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TO STUDY THE ONLINE LIBRARY INFORMATION SYSTEM TO INFLUENCE PROFESSIONALS' ABILITIES TO PROVIDE VARIED ICT-BASED LIBRARY SERVICES

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ABSTRACT

The transition of libraries into knowledge centers is a key change brought about by ICT in the information society age. Users' information needs and the medium of information access have also altered as a result of this. With technical advancements, there are also changes in the requirements and interests of readers. This has prompted a number of studies in the field, and the parts that follow describe the use of ICT in libraries in India and internationally. The examination is centered around Delhi's college libraries, including their focal, departmental, and concentrate on focus libraries. Delhi has seven organizations, each with its own college library, which were established by a demonstration of the official gathering somewhat recently. As per the University Grants Commission, Delhi today has sixteen colleges, including considered colleges. Focal colleges, considered colleges, specialized and exceptional colleges, and colleges committed to specific fields of study are avoided from the review. Just five college libraries in Delhi were picked for the review since they have a strong library framework and gifted labor force to create a contextual investigation of college libraries in Delhi. Regardless of being a specific college, Delhi Agricultural University is remembered for the study populace since it is one of the most seasoned and has an exceptional library framework. The libraries that were avoided with regards to the review are still in the beginning phases of framework improvement, with few specialists because of their freshness.

KEY WORDS: **Library Information System, Information and Communication Technology.**

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INTRODUCTION

To flourish in the present computerized world, having advanced data literacy is important. Pretty much every part of human existence has been changed by data and correspondence innovation. This can likewise be found on account of libraries. Since it gives a huge store of data and skill, the web has now turned into an unavoidable hotspot for data searchers. Most of assets are online, and administrations that can be gotten to from a client's work area have made them independent. One of the main weaknesses of utilizing the web is that the data gave inside may not be important all of the time. In such conditions, the client will need the help of an assessor. In the computerized age, this portrays the interest for data experts and their expertise improvement. Libraries face various convoluted open doors and difficulties from numerous areas of the information society in the twenty-first hundred years in this computerized data climate. Coming up next are the significant difficulties:

- Data torrential slide
- Client assumptions
- Virtual learning climate
- Virtual instructive establishments
- Improvement of advanced, virtual, and half and half libraries
- Online bookshops and data administrations
- Development and use of web assets and Collection advancement
- Asset sharing through systems administration
- Utilization of advanced assets
- Client assumptions

Direction, reengineering, change, and huge changes in the data climate, library activities, and the jobs of library and data administration experts have been expected to meet these troubles. The world will look for gifted individuals in all fundamental areas with a solid information establishment in their central regimen discipline and the ability to adjust to new requirements in this mechanical time. As far as more admittance to a wide scope of data, further developed speed in getting data, and expanded intricacy in distinguishing, investigating, connecting, and

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refreshing data, the climate in which administrators work is evolving. Libraries should embrace new innovation and go up against deterrents to offering further developed types of assistance to remain current in the socially arranged climate and satisfy the growing necessities of their clients.

The general objective of the library and data focus is to turn into the right objective for the perfect individuals to acquire the right data in the ideal organization with impeccable timing and in the correct manner. In the computerized climate, especially in the web and web climate, there are immense opportunities to give administrations to individuals. LIS experts need new capacities in data recovery, showcasing, website architecture, client preparing, and innovation the executives, in addition to other things (Poliwali, 2011). The appearance of digitized data and innovation, for example, library 2.0 and distributed computing is permitting the capacity of curator to be raised, bringing about the introduction of another type of administrator known as the digital custodian or cybrarian (Dey,2012). In the information based society, library experts with the vital capability, capacities, and proactive disposition can prosper in their new jobs as satisfied makers, information guides, and facilitators. They should remain current in their field of work consistently by partaking in proceeding with proficient advancement programs.

ICT in Higher Education- Indian Scenario

Under the chairmanship of Dr. S. Radhakrishnan (1948-49), the University Grants Commission (UGC) laid the foundation for the fate of Indian advanced education. Under the chairmanship of Dr. D.S. Kothari, the Education Commission's report (1964-66) represented the harmonious connection among training and public turn of events. The Indian advanced education framework is one of the world's biggest. Whenever India acquired freedom, there were just 20 colleges and 500 schools with 0.1 million understudies. As of August 2016, there were 759 colleges in the nation, including 350 state colleges, 123 considered colleges, 47 focal colleges, 239 private colleges, 10,624 universities, and 566 independent foundations (UGC,2016). Lately, the nation has started to carry out various improvement related measures pointed toward advancing advanced education. The National Knowledge Commission (NKC) report and the 'Panel to Advise on Renovation and Rejuvenation of Higher Education' report are the latest. A

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few new drives to advance quality and greatness in advanced education were sent off during the eleventh Five Year Plan, remembering the National Mission for Education through ICT (NMEICT) for digitization and systems administration of every instructive foundation, as well as the National Knowledge Network (NKN) and associated computerized grounds. ICT Integration was the focal undertaking in the area of advanced education quality and greatness, which remembered making computerized stores for colleges and schools, ICT for colleges, e-content creation, and digitalization of doctoral theories, in addition to other things. The development of advanced education will be gone on in the twelfth Five-Year Plan, with innovative methods to empower admittance to advanced education. The UGC plan go on by accentuating the significance of laying out a legitimate data set to improve India's advanced education framework. The production of a public information bank on advanced education and the development of a National Monitoring Cell (NMC) under the UGC are two stages that merit quick consideration.

Need and Significance of the Study

The review's motivation is to gauge ICT capacities among library experts in the state's college libraries. Libraries are turning into an indistinguishable and significant piece of a data based society due to the unfathomably extending rates along with the best prerequisite for quick admittance to data in the present everyday setting. The library is steadily changing its conventional thought because of expanded information among library clients, the accessibility of new assets, and high level utilization of data innovation. Administrators are supposed to play out a fundamental and dynamic part in the data and correspondence framework. Since before the nation's autonomy, there has been library and data science educating and research. In any case, most colleges and establishments have not stayed aware of the advances in the library and data science field. During the 10th five-year plan, the UGC advanced ICT at a humble level by giving UGC INFONET, e-diary consortia, e-content turn of events, digitalization of doctorate propositions, development and upkeep of the association index, and empowering colleges to push toward e-instruction. This has meaningfully had an impact on the manner in which India conducts research and expanded the interest for more client driven data contributions. In view of the touchy ascent of ICT in libraries, the abilities expected to carry out this mechanical shift

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have turned into a main issue. These variables make it important to investigate the ICT abilities expected of data experts in this steadily evolving climate. Accordingly, the ongoing review plans to decide the ICT abilities of bookkeepers working in college libraries. Following a survey of the significant writing, it was found that while most college libraries are not completely prepared to consolidate ICT-based applications in their administrations, their mentalities with respect to ICT applications have moved.

RESEARCH METHODOLOGY

RESEARCH DESIGN

The research design is the conceptual framework for conducting research. The term "research design" refers to the planning ahead of time of the methods to be utilised for collecting relevant data and the techniques to be employed in their analysis, keeping in mind the research's goal as well as the availability of personnel, time, and money (Kothari, 2009). The design aids the researcher in effectively organising ideas in order to detect flows and shortcomings. This study is carried out using the survey method, and data is collected using a questionnaire. The most popular research approach for gathering data from a large number of people at once is the survey. In descriptive research, survey methods are typically used to characterise the features of a certain group. The surveys are concerned with the current state of affairs, as well as the attitudes and trends that are emerging.

POPULATION OF THE STUDY

The universe of this research is Delhi's university libraries. The participants in the study are library professionals who work at Delhi's university libraries. In Delhi, seven universities were formed by an act of the legislative assembly in the previous century, each with its own university library. In Delhi, nine new universities were established in the twenty-first century, including one central university and two universities that were granted deemed university status under UGC criteria. In addition to the state and central universities mentioned above, the UGC has designated two institutions as considered universities. According to the University Grants Commission, Delhi today has sixteen universities, including deemed universities, operating,

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with central universities, deemed universities, technical and special institutions devoted to certain fields of study being omitted from the study. Delhi Agricultural University, while being a specialised university, is included in the population selected for the survey since it is one of the oldest universities and has a well-equipped library system. Thus, out of the thirteen state universities, the first seven were founded prior to 2000, with five of them having full-fledged university libraries. Delhi University Library, Calicut University Library, and Delhi University Library are the first five university libraries. The library systems at Cochin University of Science and Technology, Delhi Agricultural University Library, and Mahatma Gandhi University Library are all quite robust, having central libraries and independent departmental/constituent college libraries. Despite the fact that the Sree Sankaracharya University of Sanskrit and Kannur University were founded in the late 1990s, their university library systems are in a fledgling state in terms of ICT infrastructure and employees. The amount of permanent professional employees employed by these two universities is also quite modest (below ten). To generate a case study on university libraries in Delhi, it was determined to focus on the first five universities that have a robust library system and professional manpower.

A systematic questionnaire to the university librarian was used to acquire information about the sources, services, and ICT facilities of the five university libraries, as shown in Appendix-I. The questionnaire was created with the primary goal in mind, highlighting the availability of ICT infrastructure in university libraries. A second questionnaire, as shown in Appendix-II, was issued to library professionals working in the five university library systems to assess their ICT abilities. The study's population consisted of permanent library professionals from five university libraries in Delhi. The research is a census of a certain demographic. Census enquiry is a full enumeration of all items in the population.

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TABLE 1 STATUS OF LIBRARY PROFESSIONALS IN UNIVERSITIES

Designation	UoK	UoC	CUSAT	KAU	MGU	Total
University Librarian	Vacant	Vacant	Vacant	Vacant	Vacant	0
Deputy Librarians	4	2	1	1	3	11
Assistant Librarians	28	15	15	4	8	70
Junior Librarians/ Reference Assistants	16	11	7	7	10	51
Prof. Assistants Gr I/ Technical Assistants	32	20	16	3	16	87
Prof. Assistants Gr II/ Library Assistants	8	12	3	0	8	31
Total	88	60	42	15	45	250

The position of university librarian has been vacant throughout Delhi's universities for long years, and it has been vacant at the University of Delhi since 1989. When it comes to the necessity of administrative support for ICT applications and digital library technologies, this position is critical in a university. Professional Assistant Gr. I/ Technical Assistants and Assistant Librarians are fairly evenly distributed among Delhi's library professionals. Junior Librarian/Reference Assistants are the second largest group, followed by Professional Assistant Gr. II/Library Assistants.

DATA COLLECTION TOOLS

Data is collected via a structured questionnaire, which is supplemented by interviews and observational approaches. Structured questionnaires are ones in which the questions are specific, concrete, and pre-determined. The primary data was gathered through a questionnaire distributed to library professionals at the five university libraries. A questionnaire to the university librarian was also issued in order to provide enough information on the library's infrastructural facilities.

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RESULTS AND DISCUSSION

STATUS OF ICT INFRASTRUCTURE

In the following sections, general information about university libraries in Delhi is analyzed and described, including library collection, technical organization, membership, library professionals, and the availability of ICT infrastructure facilities such as hardware, software, telecommunication and networking, internet, library automation, ICT based library services, information on library websites, and so on.

LIBRARY COLLECTION

Any university library's collection and acquisition of documents is critical. Table -2 lists the documentary and non-documentary resources available at Delhi's university libraries.

TABLE 2 LIBRARY COLLECTION

Documents	UoK	UoC	CUSAT	KAU	MGU
Books	3,24,971	93,067	82,715	32,155	52,039
Average number of books added in last three years	11341	2004	6160	-	8000
Bound volumes of journals	40,793	2500	9350	7226	7500
Foreign journals	29	39	160	993	85
Indian journals	241	140	57		170
Reference books	28227	9520	37222	-	16430
Theses / Dissertation	4009	2894	2367	3403	2137
Reports	-	-	-	70	216
Standards	10	-	200	-	16
Patents	126	-	3500	-	-
Technical reports	-	-	550	97	-
E-books	80,000	10,263	600	-	3300
E-journals	50000	8933	15000	1599	2108
Online database	15	7	14	2	8
CD-ROM database	-	13	-	8	14
CD-ROM / DVD	1,126	420	650	153	325
Microforms	376	250	-	-	-
Total non-print collections (Microfiche, AV,CD/DVD)	3200	1509	2432	2160	1516

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According to the information in the table, Delhi's university libraries have a good collection of documentary and non-documentary resources. According to the table, Delhi University Library has the largest collection of documentary resources, followed by the University of California and CUSAT. UoK library has the most books added in the last three years, followed by MGU library. In addition, the University of Delhi contains a repository of UN and World Bank records, as well as a large library of Delhi reference books (30,000). The University of Kent has the most Indian journals, followed by MGU library, and CUSAT library has the most foreign journal subscriptions. In terms of print journal subscriptions, the UoK library is first, followed by the MGU library. CUSAT has the largest collection of reference books, followed by UoK. In addition to the vast number of theses held by the University of Kent, there are around 30,000 dissertations held by departmental and other libraries. CUSAT library provides a vast number of patents, standards, and technical reports as one of India's patent depositories and a technological information center. In terms of quantity of e-books and e-journals, the University of Kent has the largest e-collection of university libraries. Through the INFLIBNET and CeRA consortia, all libraries have access to a variety of online journals in a variety of areas. In addition to the aforementioned collections, the University of Kent library has released 19 bibliographies on various topics. The Oriental Research Institute & Manuscripts Library of the University of Kent has around 70,000 books, mostly palm leaf manuscripts, in 30,000 copies. The library of the University of Cape Town also includes a large collection of ancient manuscripts on palm leaves and other media. More than 12,000 manuscripts in various languages, including paper manuscripts, are currently housed in the Thunchan Manuscript Library.

MEMBERSHIP DETAILS

The bar graph depicts the status of membership information in Delhi's university libraries.

LIBRARY PROFESSIONALS

Human resources play an important part in the proper management of libraries, as they organize and control the library's resources and services. The data in table 3 demonstrates that

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the position of University Librarian is vacant in all universities, and the libraries are managed by the Deputy Librarian/ Assistant Librarian in charge.

TABLE 3 LIBRARY PROFESSIONALS

Designation	UoK	UoC	CUSAT	KAU	MGU	Total
University Librarian	Vacant	Vacant	Vacant	Vacant	Vacant	0 (0%)
Deputy Librarians	4	2	1	1	3	11 (4.4%)
Assistant Librarians	28	15	15	4	8	70 (28.0%)
Junior Librarians/ Reference Assistants	16	11	7	7	10	51 (20.4%)
Prof. Assistants Gr I/ Technical Assistants	32	20	16	3	16	87 (34.8%)
Prof. Assistants Gr II/ Library Assistants	8	12	3	0	8	31 (12.4%)
Total	88 (35.2%)	60 (24.0%)	42 (16.8%)	15 (6.0%)	45 (18.0%)	250 (100.00%)

It is apparent that the UoK library has the most professionals with 88 (35.2%), followed by the UoC Library with 60. (24.0 percent). The number of professionals in the CUSAT and MGU libraries is about same. Professional Assistant Gr I/ Technical Assistants account for 34.8 percent of the total 250 professionals, which is the biggest number of professionals, followed by Assistant Librarians (28.0 percent). Apart from the aforementioned positions, each university library has an extra post called Information Scientist, which is sanctioned by the UGC for handling automation and networking in libraries. In the CUSAT and UoC libraries, the position has been filled.

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DETAILS OF HARDWARE

The availability of infrastructural facilities determines how modern technologies for information management and services are implemented in libraries. Table 4 shows a comparison of the hardware facilities available in university libraries.

TABLE 4 HARDWARE FACILITIES

Infrastructure	UoK	UoC	CUSAT	KAU	MGU
Server machines	1	5	2	3	3
Client workstations	43	58	40	48	35
Laptop computers	-	2	1	3	1
Dot Matrix Printer	4	2	-	-	-
Ink Jet Printer	-	2	2	3	5
Laser Printer	6	3	6	9	3
Barcode Printer	1	-	2	-	1
Flat-bed scanner	1	1	2	5	3
Barcode scanner	5	2	3	2	2
CD-ROM tower	-	-	1	-	-
CD server	2	3	-	-	-
LCD projector	1	1	2	1	2
UPS	6	4	1	6	5
Photocopier	2	2	1	1	4

The table shows that the University of California library has the most server machines and client workstations. Laser printers are common in libraries, with nine laser printers in the KAU library, six in the UoK library, and six in the CUSAT library. All of the libraries contain flat-bed scanners for scanning papers, including four scanners in the KAU library. In terms of barcode scanners, UoK ranks first with five scanners, followed by CUSAT library, which has three scanners. In terms of photocopiers, the UoK and MGU libraries have the most (three each). The findings show that Delhi's universities have built basic ICT infrastructure

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throughout time in order to provide technology-enhanced services. As part of green computing, all colleges utilize centralized equipment and servers in data centers, as well as power-saving devices and LED computer monitors.

DETAILS OF SOFTWARE USED

The current status of software applications in university libraries is detailed in Table -5. In most university libraries, such as UoC, CUSAT, and MGU, Linux is utilized as the operating system, however in UoK and KAU, Windows is used as the server system. In terms of library management software, KOHA is utilized in practically all of the libraries and their constituent departmental libraries, with the exception of the University of Kent library. At the University of Kent, measures have already been taken to use KOHA to automate all of the departmental libraries including the central library. From INFLIBNET's SOUL software, the KAU and MGU libraries have been entirely transferred to KOHA**.**

TABLE-5 SOFTWARE FACILITIES

Software	**UoK**	**UoC**	**CUSAT**	**KAU**	**MGU**
Network Operating system	indows2000	Linux	Linux	indows2003	Linux
Library management software	LIBSYS-4	KOHA	KOHA	KOHA	KOHA
Digital library software	LIDAS	DSpace	DSpace	Greenstone	DSpace
Database management system	SQL	MYSQL	MYSQL	MYSQL	MYSQL
Antivirus software	mantecN.11	-	Kaspersky	Kaspersky	Symantec

To improve scholarly communication, digital library software is used to construct institutional repositories where the intellectual product made by an organization's faculties, researchers, and

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students is formed in a digital collection. When it comes to digital library software, the UoC, CUSAT, and MGU libraries employ DSpace to establish digital repositories, but the KAU library uses Greenstone. In the Delhi Reference Section of the University of Kent Library, LIDAS (Offline) software is being used to create a digital archive of rare and old documents. MGU is credited with creating India's first online open access digital theses repository, which uses NityaD'Arch software to enable access to theses and dissertations in Malayalam, Hindi, Sanskrit, and English. CUSAT uses a variety of open source tools to manage its knowledge. Dyuthi, an Institutional Repository project that uses D-space, is ranked 9th in India and 547th in the world in terms of repositories. The CHMK Library recently established an institutional repository using DSpace software. In terms of database management software, all university libraries employ MYSQL server as the DBMS of KOHA, with the exception of UoK, which uses SQL as the DBMS. When it comes to anti-virus software, UoK and MGU libraries utilize Symantec, whereas CUSAT and KAUL use Kaspersky.

CONCLUSION

The study's findings found that all university librarians are familiar with web 2.0 technologies such as e-mail, wikis, social networking sites, chat rooms, and blogging. The majority of professionals utilize e-mail, a widely used web service. It's worth noting that web 2.0 technologies like social bookmarking, RSS feeds, reference management systems, and content management, which can be useful in the library and information science sector, aren't widely used by professionals. Libraries in India are attempting to deliver cloud-based services, but they are failing due to a lack of reputable service providers and LIS personnel with technological expertise. Librarians still lack general knowledge, particularly in Delhi. These concerns prompt the researcher to look into the usage of cloud computing technologies by information professionals in Delhi. When it came to cloud computing awareness and use, library professionals had nearly identical replies. It has been found that many professionals do not use it for personal or professional reasons. The majority of professionals use email and'social networking sites' as their primary technologies. The fundamental benefit of cloud computing is that it can be accessed from anywhere in the globe and on a variety of devices. Many professionals are using cloud products such as Gmail and Google Docs for their PIM

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without realizing that they are also using cloud technology, according to the study's findings. The majority of library professionals are unaware of cloud computing and its numerous service models in libraries. It has been established that library professionals in Delhi institutions did not have the opportunity to become familiar with cloud services for managing LIS software. The majority of professionals say they are reasonably confident in their ability to use ICT in libraries, but they are less confident in their ability to use cloud computing technology. According to the findings, library professionals in Delhi's universities have a good attitude toward the use of ICT in libraries, particularly web 2.0 technology. Professionals have a good attitude regarding cloud computing applications, despite their lack of familiarity with the technology. However, the biggest issue impeding the adoption of ICT in libraries is a lack of sufficient training. The study's recommendations are still valid and useful in the current scenario. Professionals require ongoing in-house training in areas such as web 2.0/cloud computing technologies, e-publishing, content management systems, webpage design, and so on. Libraries have always been thought of as information management systems, and even if the format of the material changes, the library will remain the ideal place to keep track of it. In libraries, a new form of meeting place and cultural center is emerging, with librarians playing an active part in making the library a "happening place." New skills and knowledge will lead librarians to new directions and career opportunities in the coming centuries, and neither librarians nor libraries will become obsolete. Because the future is uncertain, it is impossible to foresee the advancement of technology available in libraries, but it is possible to adapt to changes in the evolution process. Technology may not be a solution in and of itself, but it does provide access to solutions that were previously unavailable.

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