financial Year:2012-13, 7 skilled LIS manpower is surplus.

4. In the Financial Year:2013-14, 7 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 8 skilled LIS manpower is required.

6. On an average of these two financial years, 7 (approx) skilled LIS manpower is required.

4.3.3 Hybrid Staffing Pattern (Proposed)

In this study, the selected libraries are not fully digital and not fully manual, therefore, hybrid staffing formula is proposed for forecasting the required professional staff.

(a) Professional staff

$\{(SB)+ (SBE/2)\}/2 + \{(SC)+(SCE/2)\}/2 + \{(SL)+(SLE/2)\}/2 + \{(SM)+(SME/2)\}/2 + \{(SP)+(SPE/2)\}/2 + \{(SR)+(SRE/2)\}/2+ \{(ST)+(STE/2)\}/2$

· Value of SCE=0 (Zero) because here it is considering that SCE=Number of person in circulation section. SCE=GE/1500=Number of gate-hours for a year/1500, in this case, when library is 24/7 in case of digital library, some of automatic computerized system will implemented, instead of manual operation. Therefore, here SCE is considering zero value.

4.3.3.1 Central Reference Library, Delhi University

On the basis of Hybrid staffing Pattern, the projection of LIS professional staff is as under:

Table 11: Projection of LIS professional staff: CRL,DU (Hybrid Staffing Pattern)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	17	33	16 (Surplus)
2011-12	38	33	5
2012-13	38	33	5
2013-14	37	33	4
2014-15	37	33	4

Observation

1. In the Financial Year:2010-11, 16 skilled LIS manpower is surplus.

2. In the Financial Year:2011-12, 5 skilled LIS manpower is required.

3. In the Financial Year:2012-13, 5 skilled LIS manpower is required.

4. In the Financial Year:2013-14, 4 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 4 skilled LIS manpower is required.

6. On an average of these four financial years, 7 skilled LIS manpower is required.

4.3.3.2 Jawaharlal Nehru University Library:

On the basis of Hybrid staffing Pattern, the projection of LIS professional staff is as under:

Table 12: Projection of LIS professional staff: JNU (Hybrid Staffing Pattern)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	23	61	38 (Surplus)
2011-12	24	61	37 (Surplus)
2012-13	26	61	35 (Surplus)
2013-14	34	61	27 (Surplus)
2014-15	33	61	28 (Surplus)

Observation

1. In the Financial Year:2010-11, 38 skilled LIS manpower is surplus.

2. In the Financial Year:2011-12, 37 skilled LIS manpower is surplus.

3. In the Financial Year:2012-13, 35 skilled LIS manpower is surplus.

4. In the Financial Year:2013-14, 27 skilled LIS manpower is surplus.

5. In the Financial Year:2014-15, 28 skilled LIS manpower is surplus.

6. On an average of these financial years, 33 skilled LIS manpower is surplus.

It has been noticed that e-resources are increasing in some of the financial years; accordingly the number of required/available skilled LIS manpower is increasing or, vice-versa. However, nowadays, the libraries are procuring more e-resources for its readers. Therefore, it is assumed that in the subsequent years, enhanced numbers of skilled manpower would be required.

4.3.3.3 Central Library Indira Gandhi National Open University:

On the basis of Hybrid staffing Pattern, the projection of LIS professional staff is as under:

Table 13: Projection of LIS professional staff: IGNOU (Hybrid Staffing Pattern)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	44	16	28
2011-12	70	16	54
2012-13	70	16	54
2013-14	70	16	54
2014-15	69	16	53

Observation

1. In the Financial Year:2010-11, 28 skilled LIS manpower is required.

2. In the Financial Year:2011-12, 54 skilled LIS manpower is required.

3. In the Financial Year:2012-13, 54 skilled LIS manpower is required.

4. In the Financial Year:2013-14, 54 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 53 skilled LIS manpower is required.

6. On an average of these financial years, 49 (approximately) skilled LIS manpower is required.

4.3.3.4 Central Library, Jamia Millia Islamia University:

On the basis of Hybrid staffing Pattern, the projection of LIS professional staff is as under:

Table 14: Projection of LIS professional staff: JMI (Hybrid Staffing Pattern)

Financial Year	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	31	23	8
2011-12	31	23	8
2012-13	32	23	10
2013-14	35	23	12
2014-15	34	23	11

Observation

1. In the Financial Year:2010-11, 8 skilled LIS manpower is required.

2. In the Financial Year:2011-12, 8 skilled LIS manpower is required.

3. In the Financial Year:2012-13, 10 skilled LIS manpower is required.

4. In the Financial Year:2013-14, 12 skilled LIS manpower is required.

5. In the Financial Year:2014-15, 11 skilled LIS manpower is required.

6. On an average of these financial years, 10 (approximately) skilled LIS manpower is required.

Table 15: Comparative statement of Projection of LIS professional staff (Hybrid Staffing Pattern)

Financial Year	Central University Libraries	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	Central Reference Library, Delhi University	17	33	16 (Surplus)
2011-12		38	33	5
2012-13		38	33	5
2013-14		37	33	4
2014-15		37	33	4

Financial Year	Central University Libraries	Required skilled LIS Manpower	Available skilled LIS Manpower	Shortage of skilled LIS Manpower
2010-11	JNU Library	23	61	38 (Surplus)
2011-12		24	61	37 (Surplus)
2012-13		26	61	35 (Surplus)
2013-14		34	61	27 (Surplus)
2014-15		33	61	28 (Surplus)
2010-11	IGNOU	44	16	28
2011-12		70	16	54
2012-13		70	16	54
2013-14		70	16	54
2014-15		69	16	53
2010-11	JMI	31	23	8
2011-12		31	23	8
2012-13		32	23	10
2013-14		35	23	12
2014-15		34	23	11

Observations

The Central Reference Library, Delhi University required 7 skilled LIS human capital, Central Reference Library, IGNOU required 49 (approx.) skilled LIS human capital and Central Reference Library, JMI required 10 (approx.) skilled LIS manpower, on and average in five financial years. However, the Central Library of JNU has surplus 33 (approx.) skilled LIS manpower according to Hybrid Staffing Pattern.

5. Conclusion

The Skilled Human Capital is an extremely significant component for any educational institution. The Skilled LIS Human Capital is playing a very active role in the library for all its housekeeping operations, such as, acquisition, classification, classification, cataloguing and services to readers of the Library. Any library can be evaluated on the basis of the availability of Skilled LIS human capital. In this paper, Ranganathan Staffing pattern has been described and used for the estimation of skilled LIS professionals of the selected university libraries.

Then, modern staffing pattern is also described with the estimation of skilled LIS professionals in this chapter.

It has been noticed that the selected central university libraries are not fully manually operated and not fully electronically operated in terms of collection and services. Therefore, a new staffing pattern which is the Hybrid Staffing Pattern has been proposed and projected for an estimate of the required skilled LIS professionals for the selected university libraries.

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