The Status of Automation System at The International Islamic University Chittagong (IIUC) Library, Bangladesh: A Study

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Abstract

This study evaluated the performance of the central library at International Islamic University Chittagong in Bangladesh and tried to measure the operational process of "Koha open source integrated library system (ILS)" at IIUC, Bangladesh by using primary and secondary data sources. The study finds that the Koha open source is successfully used for the daily library activities and it adds a distinctive value for ensuring quality University education at IIUC for engaging ILS. To measure the satisfaction level of users, a total of 68 users were interviewed with a questionnaire-based survey. Users were asked what automation services they like most and to rate their opinion on the specific library services on a five-point Likert scale. User status computed the users' response to overall satisfaction through ANOVA. The finding shows the overall satisfaction ensured favorable appreciation by the library users. The largest group 60.3% is satisfied with the circulation process with koha. In rating automation system the largest group of 54.4% had 'Excellent', 29.4% rates 'very good' and 14.7% rates it 'good'. This study assists the decision makers to give more values to the core library activities and also give inspiration to other university libraries in Bangladesh. Besides, this study will help the management of the private university libraries in setting up plans and technological strategies.

Keywords: "IIUC Library, Automation, open source - Koha, ILS, and ICT, Bangladesh"

1.   Introduction

Nowadays, University libraries are facing global facilities, challenges for demanding digital services and also computerize & software depends on services. It is a big challenge for any university library in the world (Johnson and Lilly, 2012). For this reason, each other's is facing similar difficulties where embracing knowledge management (KM) and also increasing service performance, technology, innovation and comparative advantage (Adams and Lamont, 2003). Digital library and automated library system have frequently changed the process of collecting information and also associated services where information are decorated in a digital format with over network (Shova, 2012). Digital and electronic libraries have organized all documents and information by electronic format and also promises to ensure better service than past scenario by which provide faster delivery, broader audience, and availability in hand readily, more timely information (UNESCO, IITE, 2007, p. 17-18").

Thus, many university librarians and universities are working in Bangladesh to bring their libraries position with international standards. The International Islamic University Chittagong is one of them. It is used as a Koha integrated library system (ILS) for conducting their efficient operation with better services to users. ILS is a system where decorating all library and information function under one policy. Moreover, all librarians can manage all library function efficiently in Koha integrated library systems "such as acquisition, cataloging, circulation, serials control, online public access catalogs (OPAC), patron management and reports" (Ahammad, 2014). It is the most essential and useful part of automation system on university libraries in Bangladesh.

2.   The Objective of The Study

The prime purpose of the study is to explore the present status of automation in IIUC Central Library, a unique and well-decorated university library of Bangladesh with the help of Integrated Library Software. More specifically, the objectives of the study are:
- To overlook the current digital services provided by the university library.
- To measure user satisfaction by getting services through Koha.
- To find out the ICT facilities in IIUC library.
- To find out the problems and give recommendations to overwhelm the problem.

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3.   Methodology

At the present age, many studies used different methods or dimensions for evaluating their research result. Some of them are used Mandela method, DEAP, quantitative and qualitative analysis, and questionnaire methods. Questionnaire and interview method have been used in this study. Primary and secondary data have been collected through the survey. Some Primary data collected through interview with Library officers, employees. Most of the secondary data collected observing different related article, searching Google scholar, Emerald, web linkage and online references.

4.   Limitation of The Study

For this study, we had not enough documents mainly Bangladeshi perspective because of innovation or re-engineering on the library information science and management sectors. All limitations are given below:

1.   Lack of related research article in Bangladesh perspective.
2.   Lack of awareness about library, professions, and knowledge management system in Bangladeshi people.
3.   Another limitation is that the library or organizational policy does not disclose to others.

5.   Literature Review

The library is a vital and essential part of any educational institution like as Madrasah, School, College, and University. It is the searching point for acquiring knowledge and information. Most of the university libraries of Bangladesh are being digitized day by day with the help of technology. Libraries are adding the latest information technology-based system, and service like as Strong Wi-Fi services, online e-book service, and automated service through ILMS (Integrated Library Management System).

Some studies show that many libraries in Bangladesh does not involve online services, but some public and private university library engage with Integrated Library Management System by using information technology.

In this part, the study describes different author's opinions such as Singh(2003) explained and analyzed that the various factors directly or indirectly are affected for progressing library management, resources management and library automation system such as level of skill of staff, working environment. Siriwongworawat (2003) showed that libraries conducting their operation by used CDS/ISIS since the 1980s and the integrated library management system were first introduced at Chiang Mai University under its library. 16th Federal universities used the automated software and catalog such as TINLIB software in Nigeria. However, it is a library automated software in which too expensive according to Oduwole, (2005). Another study shows that automation system has various aspects such as adding new technological, infrastructural tools, technical activities, services, and skills human resources with budgets (Suku and Pillai, 2005). Swee and Abdullah (2005) found that 40% of libraries are engaged under the automation system in Malaysian Chinese Secondary School where mainly used for conducting circulation and catalog control. Haneefa (2007) showed that the implementing of a library automation system in Kerala started in the 1990s for using mainly CDs.

Moreover, it is also used in Bangladesh libraries (Islam, 2007) as well as locally – developed software. Bansode and Periera (2008) described that 23 college libraries used the automation system indirectly or directly in Goa, India. Four of these libraries were fully automated, five partial automated and rest of 14th libraries were the earlier stage of the automatic system for this situation due to lack of skills staffs and human resources.

Another study showed that the university libraries of Bangladesh are significantly changed their library service scenario by adding information technology where first mainframe computer came to Bangladesh in 1964, but ordinary people were used very later this computer due to lack of expert or human resources. However, few private and public universities are expanding their electronic or Integrated Library Management System. Al-Hawarden (2008)showed that the organizational growth, adaptability, sustainability, and survival position are changing for the emergence of the knowledge-based economy, threat of globalization and competition. Knowledge management and information management has gained much popular by Integrated Library Management System among users, professional groups, IT specialist and librarians (Corrall, 1998). Many pieces of literature find that the close relationship between library information science (LIS) and knowledge management (KM) where describes KM as librarianship or information management (Koenig, 1996, 1997; Davenport and Prusak, 1998).

5.1.   Attitudes of Librarians Towards ICT

Most of the studies found that many libraries professional are very interested in involving ICT facilities in their library services for ensuring efficient operations according to Adekunle (2007), Babu (2007), Uwaifo (2007) and Dhanavandan (2008).

Adomi, Obarakpor, &Akparobore, (2005)found that all the respondents in a survey in Nigeria use IT components and most of them use computer system daily, but frequent power outages, among other factors, militate against the use of the use of ICT. Moreover, maximum professional could not take proper training for their insufficient trainer or training center all over the world.

Mphidi and Snyman (2004) Had focused on the knowledge management (KM) tool under internet services and also digital services in academic libraries, especially in South Africa. For useful knowledge, exchange and sharing experience, efficient research and development of expertise must need skills and training of library staffs according to Shanhong (2000). "Technological influences on library environment have facilitated libraries to be engaged in KM, as Sarrafzadeh (2005) comments that digitizing libraries' resources and moving to toward digital and hybrid libraries, providing remote access to internet-based knowledge resources, and providing" [24 LM 30,8/9 646 Downloaded by International Islamic University Chittagong At 06:21 06 March 2018 (PT)] "hours a day and seven days a week reference services through the web, are potentially important steps toward Integrated Library Management System implementation in libraries".(repu.uum.edu.my)

6.   Familiarity with International Islamic University Chittagong

"International Islamic University Chittagong" in short 'IIUC' is one of the top private universities and Government, and University Grants Commission (UGC) approved university in Bangladesh. University "got the Government's approval on February 11, 1995, and was founded" in 1995 by Islamic University Chittagong Trust. Having fulfilled the University and UGC requirements as laid down the private University Act of 1992. In 1995 this University started functioning with three faculties like as Faculty of Shariah & Islamic Studies, Modern Science and Administrative Science intending to following policies like as Islamization of Knowledge with different branches academic curricular of knowledge so that it is students gains to combine quality with morality teaching from this University. Now, this University has been expanding its programs at short course Diploma and also offers long course such as Bachelor, Master's program under different faculties like the faculty of Shariah & Islamic Studies, Science & Engineering, Business Studies, Social Science, Arts & Humanities, Law and Arabic language Institute where more than 14000 Bangladeshi and international students conducting their programmers in one campus area at IIUC. "In 2004 IIUC was recognized as one of the nine top-graded Private University. At present, it is the largest private university with 401Faculty Member and about 600 non-academic employees. IIUC successfully organized five International Conferences on different important issues relating to education, ethics, and Islamization of knowledge. It also arranged 'National Computer Programming Contest' (NCPC-2004) in collaboration with the Ministry of Science & ICT and Bangladesh Computer Council (BCC) as part of its regular programs".

IIUC runs well their library activities and services by Koha. It is an open source ILS that provides all free resources and the source code is available for all users at a time. Koha has two features upon library system. One is for admin or authority of the library, and another is open to users that called OPAC (Online Public Access Catalogue) by keeping username and password. Koha is top-rated software, but it does not run sufficiently due to insufficient expert, human resources and librarian in Bangladesh. "For example, questions about the installation of Koha on Linux servers, configuring Koha and especially cataloging with Koha are common issues. Cataloging questions are frequent, as there is no institution in Bangladesh where librarians can take lessons about MARC 21, machine-readable catalog records and full-featured ILS. Nowadays, open-source options are becoming popular in many countries. Day by day, interest is increasing regarding Koha and other library technologies among librarians in Bangladesh".

6.1.   Foreign Collaboration

"IIUC has signed formal academic collaboration agreement, Memorandum of Understanding (MoU), with the 19 organizations. The MoU includes credit transfer facility to the foreign University, the exchange program for teachers & students as well as library professionals". Providing facilities, IIUC tries to maintain standard world education and also to ensure efficient libraries service.

6.2.   Central Library at IIUC

The library is the nerve for any academic institution. It is one kind of storehouse of knowledge and information seekers. Any institution cannot run properly and achieve its mission, vision, and objectives without a library. If any institution has a rich Library, then it can conduct their operation actively. However, the library is the hub of an institution. IIUC authority established the University library in 1995 at the commencement of its journey. It is one of the largest Library among all the private university libraries of the country. The full name of the library is "Library and Information Division (LID)."

Collecting the reading materials is the continuous process of a library. "There are over than 85,500 books in IIUC Library covering the subjects relating to the academic programmers and other co-curriculum disciplines. There are also journals, periodicals, research and thesis papers, reports, conference proceedings, handbooks, manuals, encyclopedias, dictionaries, CD, VCD. for the users which are treated as reference collections and these can only be used within the library. The library

collections are being arranged and organized according to the DDC scheme & AACR-2 so that a user can easily find any book or other collection by automation software among vast collections of the library".

"The library building is situated in its permanent campus at Kumira settled in a beautiful scenic view and which is probably the most beautiful library building among all of its kind in South-east Asia. The library can accommodate easily over 456 users at a time in its full air-conditioned reading room. More than 300 users use the library every day" ("IIUC library website," 2018).

The library operates a network of CCTV camera inside the library to ensure the security of its self and also its resources. Moreover, the library holds on many Books, Papers, Journals, periodicals, Research papers, reports, thesis papers, conference proceedings, handbooks, manuals, encyclopedias, dictionaries, CD, VCD and e-resources.by sound management and functional activities of IIUC Library. Moreover, it also provides a corner of British Council services with flexible Wi-Fi environment for the knowledge of seekers at IIUC and has branch library at IIUC those are situated different departments such as Seminar Library of Department of Pharmacy, Seminar Library of Department of Business Administration (DBA) Female Academic Zone Library. The IIUC Central Library subscribes to online Journals through UGC Digital Library (UDL) and Bangladesh INASP-PERI-Consortium (BIPC) and some free database. Students, faculty members, and other patrons can access and download research publications through any PC and Wi-Fi Zone within all campuses of International Islamic University Chittagong from the following databases published by various internationally reputed publishers.

The library provides so many services like as Leading Service, Reference service, Current Awareness service- CAS, Search in Library, Information Literacy, Plagiarism, Grammar Checker, Paraphrase Software, Citation & Reference, Selecting Dissemination of information service-SDI, Reading room services, Newspapers clipping service, Readers Guidance service, Archive service , Audio-Visual service, Reprography service, British Council learner services, Strong Wi-Fi services. Besides these the following services also given to its users:

i.   (E-Journals, e-Books 3500 by UGC Digital Library, Subscribes e-books by Taylor & Francis e-Book Bestseller, e-Thesis: more than 100000 Ph.D. theses are available at IIUC library and also has Metadata (information about the arguments) comes from over 1100 colleges, universities, and research institutions. OATD currently indexes 3,336,819 theses and dissertations, e-Magazines, e-Newspaper).

ii. "Research Papers in Economics - RePEc is a collaborative effort of hundreds of volunteers in 88 countries to enhance the dissemination of research in Economics and related sciences. The heart of the project is a decentralized bibliographic database of working papers, journal articles, books, books chapters, and software components, all maintained by volunteers". So far, over 1,800 archives from 88 countries have contributed about 2 million research pieces from 2,300 journals and 4,300 working paper series. About 46,000 authors have registered, and 75,000 email subscriptions are served every week.

After the implementation of Koha, the staff of the library uses Koha-ILS to operate its service from acquisition (partially) to dissemination the service and users are getting ILS facilities. The library is also using a Space for the institutional repository to fulfill the needs of digital preservation and distribution. OPAC facility has been included for using the catalog at IIUC library. Day bay day library users and services are expanding. University's staffs and users can find books or others necessary information in a short time by using Koha software under OPAC catalog tool searching with the title, author, subject, ISBN, serial and call number.

6.3.   Why Koha

Koha is essential and popular software at present age for operating knowledge management task under library information science and management. It is an open source integrated library system (ILS) where any librarian can manage all data and responsibility at a time and also views all information by user ID and password. All users can quickly take in Koha software service openly. Library integrated system is a cost minimize and time-consuming way than others ILMS such as TINLIB software. The Koha code was released in 2010 under the general public license (GPL) (Katipo Communications, 2010). The Koha name derived from Maori ward. It is meaning having to do with gift brought by visitors (Moody, 2011). It has full feature and comprehensive modules for operating a library and automation tasks such as acquisition, cataloging, circulation, serials control, patron management, reporting, OPAC, branch relationships and much more (Open Source, ILS, 2012). Mentionable that Koha is a web-based ILS (Wikipedia).

7.   Status of Library Automation in Bangladesh

At present, Bangladesh government is going to improve widely on information communication system or infrastructure for keeping in touch with the global system. School, college, and university libraries development are one of them for better services and runs with productive professional activities such as the library of International Islamic University Chittagong, Bangladesh to access and cooperate [EL 24, 2142 Downloaded March 2018(PT)] with information world. Though most of the universities

libraries are facing many problems for lacking internet connections or faulty internet connections, broadband connections, digital data network connections, however, Bangladesh tries to remarkable development by adding ICT facilities in university library sectors. Another study found that Government have own one central public library in Dhaka, five divisional public libraries and 64 public libraries under the department of public libraries in every district where some of these libraries are added few computers for their office and managing library activities but they not used computerized, internet, online and ILMS for insufficient employees (Rahman, 2004). It is notable that many private and some public universities libraries are using various types of software and digital technology for efficient services to users, where some university's libraries are used the only computer for official work, but they do not engage in the automated system for operating library activities. However, most of the universities library are directly or indirectly participate in online, software and ICT facilities for knowledge management (UDL).

8. Discussion on Automation System at IIUC Central Library

The central library of IIUC is operating automated library system named Koha. Koha has periodically updated software for conducting library operations. It is an open source integrated library system software which is more flexible than others ILMS that freely accessible. Koha - ILS is full module software where all library functions are included. Koha has all mandatory features for conducting large library operations according to (Bissels, 2008) and   figure-1 is represented all Koha ILS function below:
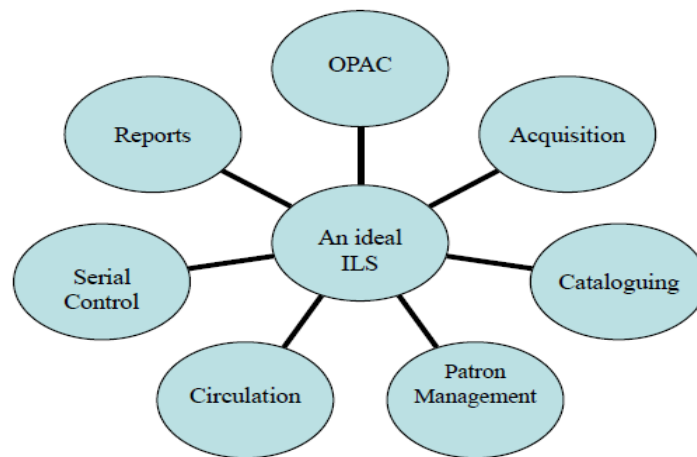

Fig.1. koha integrated library system with all Modules at IIUC (source: Ahmed, 2014)

All library professionals and other employees are followed above Koha- ILS module function for operation their daily activities smoothly.

9. Functionalities After Implementing Koha

International Islamic University Chittagong successfully operates the Koha-ILS from 2015. Their library system followed all modules of Koha for ensuring efficient services to users and also professionals. These operations scenarios are given below figure-2:
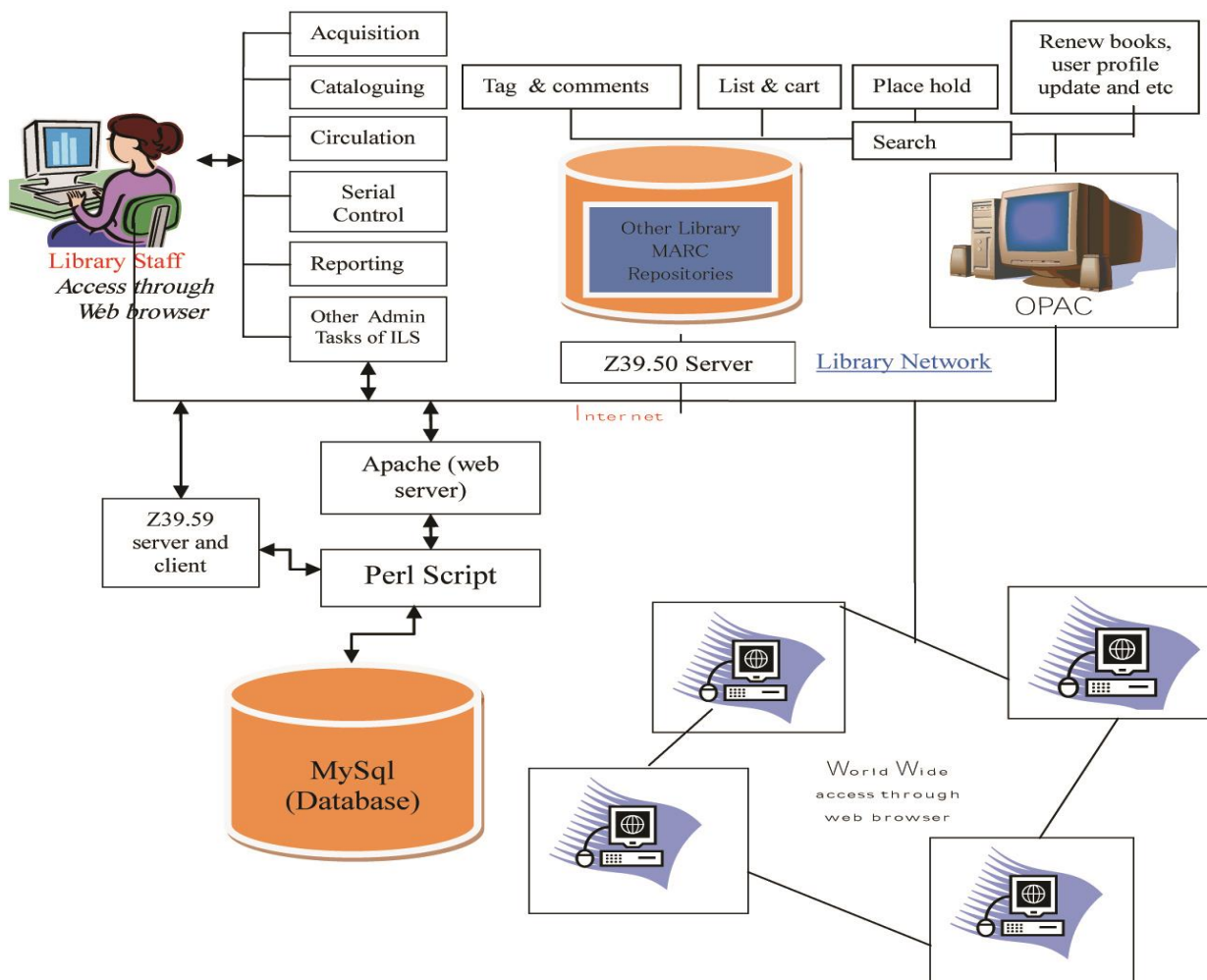
Fig.2. the Koha integrated library system at IIUC (source: Ahmed, 2014)

In Koha- ILS modules are common software in all over the world by which all data records of users can be saved if they are logging in Koha –ILS for collecting knowledge, information, review books and others necessary papers but search history can be deleted if users want at this time. The central library services at IIUC is rapidly changed and developed by installing Koha-ILS, and the ratio of users is expanding day by day because all users can access world widely by Koha-ILS (Integrated Library Software) according to figure-2.

Table-1 noticed that all data or information collected from 1st April to 31st December 2017 in central library automation activities. At this time IIUC is engaging the operation with Koha-ILS. IIUC successfully handled the Koha-ILS software. It shows the library activities by Koha such as books acquisition, processing (cataloging), circulation and stock and other related work to establish best services by the automated system. This table shows that the library activities are very more comfortable from the past and also ensuring better services by adding scientific work environment where users can get their demanded service easily and fulfill the needs in IIUC library.

Table 1. The activity of IIUC central library

SN	Items / Resources name	Total numbers/ratios
	Acquisition and Processing	
	Inputted Item (Books in 2018)	2599
	Circulation and Stock	
1.	Return (Check-in) Items	21924
2.	Issue (Check out) Items	24409
3.	Renew Items	40346
4.	Overdue Items	1102

Source: koha administrator of IIUC Library

Table-2 shows the administrative works ratio of the central library at IIUC. Though the automated system is newly engaging in IIUC library, it is quickly expanding. It shows the active library members ratio from 1st April to 31st December 2017. Active library members are increased by automation (Koha-ILS) which is 11765. The total automated books are 77507, and bound books are 7889. These ratios indicate a positive attitude toward users and professionals.

Table 2. The administrative tasks or activities of the central library of IIUC

SN	Administrative tasks or activities	Numbers/Ratios
	Active Library Members	11765
	Total Automated Items (Books)	77507
	Restricted Items (Confined Book)	7889
	Total	7789

Source: koha administrator of IIUC Library

10. User Satisfaction Result

Total 68 number of users participated in the survey. Among the respondents, 45 (52.9%) were male, and 40 (25%) were female students. Table-3directs that the largest group of respondents 45 (25.0%) were studying at the postgraduate level, whereas the remaining 23 (33.8%) respondents came from the undergraduate students.

Table-3: Participating users (n=68) by educational level

Educational level	Frequency	Percent	Valid Percent	Cumulative Percent
Undergraduate	23	33.8	33.8	33.8
Postgraduate	45	66.2	66.2	100.0
Total	68	100.0	100.0	

From Table-4, it is evident that the biggest group of students31 (45.6%) comprised those in the age group of above 24 years. A large percentage of students 28 (41.2%) was aged between 22to 24 years. A smaller group of respondents 9 (13.2%) was aged 19 to 21 years.
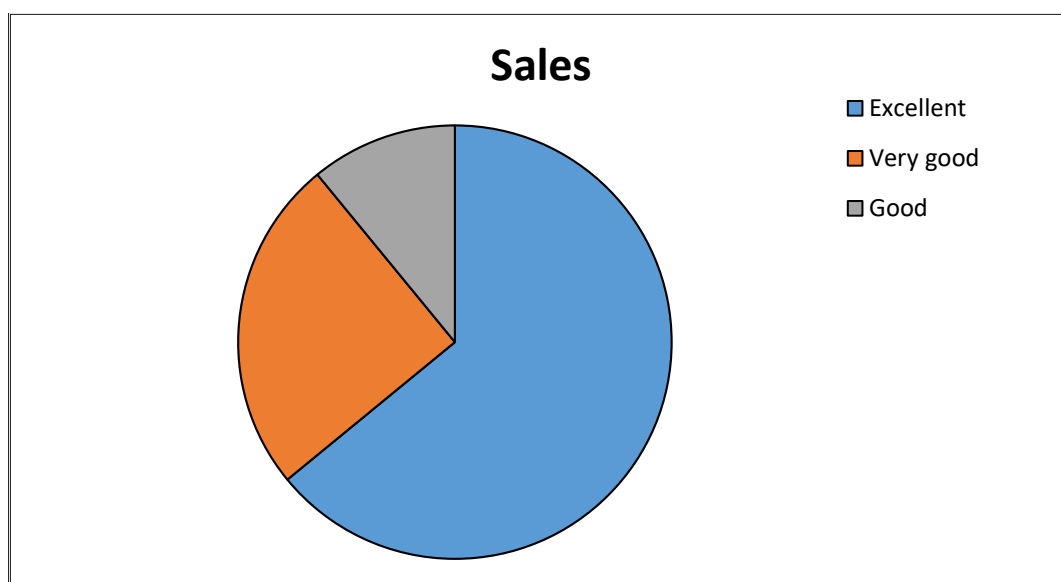
Table-4: Participating users (n=68) by age

Age group	Frequency	Percent	Valid Percent	Cumulative Percent
19 to 21 years	9	13.2	13.2	13.2
22 to 24 years	28	41.2	41.2	54.4
above 24 years	31	45.6	45.6	100.0
Total	68	100.0	100.0	

Table-5 shows the satisfaction levels of different services provided by IIUC Library. The largest group 41 (60.3%) is satisfied with the circulation process with koha, and the smallest group 2 (2.9%) is happy with open access through IR.

Table-5: Users' satisfaction with specific services

Name of Services	Frequency	Percent	Valid Percent	Cumulative Percent
Circulation process with koha	41	60.3	60.3	60.3
Open access through IR	2	2.9	2.9	63.2
Plagiarism Checker	5	7.4	7.4	70.6
Grammar checker	5	7.4	7.4	77.9
Paraphrase software	6	8.8	8.8	86.8
Citation and Reference service	4	5.9	5.9	92.6
Others	5	7.4	7.4	100.0
Total	68	100.0	100.0	

Figure-3 illustrates the user's rating of IIUC Library automation. The largest group of 37 (54.4%) had 'Excellent', 20 (29.4%) rates 'very good' and 10 (14.7%) rates it 'good'.

Fig.3. participating users' (n=68) ranking results on their belief of the automation status

11. Recommendation

To emphasize the following recommendations to adopt a proper and accepted level of ICT not only by IIUC Central Library but also by all private university libraries of Bangladesh and other developing countries:

1. Need to ensure the better and updated ICT facilities.
2. To recruit more skilled human resources and library professionals.
3. Require to develop the positive attitude towards the library of university higher authority.
4. Necessitate increasing the funds to develop the library services.
5. Have to utilize the funds appropriately.
6. Could do with arranging a productive training program or workshop for library employees.
7. Need to ensure the open access to the intellectual output of the institution through IR software.

12. Conclusions

After four decades, Bangladesh has established a remarkable development on school, college, and university library sectors by Bangladesh government and university grant commission policies. In the library sectors of Bangladesh is highly infrastructure changed mainly ICT facilities that's possible only to make an automated library system. This study shows that It is an integrated

library system (ILS) that operating by Koha software in which containing some essential features of modules according to figure 2. Koha is an open sources ILS system by which all library activities are operating efficiently at a time where uses both primary and secondary data for measuring IIUC library performance. This study finds that the automation system is implemented by International Islamic University Chittagong (IIUC), Bangladesh and the central library of IIUC is successfully used the automated system or ILS where all Koha modules are used for ensuring better services to users and also to all library professionals. However, the status of ICTs facilities and digital instruments are few insufficient at IIUC central library, Bangladesh. If we want to fully implement the automation or ILS system than must need better ICT and online facilities for better user's satisfaction like as sufficient computers, secure Wi-Fi, robust network system, and more security software system with more skills library active professionals. Finally, this study says that unless the government and university authorities offer special facilities (Zaman Shuva, 2014) for implementing ILS, automation and more funds for support to library system development, Bangladesh universities and also IIUC will not able to provide quality services and even world standard education for the future generation.

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