

Future Plans for Improving ICT in University Libraries of Bihar

Nitesh Kumar¹; Shyamdeo Gond²

Research Scholar¹; Assistant Professor²; Department of Library Sciences,
YBN University, Ranchi, Jharkhand, India^{1,2}

bbaulucknow666@gmail.com

ABSTRACT

Advancements in technology have significantly impacted library operations and culture. Technological advancements have facilitated knowledge retrieval and created a more cohesive global society. People today require quick access to information and tools. Libraries and knowledge resource centres are implementing ICT-based resources and services to suit users' diverse information needs and assure their sustainability in the face of increased ICT consumption. Universities must adapt their information resources, services, and infrastructure to meet the evolving needs of students, teachers, scientists, extension specialists, and the community in the digital age. However, university libraries have adopted various information communication and technology advancements and are still improving their ICT infrastructure. Therefore, the present study aims to explore the plans for improving the ICT in university libraries in Bihar.

KEYWORDS: Information Communication and Technology, Future Plans, Libraries and Bihar.

INTRODUCTION

Information is known as the fulcrum for power and prosperity and it is essential for the economic and social development of the society. The revolution in the information and communication technology has bridged the knowledge gap by providing a huge free flow of information. However, with this technology-driven revolution, the information was started by delivering a digital format with greater speed as well as economical, which is triggered in the development of digital library. Moreover, it has provided a wider range of opportunities in archiving, in accessing the digitization and to preserve the traditional knowledge (Sinha and Konwar, 2014). However, India has also taken initiatives to implement this digital infrastructure to preserve the art, culture and heritage of India from the mid-1990s. Nonetheless, India became a de facto signatory of the UNESCO "Universal Declaration on Cultural Diversity", adopted unanimously by the UNESCO on its 31st session of the General Assembly Conference held on 2 November 2001 to strengthen the access and to diverse the cultural resources available across the country. Consequently, the Indian state and non-state agencies in collaboration with the Carnegie Mellon University and the Universal Digital Library project of the US-NSF (under and Indo-US Science and Technology Collaboration

initiatives) have taken significant initiatives for digitization and for the preservation of a vast pool of knowledge, which is available in the physical forms of manuscripts, out-of-print books, rare books and archival materials. Moreover, the neighboring countries of India particularly, South Asian countries have also shared a networked community by using online platform.

Nonetheless, the Indian universities are participating as members in the Networked Digital Library of Theses and Dissertations (NDLTD). The Library and Information Centre of higher education and research institutes have taken up the task of creating a website with in-house digital content like research reports, publications of researchers, theses and dissertations, etc. (Mishra, 2018) Later on an eminently practical approach was evolved for building up an operational digital library for their maintenance operations and services. Therefore, digital resources are available in different formats which include open access, subscription-based, born-digital, digitized, etc. Based on the content and composition we have e-books, e-journals, ETD, e-database and various other forms. In the survey conducted, the query was made on the availability of different types of digital resources in the university libraries in India (Kattimani, *et.al.* 2009). However, on one hand, the university libraries in India are still struggling to build the required digital infrastructure and on the other hand, they required human resource to handle them on the other. Nonetheless, while one side of the state universities are focusing on building up the digital infrastructure in their central libraries but on the other side Bihar is still focusing on removing the educational infrastructure backwardness in the state. The state government has taken a few steps in the past for the development of educational infrastructure in the state, but due to disturbances in the state the universities in the state are facing many problems in implementing digital infrastructure in their libraries, hence the students in general and faculty in particular are facing its detrimental effects on the universities (Wani, 2006). Therefore, the present study will examine and explore the status of digital information infrastructure in the central libraries of state government universities of Jharkhand

REVIEW OF LITERATURE

Shaikh, M. et, al.(2015) studied digital library and file systems. His study explored that most digital libraries are implemented in organizations' cloud server architecture. These libraries require a huge infrastructure investment in cloud server setups and their maintenance. The research was carried out for the implementation of a digital library system by using cloud Distributed File System. This is an upcoming technology being used widely for its flexibility, scalability, and fault tolerance.

Shrinivasrao, D. et.al. (2015) examined the digital library framework. The study briefly explicates about libraries, digitization and computerization process, as a different type of file format and awareness among the teachers and students, E-resources and various digital facilities in the libraries.

Adeleke, D. S., & Emeahara, E. N. (2016) conducted a research survey that examined the relationship between Information literacy and the use of electronic information resources for academic purposes by postgraduate students of the University of Ibadan, Nigeria. The study is based on a sample size of 300 postgraduate students and the study reveals that the low level of usage of electronic resources, in particular, is linked to a lack of search techniques skills by many postgraduate students of the university to access the myriads of e-resources. Therefore, information and Communication Technology (ICT) courses be part of the the curriculum of every postgraduate programme and more emphasis should be given on e-Information literacy.

Nisha, Faizul (2018) suggested that RFID technology has become an innate part of all modern libraries, information centers and knowledge centers. Nonetheless, RFID has proved that it is efficient, effective, user friendly and expedient and has bring digitalization in libraries

Pandey (2020) conducted a study to evaluate the library resources and services provided by the central and state universities of Bihar by analyzing their library websites. The majority of resources and services are readily accessible through online library portals. Library websites play a crucial role in delivering information resources and services to users in the digital age.

Suman, A. K., Patel, M., & Paul, D. P. (2023). Indicates that in universities of Bihar, most users dedicate three or more hours to the library to gather information. The primary purpose of library visits is to prepare class notes, assignments, and projects while borrowing and returning books is a secondary activity. The second most prevalent reason for library visits is the pursuit of textbooks, newspapers, and magazines, which are the most requested reading materials. Users generally prefer to access information in both English and Hindi, and they favor using both print and electronic formats for their studies. The research demonstrates that most users express dissatisfaction with the existing ICT-based library services. The analysis demonstrates a substantial need to adopt and acquire further ICT-based information resources and services in libraries.

The present study is based on primary data. The primary data has been collected through the questionnaires, which explore the real existence of digital information infrastructure of central libraries in the universities of Bihar. The basic purpose of the study is to explore the current status of university libraries in Bihar, and study and observation of future improvements. A questionnaire was framed to collect the data as per the objectives of the study from the central libraries in the universities of Bihar, which mainly consists of library professionals and staff. The data has been taken from 13 universities of Bihar, which includes Patna University (1917), BRA University Muzaffarpur (1952), T. M University Bagalpur (1960) Magadha University Gaya (1962), L.N.M University Darbanga (1972), BNM University Patna (1992) Central University of Bihar Patna (2009), J.P University Chappra (1990) M.G Central University Patna (2016), Veer Kuwar Singh (1960) Purina University Purina (2018) Munger University Munger (2018), M.M.A.P. University Pna (1992).

FUTURE OF LIBRARIES

The future librarian's framework delineated explicit methods by which librarians may facilitate, teach, and guide strategic initiatives inside educational institutions. The framework provides concrete examples of how librarians may connect their practices by utilizing the same lexicon and strategies. In the past few years, the Future Ready Librarians program has transformed the discourse on the roles of schools, colleges, and university librarians, as well as their methods of leadership, instruction, and support for student learning (Patil, 2020). Thus, the efforts have elucidated key roles for librarians while simultaneously engaging and empowering the librarian community to enhance awareness, professional ability, and visibility as leaders within educational institutions. Future Librarians will be effective, instead of competing with existing standards or professional norms. It provides forthright and tangible methods for librarians to line up their practices and address the issues faced by users (Nandwana, 2017)

Future difficulties of university libraries and Important Competencies

Economic Challenges: There is significant apprehension that financial resources are depleting due to competition among universities. Simultaneously, expenses are rising for both electronic resources and library facilities. The administration of financial resources is essential and external entities such as publishers and national university policies influence expenses outside the library's direct control.

New services: Research processes are transforming, including elements of e-science and fostering a networked culture among students and researchers. The library users exist inside a connected framework. This emphasizes the development of services such as research data management and the support of scholarly communication, encompassing bibliometrics, social media platforms, and open access. Flexibility is emphasized, along with the necessity of being well-informed about the research environment and incorporating library services into the learning and research processes.

Collection Developments: The significance of physical collections is declining as digital collections expand swiftly. Maintaining equilibrium among various collections is challenging, as is ensuring their relevance and budgetary support. This necessitates a profound comprehension of user needs, transitioning from a typical collection-oriented approach to a customer-centric service model. The modifications also impact the libraries' physical environments.

Innovative Technologies Libraries want to Implement in Future

Artificial intelligence (AI) is the term used to describe the simulation of human intelligence in machines that are designed to replicate the actions and thought processes of humans. The term may also be used to describe any machine that demonstrates characteristics that are similar to those of a human intellect, such as problem-solving and learning. The fundamental premise of artificial intelligence is that human intelligence can be defined in a manner that enables a machine to effortlessly replicate it and complete tasks, ranging from the most basic to the most difficult. Artificial intelligence aims to replicate human cognitive function. In the field, researchers and developers are making surprisingly rapid progress in the imitation of activities such as learning, reasoning, and perception, to the extent that these can be concretely defined. Some individuals think that innovators will soon be able to create systems that surpass the human ability to learn or reason about any subject (Chaurasia & Singh, 2024). Libraries have undergone structural and content evolution across many epochs: the ancient, medieval, and modern eras. Throughout antiquity, clay tablets and stones served as mediums for information transmission, evolving through the medieval period with papyrus and parchment, and advancing to the modern era characterized by paper, microform, and currently, digital or electronic media. Libraries have procured and preserved diverse information resources over time to satisfy the informational requirements of their user groups (Das, & Lal, 2006). Likewise, a library was officially characterized as a function of the physical structure designated for the storage of books for reading and several other activities.

Process of Automation of Libraries in Universities of Bihar

Increasing automation, personalized user experiences, advanced data analytics, immersive digital environments, and the integration of emerging technologies such as artificial intelligence and the internet of things are likely to be the primary focuses of future library information and communications technology plans. These plans will enable libraries to become dynamic hubs for learning, collaboration, and community engagement, with features such as streamlined self-checkout stations, RFID tagging for quick inventory tracking, and automated book sorting systems to streamline circulation procedures are some examples of the automated systems that are used for collection management (Bhardwaj, & Shukla, 2000).

Therefore, the the present section explores the plans of libraries in the universities of Bihar. It has been observed from the table 1.1 that Patna University, BRA University Muzaffarpur, L.N.M University Darbanga M.M.A.P. University Patna, Central University of Bihar Patna and M.G Central University Patna has a fully-fledged process of automation in the services of Internet Access Services, E-Books Access Services, E-Journals Access Services, Online Access Database, CD-ROM Access Services, Web OPAC and Document Scan Service. Whereas, the university libraries of T. M University Bhagalpur, Veer Kuwar Singh, Magadha University Gaya, J.P University Chappra, BNM University Patna, Purina University Purina and Munger University Munger don't have automation process of Web OPAC and Document Scan Service in their libraries respectively.

Table 1.1: Process of Automation of Libraries in Universities of Bihar

University Name	Internet Access Services	E-Books Access Services	E-Journals Access Services	Online Access Database	CD-ROM Access Services	Web OPAC	Document Scan Service
Patna University	Y	Y	Y	Y	Y	Y	Y
BRA University Muzaffarpur	Y	Y	Y	Y	Y	Y	Y
T. M University Bagalpur	Y	Y	Y	Y	Y	N	N
Veer Kuwar Singh	Y	Y	Y	Y	Y	N	N
Magadha University Gaya	Y	Y	Y	Y	Y	N	N
L.N.M University Darbanga	Y	Y	Y	Y	Y	Y	Y
J.P University Chappra	Y	Y	Y	Y	Y	N	N
BNM University Patna	Y	Y	Y	Y	Y	N	N
M.M.A.P. University Patna	Y	Y	Y	Y	Y	Y	Y
Central University of Bihar Patna	Y	Y	Y	Y	Y	Y	Y
M.G Central University Patna	Y	Y	Y	Y	Y	Y	Y
Purina University Purina	Y	Y	Y	Y	Y	N	N
Munger University Munger	Y	Y	Y	Y	Y	N	N

Source: Field Survey Data

Opinion of ICT applications in libraries (Agree/Disagree)

ICT permeates the library environment,

underpinning the success of the modern era and providing colleges with efficient infrastructure. Libraries must be able to benefit from technological development. Librarians must possess education in conjunction with an ICT background, as advancements in ICT have transformed library operations. ICT serves as a crucial connection between users and librarians. ICT contributes to the sustainable growth of libraries and their role in the transition to knowledge-based societies. Therefore, the present section explores the opinion of the librarians for implementing ICT applications in their libraries. It has been observed from the table that all the university librarians have an opinion and agree that ICT brings improvement in the services of libraries, ICT application improve the quality of the library, The efficiency of the library has been improved through ICT applications, the time of users can be saved through ICT and ICT applications help to find the right information at the the right time to the users and as well as library staff. Therefore, all the librarians agree that ICT is the lifeblood of modern libraries across India and the World.

Table 1.2: Opinion of the Librarians for implementing ICT applications in the libraries (Agree/Disagree)

University Name	Improvem ent in the services of library through ICT	ICT application improve the quality of library	The efficiency of the library has been improved through ICT applications	The time of users can be saved through ICT	ICT application help to find right information at the right time to the users and as well as library staff
Patna University	A	A	A	A	A
BRA University Muzaffarpur	A	A	A	A	A
T. M University Bagalpur	A	A	A	A	A
Veer Kuwar Singh	A	A	A	A	A
Magadha University Gaya	A	A	A	A	A
L.N.M University Darbanga	A	A	A	A	A
J.P University Chappra	A	A	A	A	A
BNM University Patna	A	A	A	A	A
M.M.A.P. University Patna	A	A	A	A	A
Central University of Bihar Patna	A	A	A	A	A
M.G Central University Patna	A	A	A	A	A
Purina University Purina	A	A	A	A	A
Munger University Munger	A	A	A	A	A

Source: Field Survey Data

Opinion of the Librarians that ICT applications Reduced Workload in the libraries (Agree/Disagree)

Essentially, Information and Communication Technology (ICT) optimizes library workflows, so diminishing human labor and subsequently augmenting library services. A significant advantage of ICT is its ability to deliver ICT-based information services that fulfill consumers' needs. Emerging ICTs have transformed traditional libraries into knowledge centers, with librarians operating more as consulting information engineers or knowledge managers. Modern technology has brought significant improvements to various parts of library management. Therefore, the present section explores the opinion of the librarians that ICT applications reduced the workload of the libraries in universities of Bihar. Table 1.3 reveals that all the librarians in the universities of Bihar agreed that ICT reduced the workload of library staff, it is capable in handling of information in the library, ICT brought marvelous changes from traditional to upgrading, ICT application in the library create incorporation within the organization and the users are provided with easy and quick access to information through ICT respectively.

Table 1.3 : Opinion of the Librarians that ICT applications Reduced Workload in the libraries (Agree/Disagree)

University Name	ICT reduced the workload of library staff	To handling of information in the library, ICT brought marvellous changes from traditional to upgrading	ICT application in the library create incorporation within the organization	The Users are provided easy and quick access of information through ICT
Patna University	A	A	A	A
BRA University Muzaffarpur	A	A	A	A
T. M University Bagalpur	A	A	A	A
Veer Kuwar Singh	A	A	A	A
Magadha University Gaya	A	A	A	A
L.N.M University Darbanga	A	A	A	A
J.P University Chappra	A	A	A	A
BNM University Patna	A	A	A	A
M.M.A.P. University Patna	A	A	A	A
Central University of Bihar Patna	A	A	A	A
M.G Central University Patna	A	A	A	A
Purina University Purina	A	A	A	A
Munger University Munger	A	A	A	A

Source: Field Survey Data

Major Obstacles to Upgrading the ICT Tools in Libraries in Bihar

These are some of the major challenges that libraries face when it comes to upgrading their information and communication technology (ICT) tools. These challenges include limited funding, a lack of technical expertise among library staff, poor internet connectivity, rapidly changing technology, inadequate infrastructure, resistance to

change, and the need to ensure equitable access for all users. All of these challenges can make it difficult to implement and effectively use new digital tools within a library setting. Therefore, the present section explores the major obstacles to upgrading the ICT tools in libraries in Bihar.

It has been observed from table 5.15 that all the librarians agree that Insufficient financial aid to the library, shortage of trained library staff related to ICT applications, library professionals do not show their interest in enhancing ICT skills and insufficient ICT infrastructure in the library are the major obstacles for upgrading libraries in the universities of Bihar.

Table : Major Obstacles for Upgrading the ICT Tools in Libraries in Bihar

University Name	Insufficient financial aid to the library	Shortage of trained library staff related to ICT applications	Library professionals do not show their interest to enhance ICT skills	Insufficient ICT infrastructure in the library
Patna University	A	A	A	A
BRA University Muzaffarpur	A	A	A	A
T. M University Bagalpur	A	A	A	A
Veer Kuwar Singh	A	A	A	A
Magadha University Gaya	A	A	A	A
L.N.M University Darbanga	A	A	A	A
J.P University Chappra	A	A	A	A
BNM University Patna	A	A	A	A
M.M.A.P. University Patna	A	A	A	A
Central University of Bihar Patna	A	A	A	A
M.G Central University Patna	A	A	A	A
Purina University Purina	A	A	A	A
Munger University Munger	A	A	A	A

Source: Field Survey Data

Major Challenges for Automation of Libraries in Universities of Bihar

The landscape of libraries has seen a significant transformation in the realm of collection, organization, and services due to the advent of Information and Communication Technology (ICT). Concurrently, user needs and attitudes have evolved in their nature. The information-seeking behaviour of users has evolved dynamically. They seek essential, genuine information promptly and consolidate in one location. This approach has presented issues for library workers in the prompt provision of library services and information. This advancement in the library sector has introduced the concept of Library Automation.

Therefore, the present section explores the major challenges to the automation of libraries in universities of Bihar. It has been observed from Table 1.4 below that all the Librarians agreed that the fear of accept modern techniques among library staff may reduce the ICT application in the library, Lack of support from the management, insufficient technical support to resolve the problem of ICT application in the library and the shortage of awareness towards the

Future Plans for Improving ICT in University Libraries of Bihar

benefits of ICT applications in the library are the major challenges for the automation of libraries in universities of Bihar

Table 1.4: Major Challenges for Automation of Libraries in Universities of Bihar

University Name	Fear to accept modern techniques among library staff may reduce the ICT application in the library	Lack of support from the management	Insufficient technical support to resolve the problem of ICT application in the library	Shortage awareness towards the benefits of ICT applications in the library
Patna University	A	A	A	A
BRA University Muzaffarpur	A	A	A	A
T. M University Bagalpur	A	A	A	A
Veer Kuwar Singh	A	A	A	A
Magadha University Gaya	A	A	A	A
L.N.M University Darbanga	A	A	A	A
J.P University Chappra	A	A	A	A
BNM University Patna	A	A	A	A
M.M.A.P. University Patna	A	A	A	A
Central University of Bihar Patna	A	A	A	A
M.G Central University Patna	A	A	A	A
Purina University Purina	A	A	A	A
Munger University Munger	A	A	A	A

Source: Field Survey Data

Preferences for Service Upgradation in Libraries

Libraries cater to a wide range of users, each with specific information and learning needs, including families, professionals, researchers, students, and lifelong learners. Each user can obtain the materials and assistance they need in ways that are appropriate for their preferences, objectives, and skill levels thanks to a tailored approach to service. Therefore, the present section explores the preferences for service upgradation of libraries. It has been observed from Table 1.5 that the maximum universities which include Patna University, TM University Magadha University, J P university, BNM university, Central University of Bihar, M.G Central University Patna and Munger University have given the first upgradation preferences to Study/Teaching and has given second preference to reference books respectively.

Table 1.5: Preferences for Service Upgradation in Libraries

University Name	Study/Teaching	General Reading	Research	Reference Books
Patna University	1	4	3	2
BRA University Muzaffarpur	2	1	4	3
T. M University Bagalpur	1	3	4	2
Veer Kuwar Singh	4	1	2	3
Magadha University Gaya	1	4	3	2
L.N.M University Darbanga	3	4	1	2
J.P University Chappra	1	4	3	2
BNM University Patna	1	4	3	2
M.M.A.P. University Patna	2	1	4	3
Central University of Bihar Patna	1	3	4	2
M.G Central University Patna	1	4	3	2
Purina University Purina	2	1	4	3
Munger University Munger	1	3	4	2

Source: Field Survey Data

Resource Collection Development Policies (Agree/Disagree)

A "Resource Collection Development Policy" is a written document that outlines the guidelines and criteria that a library uses to build and maintain its collection of resources, which may include books, journals, databases, and digital materials. The purpose of this document is to ensure that the library's collection is in alignment with the needs of its users and the goals of the institution. This is accomplished by defining budget allocation procedures, collection evaluation procedures, and selection standards. Therefore, the present section explores the resource collection development policies of libraries. Therefore, the present section explores whether the librarians agree or disagree with the resource collection development policies and it has been observed from Table 1.6 that all the university librarians agree with the resource collection development policies which includes revision and updating policy, guidelines for proceeding resources and the existence of collection development policies respectively.

Table 1.6: Resource Collection Development Policies (Agree/Disagree)

University Name	Revision and Update policy	Guidelines for Proceeding resources	Existences of collection development Policy
Patna University	A	A	A
BRA University Muzaffarpur	A	A	A
T. M University Bagalpur	A	A	A
Veer Kuwar Singh	A	A	A
Magadha University Gaya	A	A	A
L.N.M University Darbanga	A	A	A
J.P University Chappra	A	A	A

Future Plans for Improving ICT in University Libraries of Bihar

BNM University Patna	A	A	A
M.M.A.P. University Patna	A	A	A
Central University of Bihar Patna	A	A	A
M.G Central University Patna	A	A	A
Purina University Purina	A	A	A
Munger University Munger	A	A	A

Source: Field Survey Data

Henery Garet Ranking

Henery Garret (1969) is a ranking technique method in which rank is assigned for the most affect to low affected factors. We have used the Henery Garret ranking method to find out the most preferred automation of Libraries by librarians in the universities of Bihar

Variables

Study/Teaching, General Reading, Research, Reference Books, Web OPAC, Online Access Database, E-Journals Access Services, E-books Access Services, Internet Access Services and Document Scan Service. Henery Garrett's ranking technique has been used and all factors and outcomes of such ranking have been converted into score value with the help of the following formula

$$\text{Formula} = 100(R_{ij} - 0.5)/N_j$$

Where R_{ij} = Rank given for the i th variable by j th respondents

N_j = Number of variable ranked by j th respondents

The Garret rank table used to calculate the scores from the percent position and after that the scores was multiplied with calculated percent with each factor, then the scores of each individual are added and the total value of scores are calculated into

Rank 1, Rank 2.....Rank N.

Table : Results of Henry Garret

S No	Services	Rank
1	Study/Teaching	Rank 1
2	General Reading	Rank 2
3	Research	Rank 3
4	Reference Books	Rank 4
5	Web OPAC	Rank 5
6	Online Access Database	Rank 6
7	E-Journals Access Services	Rank 7
8	E-Books Access Services	Rank 8
9	Internet Access Services	Rank 9
10	Document Scan Service	Rank 10

Table : Hennery Garret Ranking Results

The present section shows the Garret score based on the Hennery

Research	4245	3170	0	306	0	0	0	1720	1224	0	10665	55.30	Rank 3
Internet Access Services	0	0	0	3267	0	1004	1832	1008	103	610	7824	40.07	Rank 9
Web OPAC	0	0	3315	2422	0	2408	2042	232	0	0	10419	52.12	Rank 5
Study/Teaching	3867	3307	2935	0	2622	0	304	0	0	176	13211	63.45	Rank 1
General Reading	3745	0	2988	0	304	1770	2167	506	0	0	11480	56.52	Rank 2
Online Access Database	3886	300	0	0	374	4778	0	0	722	267	10327	51.44	Rank 6
E-Journals Services	1077	0	0	5420	2140	0	0	0	1339	0	9976	50.86	Rank 7
Reference Books	0	3358	3043	386	2242	0	0	1764	0	0	10792	54.98	Rank 4
Document Scan Service	0	537	487	0	0	0	1922	0	520	2367	5833	27.67	Rank 10
E-Books Services	0	3789	0	0	2198	0	0	1803	1440	178	9408	45.98	Rank 8

CONCLUSION

The overall results reveal that Patna University, BRA University Muzaffarpur, L.N.M University Darbanga M.M.A.P. University Patna, Central University of Bihar Patna and M.G Central University Patna are having fully fledged process of automation in the services of Internet Access Services, E-Books Access Services, E-Journals Access Services, Online Access Database, CD-ROM Access Services, Web OPAC and Document Scan Service. Whereas, the university libraries of T. M University Bagalpur, Veer Kuwar Singh, Magadha University Gaya, J.P University Chappra, BNM University Patna, Purina University Purina and Munger University Mungar doesn't have the automation process of Web OPAC and Document Scan Service in their libraries respectively

Nonetheless, the above results also reveal that all the librarians in the universities of Bihar agreed that ICT reduced the workload of library staff, it is capable in handling of information in the library, ICT brought marvellous changes from traditional to upgrading, ICT application in the library create incorporation within the organization and the users are provided easy and quick access of information through ICT respectively. Apart from this, that all the librarians agree that Insufficient financial aid to the library, shortage of trained library staff related to ICT applications, library professionals do not show their interest to enhance ICT skills and insufficient ICT infrastructure in the library are the major obstacles for upgrading libraries in the universities of Bihar. Therefore, all the university librarians agree with the resource collection development policies which includes revision and update policy, guidelines for proceeding resources and existences of collection development policy respectively.

REFERENCE

- [1] Adeleke, D. S., & Emeahara, E. N. (2016). Relationship between Information Literacy and Use of Electronic Information Resources by Postgraduate Students of the University Of Ibadan. *Library Philosophy & Practice*.

- [2] Bhattacharya, P., & Choudhary, P. K. (1980). Digital Library Initiatives In Iits: An Overview. *Indian Library Association*, 6, 5.
- [3] Dhanavendan, S. et al. (2009). Use of digital resources among engineering professionals in Cuddalore district, Tamil Nadu. *Indian Journal of Information Science and Services*, 3(1), 36-40.
- [4] Kattimani, M. T., Anjanappa, M., & Jange, S. (2009). Trends in ICT for Librarian 2.0: Open Courseware, Open Access Journals and Digital Library Initiatives.
- [5] Kumar, et. al (2008, August) Building Digital Library Using LSDigital, ILA National Workshop on Digital Library held at KIMS Bhubaneswar, 15-32. Retrieved August 12-13, 2008
- [6] Lai Chin-Feng, *et.al.* (2014). An evaluation model for digital libraries' user interfaces using fuzzy AHP. *The Electronic Library*.
- [7] Mishra, D. (2018) ICT infrastructure and information services provided by the Amity, University Kolkata central library: a study
- [8] Nisha, F. (2018). Implementation of RFID Technology at Defence Science Library, DESIDOC: A Case Study. *DESIDOC Journal of library & information technology*, 38
- [9] Rajasekaran, K. (2010). Digital Library. New Delhi: Ess Ess Publications.
- [10] Shaikh, M. et.al. (2015). A Study on Digital Library Using Hadoop Distributed File System. *International Journal of Innovative Research in Advanced Engineering* 2(3)
- [11] Shrinivasrao, D. et.al. (2015). An Analytical Study of Computerized Digital Library Framework in Educational Institutions. *Indian Streams Research Journal*, V (II)
- [12] Sinha, M. K. (2012). Status of ICT infrastructure for computerization of college library services in the state of assam: An barak valley, South Assam. *Library Progress (International)*, 32(1), 29-59.
- [13] Sinha, M. K., & Konwar, U. K. (2014). Status of ICT infrastructure and development of college library network among the major colleges of Barak Valley, Southern Assam: A case study.
- [14] Walmiki, R. H., & Ramakrishnegowda, K. C. (2009). ICT infrastructure in university libraries of Karnataka
- [15] Wani, Z.A.(2006) Public Library System in Jammu and Kashmir: An Assessment
-