The Impact of ICT Skills and Knowledge on Job Satisfaction among LIS Professionals in Deemed and Private Universities in Karnataka: A Study

Ningappa
Ph.D. Research Scholar (Full-Time)
Department of Library and Information Science,
Bangalore University, Bengaluru, 560056
ningarajme2@gmail.com

T.D.Kemparaju
Professor (Retd.),
Department of Library and Information Science,
Bangalore University, Bengaluru - 560056
tdkv2000@gmail.com

Abstract

The study examines the impact of ICT proficiency on job satisfaction among Library and Information Science professionals in Karnataka's universities. Data from 283 professionals revealed Bengaluru leads in automation and ICT skills, while Mysuru and Belagavi excel in server administration, RFID, and library software. The research recommends targeted training, incentives for advanced qualifications, and standardized ICT proficiency to improve job satisfaction and operational effectiveness in Karnataka's libraries.

Keywords

Information Communication Technology; Karnataka Administrative Division; Job Satisfaction; Library Profession; University Libraries.
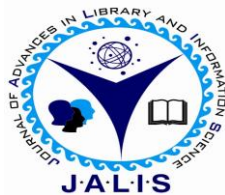
1. Introduction

With the advent of the internet era, Information and Communication Technology (ICT) has revolutionised Library and Information Science (LIS), shifting from traditional practices to more effective information management. As libraries evolve into information centres, ICT skills have become essential for LIS professionals to meet user needs and adapt to changing roles. This transformation has also influenced job satisfaction, a key element of organisational effectiveness, as professionals now manage both technological capabilities and traditional responsibilities. In Karnataka, a prominent knowledge hub, LIS professionals in private universities and deemed institutions play a vital role in supporting teaching, learning, and research. These institutions often serve as trendsetters, with their libraries becoming central to academic excellence. However, the rapid shift toward ICT tools presents a challenge for professionals who must continuously update their skills to remain effective. Despite the growing emphasis on ICT, no research has yet explored the impact of ICT skills on job satisfaction among LIS professionals in Karnataka's administrative areas. This research investigates the correlation between ICT competence, knowledge, and job satisfaction among LIS professionals in Karnataka's deemed and private universities. The study aims to identify ICT competence gaps and examine how these gaps influence professional satisfaction. The results will provide valuable insights for policymakers, educators, and library managers in developing tailored training programs and interventions. Ultimately, this research seeks to enhance the working environment for LIS professionals, enabling them to work more effectively in the high-tech era while experiencing higher job satisfaction.

2. Review of literature

The study by Shahri and Chudasma (2022) highlights the pivotal role of technology in individuals' creative, professional, and research work during the pandemic. It highlights how library professionals pushed boundaries in providing services and materials to patrons, and how they employed techniques to manage user demands during the COVID-19 era. The study by Ninaus, Diehl, and Terlutter (2021) found that Information and Communication Technologies (ICTs) are changing and are seen by workers as either demands or resources. However, ICT resources have shown no positive effect on burnout or work-family

balance before or after COVID-19. The study suggests that firms and employees should react more to ICT demands than to ICT resource management. The research by Bansode and Viswe (2017) evaluated the ICT literacy of library professionals in Maharashtra, finding that most have achieved fundamental skills, but some need to increase their literacy in open-source library automation software, digital library software, and institutional repository software.

Anyaoku et al. (2015) found a positive correlation between innovative, dynamic, and flexible leadership styles and job satisfaction among academic librarians in a technology-intensive work environment. The study also found that librarians' gender, age, and education were not significantly associated with job satisfaction in technology. The study suggests that organisational culture, knowledge sharing, and sustainable human resource practices can contribute to a successful and cooperative work environment. . Bellary et al. (2015) found that ICT significantly impacts job satisfaction in libraries, with many professionals needing training on new developments. Limbu et al. (2014) found that ICT indirectly influences job satisfaction through administrative performance, with infrastructure, support, and training positively correlated with administrative performance. Seena and Pillai (2014) found that Libsys software is more commonly used in libraries, but the lack of proper training is a significant hindrance to its use. Overall, all professionals showed a positive attitude towards ICT in libraries.

3. Objectives of the study

1. To assess the level of job satisfaction among LIS professionals in deemed and private universities in Karnataka.
2. To examine the impact of ICT skills and knowledge on job satisfaction among LIS professionals in deemed and private universities in Karnataka.
3. To provide suggestions and recommendations for library management in deemed and private universities based on the findings.

4. Methodology

The present study adopts a survey method, using a questionnaire to collect primary data from LIS professionals working in 14 deemed and 14 private universities across the Karnataka administrative

divisions of Bengaluru, Mysuru, Belagavi, and Kalaburagi. A total of 293 LIS professionals are currently employed in these universities. The questionnaire was distributed to all 293 professionals, and 283 completed responses were returned, yielding a response rate of 96.58%. The collected data was tabulated, analyzed, and interpreted using appropriate statistical and quantitative methods. The results are presented in the following tables.

5. Scope and limitation of the study

The scope of this study includes 14 deemed and 14 private universities in the Karnataka administrative divisions of Bengaluru, Mysuru, Belagavi, and Kalaburagi. The study population consists of LIS professionals working at these deemed and private universities in Karnataka.

6. Data analysis and interpretation

Part I: General Information

Statistics show the number of deemed and private universities by various regions in Karnataka, emphasising Bengaluru, Mysuru, Belagavi, and Kalaburagi. The number of universities taken for the survey is 28 and divided equally into 14 deemed universities and 14 private universities. Data analysis and interpretation are given below:

Table 1 Nature of universities in Karnataka administrative divisions.

Name of the Division	Nature of University (N=28)		Total
	Deemed Universitas (N=14)	Private Universities (N=14)	
Bengaluru	8 (42.10%)	11 (57.90)	19 (67.85%)
Mysuru	4 (66.67%)	2 (33.33%)	6 (21.42%)
Belagavi	2 (66.67%)	1 (33.33%)	3 (10.71%)
Kalaburagi	–	–	–
Total	**14 (50.00%)**	**14 (50.00%)**	**28 (100.00%)**

Table 01 shows the Bengaluru Division is the foremost hub of higher education, with 19 universities (67.85% of the total), and private universities (57.90%) marginally in front of deemed universities (42.10%), a sign of its rising status as a private education hub. Mysuru Division, with 6

universities (21.42%), contains a higher proportion of deemed universities (66.67%) compared to private ones (33.33%), a sign of its more traditional and established nature. Belagavi Division has scanty representation, with only 3 universities (10.71%), among which deemed universities (66.67%) again dominate, indicating a modest but stable presence of

higher education. Kalaburagi Division has no universities represented, showing an enormous lack of higher education facilities that need to be addressed urgently to continue having equal access and development within the area.

Table 02 Academic information of respondents according to universities

Basic Academic Details		Freq. of Respondents (N=283)			Total
		Bengaluru	**Mysuru**	**Belagavi**	
Designations	Librarians	33 (25.00%)	33 (27.50%)	8 (25.81%)	74 (26.15%)
	Assistant Librarians	48 (36.36%)	28 (23.33%)	8 (25.81%)	84 (29.68%)
	Library Assistants	51 (38.64%)	59 (49.17%)	15 (48.39%)	125 (44.17%)
Professional Qualifications	Certificate course in LIS	4 (3.03%)	14 (11.67%)	1 (3.23%)	19 (6.71%)
	Diploma in LIS	6 (4.55%)	11 (9.17%)	4 (12.90%)	21 (7.42%)
	BLISc	5 (3.79%)	14 (11.67%)	1 (3.23%)	20 (7.07%)
	MLISc	79 (59.85%)	60 (50.00%)	11 (35.48%)	150 (53.00%)
	MLISc with NET/SLET	17 (12.88%)	5 (4.17%)	6 (19.35%)	28 (9.89%)
	MLISc with M.Phil	5 (3.79%)	7 (5.83%)	4 (12.90%)	16 (5.65%)
	MLISc with PhD	16 (12.12%)	9 (7.50%)	4 (12.90%)	29 (10.25%)
Nature of Profession	Permanent	93 (70.45%)	95 (79.17%)	29 (93.55%)	217 (76.68%)
	Temporary/Contract basis	39 (29.55%)	25 (20.83%)	2 (6.45%)	66 (23.32%)

Note: a) Librarians Category: University Librarian, or I/C, Librarian (Sr.Scale), Librarian and Deputy Librarian.
b) Assistant Librarians Category: Assistant Librarian (Sr. Scale) and Assistant Librarian.
c) Library Assistants Category: Library Assistant (Sr. Scale), Library Assistant and Technical Assistant.

Designation: The respondents are associated with librarians, assistant librarians, and library assistants. Librarians account for 26.15% of the total respondents, the highest percentage being that of Mysuru (27.50%), followed by Bengaluru (25.00%) and Belagavi (25.81%). Assistant librarians account for 29.68% of the total respondents, the highest percentage being that of Bengaluru (36.36%), and that of Mysuru and Belagavi being lesser (23.33% and 25.81%, respectively). Library assistants form the largest group with 44.17% of the total respondents, and the highest percentage is located in Mysuru (49.17%), followed by Belagavi (48.39%) and Bengaluru (38.64%).

Professional qualification: The most of the respondents possess an MLISc degree, the most frequent qualification in all the universities, and it covers 53.00% of the total respondents. Bengaluru has the highest percentage of MLISc holders (59.85%), followed by Mysuru (50.00%) and Belagavi (35.48%). The other qualifications, including certificate course in LIS, diploma in LIS, and BLISc, are relatively rare, and the highest proportion of respondents holding a certificate course

was found in Mysuru (11.67%) and the highest proportion of respondents with a diploma found in Belagavi (12.90%). Advanced degrees such as MLISc with NET/SLET, M.Phil, or PhD are comparatively less prevalent, and Belagavi has a comparatively higher proportion of the respondents holding these degrees than the other universities. For example, 19.35% of the respondents in Belagavi possess an MLISc with NET/SLET, and 12.90% possess an MLISc with M.Phil.

Nature of Profession: The most of the respondents are permanent employees, accounting for 76.68% of the entire sample. Belagavi has the highest proportion of permanent employees (93.55%), followed by Mysuru (79.17%) and Bengaluru (70.45%). Temporary or contract employment is not so prevalent, accounting for 23.32% of the entire respondents, with the highest proportion of temporary employees in Bengaluru (29.55%) and the lowest in Belagavi (6.45%).

Part-II: KNOWLEDGE/ SKILLS IN ICT APPLICATIONS

Table-03 level of agreement regarding 'Knowledge/Skills' in use of following ICT packages, electronic devices &tools.

Division	Level of Agreement	Statements on Electronic Devices &Tools Use Skills					
		a.	b.	c.	d.	e.	f.
Bengaluru (N=132)	Fully expert	45 (34.09%)	27 (20.45%)	17 (12.88%)	29 (21.97%)	18 (13.64%)	35 (26.52%)
	Expert	52 (39.39%)	51 (38.64%)	44 (33.33%)	57 (43.18%)	36 (27.27%)	63 (47.73%)
	Little Expert	26 (19.70%)	26 (19.70%)	29 (21.97%)	25 (18.94%)	29 (21.97%)	22 (16.67%)
	Beginner	8 (6.06%)	17 (12.88%)	29 (21.97%)	17 (12.88%)	25 (18.94%)	11 (8.33%)
	Not Expert	1 (0.76%)	11 (8.33%)	13 (9.85%)	4 (3.03%)	24 (18.18%)	1 (0.76%)
Mysuru (N=120)	Fully expert	42 (35.00%)	19 (15.83%)	18 (15.00%)	22 (18.33%)	22 (18.33%)	38 (31.67%)
	Expert	42 (35.00%)	37 (30.83%)	42 (35.00%)	37 (30.83%)	32 (26.67%)	42 (37.50%)
	Little Expert	26 (21.67%)	28 (23.33%)	16 (13.33%)	34 (28.33%)	23 (19.17%)	25 (20.83%)
	Beginner	9 (7.50%)	18 (15.00%)	26 (21.67%)	11 (9.17%)	16 (13.33%)	8 (6.67%)
	Not Expert	1 (0.83%)	18 (15.00%)	18 (15.00%)	16 (13.33%)	27 (22.50%)	4 (3.33%)
Belagavi (N=31)	Fully expert	8 (25.81%)	5 (16.13%)	3 (9.68%)	9 (29.03%)	3 (9.68%)	13 (41.94%)
	Expert	15 (48.39%)	10 (32.26%)	10 (32.26%)	5 (16.13%)	11 (35.48%)	14 (45.16%)
	Little Expert	6 (19.35%)	8 (25.81%)	8 (25.81%)	9 (29.03%)	7 (22.58%)	4 (12.90%)
	Beginner	2 (6.45%)	6 (19.35%)	6 (19.35%)	7 (22.58%)	7 (22.58%)	--
	Not Expert	--	2 (6.45%)	4 (12.90%)	1 (3.23%)	3 (9.68%)	--
Total (N=283)	Fully expert	**95 (33.57%)**	**51 (18.02%)**	**13 (13.43%)**	**60 (21.20%)**	**43 (15.19%)**	**86 (30.39%)**
	Expert	**109 (38.52%)**	**98 (34.63%)**	**96 (33.92%)**	**99 (34.98%)**	**79 (27.92%)**	**122 (43.11%)**
	Little Expert	**58 (20.49%)**	**62 (21.91%)**	**53 (18.73%)**	**68 (24.03%)**	**59 (20.85%)**	**51 (18.02%)**
	Beginner	**19 (6.71%)**	**41 (14.49%)**	**61 (21.55%)**	**35 (12.37%)**	**48 (16.96%)**	**19 (6.71%)**
	Not Expert	**2 (0.71%)**	**31 (10.95%)**	**35 (12.37%)**	**21 (7.42%)**	**54 (19.08%)**	**5 (1.77%)**

Note:
a) Knowledge & skills in automation & digitization   b) Software installation and customization
c) Server maintenance   d) Networking maintenance
e) RFID technology use security system   f) Barcode scanner, reader and printer

Note: Number given in parenthesis represents the percentage

The data reveals varying degrees of ICT application skill in Bengaluru, Mysuru, and Belagavi. Automation & digitization expertise (a) and Barcode scanner, reader, and printer (f) demonstrate the highest expertise levels, with 33.57% and 30.39% of respondents, respectively, reporting being "Fully Expert." Server maintenance (c) and RFID technology use security system (e), however, demonstrate lower expertise levels, with 12.37% and 19.08% of respondents, respectively, reporting not being "Not Expert." Bengaluru demonstrates the highest expertise for automation & digitization (34.09%), while Mysuru demonstrates higher proficiency in Barcode scanner, reader, and printer (31.67%). Belagavi has an above-average "Fully Expert" percentage in Barcode scanner, reader, and printer (41.94%) but below-average in Server maintenance (12.90% "Not Expert").

Table-04 Please rate your level of agreement regarding 'Knowledge/Skills' in managing web-based resources and services.

Division	Level of Agreement	Statements on Web based resources & services					
		a.	b.	c.	d.	e.	f.
Bengaluru (N=132)	Explant	35 (26.52%)	27 (20.45%)	20 (15.15%)	25 (18.94%)	34 (25.76%)	43 (32.58%)
	Very good	56 (42.42%)	54 (40.91%)	52 (39.39%)	54 (40.91%)	59 (44.70%)	52 (39.39%)
	Good	24 (18.18%)	32 (24.24%)	40 (30.30%)	40 (30.30%)	29 (21.97%)	28 (21.21%)
	Poor	14 (10.61%)	15 (11.36%)	17 (12.88%)	11 (8.33%)	10 (7.58%)	7 (5.30%)
	Very Poor	3 (2.27%)	4 (3.03%)	3 (2.27%)	2 (1.52%)	--	1 (1.52%)
Mysuru	Explant	28 (23.33%)	20 (16.67%)	21 (17.50%)	21 (17.50%)	30 (25.00%)	26 (21.67%)

(N=120)	Very good	33 (27.50%)	33 (27.50%)	38 (31.67%)	43 (35.83%)	33 (27.50%)	37 (30.83%)
	Good	40 (33.33%)	53 (44.17%)	41 (34.17%)	46 (38.33%)	45 (37.50%)	45 (37.50%)
	Poor	12 (10.00%)	7 (5.83%)	8 (6.67%)	7 (5.83%)	10 (8.33%)	10 (8.33%)
	Very Poor	7 (5.83%)	7 (5.83%)	12 (10.00%)	3 (2.50%)	2 (1.67%)	2 (1.67%)
Belagavi (N=31)	Explant	8 (25.81%)	5 (16.13%)	11 (35.48%)	11 (35.48%)	5 (16.13%)	6 (19.35%)
	Very good	14 (45.16%)	7 (54.84%)	10 (32.26%)	9 (29.03%)	15 (48.39%)	19 (61.29%)
	Good	6 (19.35%)	7 (22.58%)	8 (25.81%)	9 (29.03%)	7 (22.58%)	3 (9.68%)
	Poor	2 (6.45%)	1 (3.23%)	1 (3.23%)	1 (3.23%)	3 (9.68%)	3 (9.68%)
	Very Poor	1 (3.23%)	1 (3.23%)	1 (3.23%)	1 (3.23%)	1 (3.23%)	--
Total (N=283)	Explant	**71 (25.09%)**	**52 (18.37%)**	**52 (18.37%)**	**57 (20.14%)**	**69 (24.38%)**	**75 (26.50%)**
	Very good	**103 (36.40%)**	**104 (36.75%)**	**100 (35.34%)**	**106 (37.46%)**	**107 (37.81%)**	**108 (38.16%)**
	Good	**70 (24.73%)**	**92 (32.51%)**	**89 (31.45%)**	**95 (33.57%)**	**81 (28.62%)**	**76 (26.86%)**
	Poor	**28 (9.89%)**	**23 (8.13%)**	**26 (9.19%)**	**19 (6.71%)**	**23 (8.13%)**	**20 (7.07%)**
	Very Poor	**11 (3.89%)**	**12 (4.24%)**	**16 (5.65%)**	**6 (2.12%)**	**1 (1.06%)**	**4 (1.41%)**

Note:
a) Design user interface library website /Web-OPAC   b) Design institutional repository
c) Formation of library networks   d) Assess the library consortium
e) Subscription of E-Resources   f) Use of digital archives/ gateways/ open access resources

The figures show an overall high rate of satisfaction with managing web-based resources and services in Bengaluru, Mysuru, and Belagavi. The highest consensus with "Very Good" is the Use of digital archives/gateways/open access resources (f) at 38.16%, and the second is the Subscription of E-Resources (e) at 37.81%, showing high capability in both these activities. However, the formation of library networks (c) and the design of the user interface library website/Web-OPAC (a) are relatively low in confidence, attaining 35.34% and 36.40% in "Very Good" respectively. Bengaluru tops the list for Subscription of E-Resources (44.70%), and Mysuru exemplifies higher competence in Assess the library consortium (35.83%). Belagavi exhibits very high "Very Good" in Use of digital archives/gateways/open access resources (61.29%) but lags in Design institutional repository (29.03%).

Table-05 What is the status of the automation of your library

Division	Fully automated	Partially automated	Not automated	Total
Bengaluru	83 (62.88%)	47 (35.61%)	2 (1.52%)	132 (46.64%)
Mysuru	65 (54.17%)	53 (44.17%)	2 (1.67%)	120 (42.40%)
Belagavi	17 (54.84%)	13 (41.94%)	1 (3.23%)	31 (10.95%)
Total	165 (58.30%)	113 (39.93%)	5 (1.77%)	283 (100.00%)

The table illustrates the level of automation of the library in Bengaluru, Mysuru, and Belagavi. Most libraries are completely automated, with Bengaluru's highest at 62.88%, followed by Mysuru (54.17%) and Belagavi (54.84%). Partially automated libraries are also dominant, including Mysuru at 44.17% and Bengaluru at 35.61%. There are virtually no non-automated libraries, with the lowest at 1.52% in Bengaluru and the highest at 3.23% in Belagavi. 58.30% of the libraries are automated, showing a strong automation trend. That there are partly and non-automated libraries, however, also implies that more efforts must be made so as to automate completely, especially in small divisions such as Belagavi.

Table-06 Do you able to use and handling the library automation software's.

Division	Yes	No	Total
Bengaluru	132 (100.00%)	0	132 (46.64%)
Mysuru	120 (100.00%)	0	120 (42.40%)
Belagavi	31 (100.00%)	0	31 (10.95%)
Total	283 (100.00%)	0	283 (100.00%)

The statistics reveal that 100% of the respondents from Bengaluru, Mysuru, and Belagavi are able to work and maintain library automation software. This is an indication of high efficiency and confidence among the staff in using automated systems. The consistency in all divisions reflects proper implementation and training programs such that the staff is well trained to work with these tools efficiently.

Table-06.1 If 'Yes', please rate your level of agreement regarding 'Expertise' in use of 'library automation software's' packages known to you

Division	Level of Agreement	Statement on Automation and Management software's				
		Koha	Libsys	Easylib	Newgenlib	SOUL
Bengaluru (N=132)	Fully expert	42 (31.82%)	23 (17.42%)	25 (18.94%)	16 (12.12%)	6 (6.06%)
	Expert	45 (34.09%)	39 (29.55%)	36 (27.27%)	27 (20.45%)	35 (26.52%)
	Little Expert	30 (22.73%)	33 (25.00%)	29 (21.97%)	25 (18.94%)	16 (12.12%)
	Beginner	10 (7.58%)	29 (21.97%)	29 (21.97%)	38 (28.79%)	38 (28.79%)
	Not Expert	5 (3.79%)	8 (6.06%)	13 (9.85%)	26 (19.70%)	35 (26.52%)
Mysuru (N=120)	Fully expert	29 (24.17%)	10 (8.33%)	50 (41.67%)	6 (5.00%)	8 (6.67%)
	Expert	41 (34.17%)	34 (28.33%)	34 (28.33%)	16 (5.00%)	17 (14.17%)
	Little Expert	27 (22.50%)	28 (23.33%)	19 (15.83%)	17 (14.17%)	15 (12.50%)
	Beginner	19 (15.83%)	41 (34.17%)	15 (12.50%)	49 (40.83%)	44 (36.67%)
	Not Expert	4 (3.33%)	7 (5.83%)	2 (1.67%)	32 (26.67%)	36 (30.00%)
Belagavi (N=31)	Fully expert	2 (6.45%)	3 (9.68%)	12 (38.71%)	6 (19.35%)	2 (6.45%)
	Expert	11 (35.48%)	4 (12.90%)	6 (19.35%)	8 (25.81%)	3 (9.68%)
	Little Expert	10 (32.26%)	9 (29.03%)	8 (25.81%)	9 (29.03%)	8 (25.81%)
	Beginner	8 (25.81%)	13 (41.94%)	4 (12.90%)	5 (16.13%)	8 (25.81%)
	Not Expert	--	2 (6.45%)	1 (3.23%)	3 (9.68%)	10 (32.26%)
Total (N=283)	Fully expert	**73 (25.80%)**	**36 (12.72%)**	**87 (30.74%)**	**28 (9.89%)**	**18 (6.36%)**
	Expert	**97 (34.28%)**	**77 (27.21%)**	**76 (26.86%)**	**51 (18.02%)**	**19 (19.43%)**
	Little Expert	**67 (23.67%)**	**70 (24.73%)**	**56 (19.79%)**	**51 (18.02%)**	**39 (13.78%)**
	Beginner	**37 (13.07%)**	**83 (29.33%)**	**48 (16.96%)**	**92 (32.51%)**	**90 (31.80%)**
	Not Expert	**9 (3.18%)**	**17 (6.01%)**	**16 (5.65%)**	**61 (21.55%)**	**81 (28.62%)**

The findings disclose different levels of proficiency in employing library automation packages in Bengaluru, Mysuru, and Belagavi. Koha and Easylib reflect the highest degrees of expertise, with 25.80% and 30.74% of the respondents, respectively, as "Fully Expert." Newgenlib and SOUL reflect lesser degrees of expertise, with 21.55% and 28.62% of the respondents, respectively, reporting themselves as "Not Expert." Bengaluru reflects the highest degree of expertise for Koha (31.82%), and Mysuru reflects higher skill in Easylib (41.67%). Belagavi has an impressive rate of "Fully Expert" in Easylib (38.71%) but is weak in SOUL (32.26% "Not Expert").

Table-07 Do you able to use and handling the 'Digital Library software's'

Division	Yes	No	Total
Bengaluru	122 (92.42%)	10 (7.58%)	132 (46.64%)
Mysuru	112 (93.33%)	8 (6.67%)	120 (42.40%)
Belagavi	30 (96.77%)	1 (3.23%)	31 (10.95%)
Total	264 (93.29%)	19 (6.71%)	283 (100.00%)

The statistics indicate that most of the respondents in Bengaluru (92.42%), Mysuru (93.33%), and Belagavi (96.77%) can operate and use digital library software with a general mean percentage of 93.29%. Nonetheless, some of the respondents (6.71%) said they could not use them, reflecting small knowledge or access deficits.

Table-07.1 If 'Yes', please rate your level of agreement regarding 'expertise' in use of digital library software packages known to you

Division	Level of Agreement	Statement on Digital Library Software's			
		E-prints	D-space	Greenstone	Fedora
Bengaluru (N=122)	Fully expert	29 (23.77%)	45 (36.89%)	8 (6.56%)	6 (4.92%)
	Expert	40 (32.79%)	40 (32.79%)	28 (22.95%)	23 (18.85%)
	Little Expert	23 (18.85%)	25 (2049%)	26 (21.31%)	27 (22.13%)

	Beginner	25 (20.49%)	9 (7.38%)	37 (30.33%)	33 (27.05%)
	Not Expert	5 (4.10%)	3 (2.46%)	23 (18.85%)	33 (27.05%)
Mysuru (N=112)	Fully expert	40 (35.71%)	22 (19.64%)	2 (1.79%)	--
	Expert	26 (23.21%)	29 (25.89%)	13 (11.61%)	15 (13.39%)
	Little Expert	26 (23.21%)	25 (22.32%)	21 (18.75%)	22 (19.64%)
	Beginner	19 (16.96%)	30 (26.79%)	36 (32.14%)	31 (27.68%)
	Not Expert	1 (0.89%)	6 (5.36%)	40 (35.71%)	44 (39.29%)
Belagavi (N=30)	Fully expert	8 (26.67%)	14 (46.67%)	1 (3.33 %)	1 (3.33%)
	Expert	1 (3.33%)	6 (20.00%)	5 (16.67%)	3 (10.00%)
	Little Expert	10 (33.33%)	3 (10.00%)	7 (23.33%)	6 (20.00%)
	Beginner	10 (33.33%)	7 (23.23%)	9 (30.00%)	9 (30.00%)
	Not Expert	1 (3.33%)	--	8 (26.67%)	11 (36.67%)
Total (N=264)	**Fully expert**	**77 (29.17%)**	**81 (30.68%)**	**11 (4.17%)**	**7 (2.65%)**
	Expert	**67 (25.38%)**	**75 (28.41%)**	**46 (17.42%)**	**41 (15.53%)**
	Little Expert	**59 (22.35%)**	**53 (20.08%)**	**54 (50.45%)**	**55 (20.83%)**
	Beginner	**54 (20.45%)**	**46 (17.42%)**	**82 (31.06%)**	**73 (27.65%)**
	Not Expert	**7 (2.65%)**	**9 (3.41%)**	**71 (26.89%)**	**88 (33.33%)**

The findings indicate different levels of proficiency in employing digital library packages in Bengaluru, Mysuru, and Belagavi. D-space shows the largest percentage of "Fully Expert" answers (30.68%), followed by E-prints (29.17%), indicating higher levels of proficiency with these packages. But Fedora and Greenstone demonstrate lower levels of expertise, 33.33% and 26.89% of the respondents, respectively, being "Not Expert." Bengaluru excels in expertise in D-space (36.89%), whereas Mysuru is superior in E-prints (35.71%). Belagavi demonstrates a high percentage of "Fully Expert" in D-space (46.67%) but falls behind Fedora (36.67% "Not Expert").

7. Major Findings of the Study

➢ The survey reflects Bengaluru leading at 67.85% deemed and private universities are the norm in Mysuru and Belagavi, deemed and private universities dominate Bengaluru. The absence of a university in Kalaburagi reflects unevenness in higher education facilities by region.

➢ **Designation**: The statistics identify that most of the respondents are library assistants (44.17%), with the highest proportion in Mysuru (49.17%). Librarians account for 26.15%, with the highest proportion being in Mysuru (27.50%), and assistant librarians account for 29.68%, with the highest proportion being in Bengaluru (36.36%).

➢ **Professional qualification** in terms of profession, most of the respondents possess an MLISc degree (53.00%), with the highest proportion being in Bengaluru (59.85%). Further qualifications such as MLISc with NET/SLET or M.Phil are fewer in number, though Belagavi has a larger percentage (19.35% and 12.90%, respectively).

➢ **Nature of Profession:** Permanent employees account for the majority of the respondents (76.68%), while Belagavi leads with 93.55%, while temporary working is most prevalent in Bengaluru (29.55%).

➢ Automation & digitization and Barcode scanner, reader, and printer are self-explanatory, but Server maintenance and RFID technology need more attention. Most of the participants are beginners or not experienced in these tools, especially in Mysuru and Belagavi.

➢ Though Use of digital archives/gateways/open access resources and Subscription of E-Resources are well managed, Formation of library networks and Design user interface library website/Web-OPAC need more hard work. An infinitesimal percentage of the participants evaluate their skills as "Poor" or "Very Poor," specifically for Formation of library networks (9.19%) and Design user interface library website/Web-OPAC (9.89%).

➢ The data shows **58.30%** of libraries are fully automated, with Bengaluru leading at **62.88%**. However, **39.93%** remain partially automated, and **1.77%** are not automated. Smaller divisions like Belagavi need more support.

➢ The complete lack of "No" responses is an indicator of the widespread use and applicability of library automation software. This is a positive sign of the preparedness and flexibility of library personnel in accepting technological developments.

➢ Koha and Easylib are easy, but Newgenlib and SOUL need special consideration. The majority of

the respondents are novices or non-experts when they use these tools, especially Mysuru and Belagavi.

➢ Large percentages of "Yes" answers indicate high adoption and proficiency in the use of digital library software. Belagavi is highest with 96.77%, followed by Mysuru and Bengaluru. Low percentages of "No" answers indicate that not many staff members might need extra training or equipment.

➢ Although D-space and E-prints are popular, Fedora and Greenstone need more popularity. A significant majority of the respondents are newcomers to these tools or have very little experience in dealing with them, especially in Mysuru and Belagavi.

8. Valuable Suggestions and Recommendations

➢ Kalaburagi Division has a huge higher education deficit, with no deemed and private universities as yet. The state and central government must give top priority to Kalaburagi division for educational growth, potentially by providing encouragement to deemed and private universities to set up campuses.

➢ To enable professional growth, training courses need to be specifically designed for library assistants, the majority of whom are in the profession.

➢ **Professional qualification:** Incentives for higher qualifications such as NET/SLET or M.Phil can assist in upgrading, especially in Bengaluru and Mysuru.

➢ **Nature of Profession:** Permanent appointment of the larger percentage of casual staff in Bengaluru may enhance job security and morale. University partnerships can assist in uniformity in qualifications and employment practices to provide a superior qualified and settled cadre.

➢ Focusing training programs on Server maintenance and RFID technology to close the skill gap. Workshops, practical training, and resource sharing can boost skills. Cooperation between divisions is crucial in bringing uniformity to the skill levels so that all the employees are adequately skilled to manage these crucial ICT applications.

➢ Special training courses for Formation of library networks and Design user interface library website/Web-OPAC must be designed to fill the skill gap. Workshops, practice sessions, and resource sharing will improve skills. Interdivisional cooperation will make standards of

skills easy so that all employees will be competent in effective management of web-based resources and services.

➢ Prioritize upgrading partially automated systems, provide staff training, and allocate additional funding for smaller divisions. Collaborative efforts can ensure uniform adoption of automation technologies across all regions.

➢ While the current scenario is promising, training and upskilling sessions should be continued to make staff familiar with evolving software features. Furthermore, periodic reviews can help identify any emerging issues and enable consistent efficiency in handling automation tools. Shared knowledge platforms can further enhance expertise between divisions.

➢ Newgenlib and SOUL can be targeted in particular with training programs to fill the expertise gap. Practical sessions, workshops, and resource sharing can increase efficiency. Joint efforts between divisions can standardize levels of expertise so that all the staff are well-equipped to handle these key library automation software packages.

➢ To bridge the gaps, special training sessions need to be organized for the 6.71% who cannot utilize digital library software. Hands-on sessions and workshops organized on a regular basis can generate skills, and technical support and resource provision can render resources more accessible. Divisional collaboration can facilitate sharing best practice and increase overall skill levels for operating digital library systems.

➢ Training programs special for Fedora and Greenstone can help bridge the skill gap. Experiential training, workshops, and knowledge sharing can maximize proficiency. Coordinating the divisions can bring levels of skill to uniform levels so that all the workers are able to utilize these digital library software packages in their important applications.

9. Conclusion

The research emphasizes the change-oriented impact of Information and Communication Technology (ICT) to create job satisfaction and professional competence among Library and Information Science (LIS) professionals in private and deemed universities of Karnataka. As libraries turn into digital centers, ICT skills are a necessity to address changing user needs. The study finds regional variation, with Bengaluru taking the lead in automation and ICT capabilities, while Mysuru and

Belagavi fall behind in server management, RFID technology, and sophisticated library software like Newgenlib and SOUL. Findings indicate that a majority of LIS professionals possess an MLISc degree, yet higher qualifications such as NET/SLET, M.Phil, or PhD need to be encouraged for professional growth. Permanent jobs prevail with the majority of professionals being library assistants. As much as automation is prevalent, partially and non-automated libraries need additional support, particularly in smaller areas such as Belagavi. The research suggests expert training programs addressing server support gaps, RFID and advanced software competence. University collaboration with regions will enable the standardisation of skills development and resource sharing. Prioritising complete automation and uniform training for virtual tools will enhance job satisfaction and system efficiency. In summary, the study recommends policy to policymakers and librarians to address ICT skill imbalances, enhance job satisfaction, and keep Karnataka's libraries centres of academic excellence in the new digital era.

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