

Extent of adoption of open-source integrated library system in the university libraries of Bangladesh

Md. Jahangir Alam¹
Muhammad Omar Faruk²

Abstract

This study aims to ascertain the extent of OSILS adoption in Bangladeshi university libraries. Using two set structured questionnaires, a survey was conducted among 21 OSILSs, 519 library users, and 184 library professionals from fourteen private and seven public university libraries. The difference in adopted features between public and private university libraries was calculated through a chi-square test. The user's and professionals' responses for overall satisfaction were computed by user status and university category through ANOVA. The finding indicates no significant difference regarding the adopted features of OSILS between private and public university libraries in Bangladesh. The overall satisfaction confirmed favorable appreciation by the library users and professionals. The overall satisfaction levels between library professionals and users towards OSILS were significant, indicating that library users were significantly less satisfied. Besides, the library professionals and users of the public university were significantly less satisfied than the private university with the overall service of OSILS. All the selected university libraries had the necessary six OSILS features: cataloging, OPAC, circulation, user login, reporting, and patron management. An effort has been made to explore the extent of the adoption of OSILS in Bangladesh, which will prompt further research on OSILS.

Keywords: Adoption, OSILS, Open-Source Software, Integrated Library System, Present Status, User Satisfaction

1. Introduction

It is widely acknowledged that the progress of a country is contingent upon the sustainable development of its libraries. Numerous library professionals in Bangladesh are motivated to improve their libraries to a global standard in support of the nation-building effort. The university library is established to fulfill the informational needs of its users by providing the appropriate information to the relevant person at a suitable time (Ranganathan, 1961). The application of ICTs in libraries can be categorized into three major categories: “Integrated Library Systems (ILS), information storage and dissemination, and administration/office management tasks” (Islam, 2007). The term “Open Source Integrated Library System” is a combination of “open source software (OSS)” and “Integrated Library System (ILS)” (Alam and Mezbah-ul-Islam, 2019). An ILS is also recognized as a “Library Management System (LMS),” which is an “Enterprise Resource Planning (ERP)” system for a library (Alam and Mezbah-ul-Islam, 2020a). An ILS integrates all functions of a library under a single system, such as cataloging, OPAC, acquisition, serials control, circulation, patron management, reporting, and Inter-Library Loans (Ahammad, 2014; Alam and Mezbah-ul-Islam, 2019; Silva *et al.*, 2017). An ideal ILS has two graphical user interfaces: staff interface and patron interface. Each module is integrated with a unified OSILS interface (Ahammad, 2014; Alam, 2017). Koha is the first full-featured OSILS developed in 1999, and it is mainly used globally in all types of libraries.

¹Librarian, International Islamic University Chittagong (IIUC), Adjunct Faculty, Department of Library and Information Science, IIUC

²MPhil Researcher, Department of Information Science & Library Management, University of Dhaka

Christine Peterson coined the term “open source software” in 1998 (Bretthauer, 2002). According to the “Open Source Initiative” (2025), the distribution terms of open source software obligation to comply with 10 criteria: “free redistribution, open source code, derived works allowed, the integrity of the author's source code, no discrimination against persons or groups, no discrimination against fields of endeavor, distribution of license, a license must be technology-neutral, a license must not be specific to a product, and license must not restrict other software.” OSS is free software with its open source code accessible under “GNU General Public License” (GPL) in which the “copyright holder provides the right to study, change, and distribute the software to anyone for any purpose” (Alam and Mezbah-ul-Islam, 2019). Ahammad (2014) stated that there are no significant variations among the modules and functionalities of freeware, proprietary, and open-source Integrated Library Systems; however, a notable variation appears in the design process and distribution methods. The use and adoption of OSILS in libraries are increasing significantly (Alam, 2018).

In 1971, Rogers and Shoemaker defined adoption as "making full use of a new idea as the best course of action available." That definition is being applied virtually by all adoption analysts explicitly or implicitly (Mezbah-ul-Islam, 2003). The Oxford Advanced Learner's Dictionary (2015) defined the word satisfaction as the “fulfillment of one's wishes, expectations, or needs, or the pleasure derived from this.” The Cambridge Advanced Learner's Dictionary (2013) defined the word user satisfaction as “a measure of how happy users feel when they do business with a company.” Three types of ILSs are utilized for library system automation: proprietary, open source, and freeware (Alam, 2018). Most university libraries in Bangladesh have yet to adopt ILS, and other libraries remain unaware of this technology. OSS has provided prospects for Bangladeshi universities, whose library budgets are relatively limited, and who cannot subscribe, maintain, or upgrade proprietary ILS. The OSILS is more economical than proprietary ILSs. University libraries worldwide have increasingly embraced the implementation of OSILS. Users of OSILS exhibit slightly greater satisfaction than users of proprietary ILS (Alam and Mezbah-ul-Islam, 2019).

Existing literature indicates that several studies have been undertaken in the university libraries of Bangladesh on implementation, challenges, remedies, usability, satisfaction, sustainability, and factors for the adoption of OSILS (Ahammad, 2014; Alam, 2017, 2018; Alam and Mezbah-ul-Islam, 2019, 2020b, 2020a, 2021; Khatun and Ahmed, 2018) but less effort has been taken to study on the extent of OSILS adoption. So, it is anticipated that the extent of OSILS adoption in university libraries of Bangladesh will be assessed to enhance awareness among library users and professionals about OSILS. Additionally, the overall satisfaction of library users and professionals with OSILS is expected to be evaluated to measure the effectiveness of the current OSILS. Based on the research gap and its significant importance, an initiative was taken to explore the extent of adoption and satisfaction of OSILS in the Bangladeshi University Libraries. Consequently, the following hypotheses were formulated for this study:

- H-1: The adopted features of OSILS between private and public university libraries in Bangladesh differ significantly.
- H-2: The overall satisfaction levels of library professionals and users towards OSILS differ significantly.
- H-3: The satisfaction levels of library professionals and users towards OSILS between Bangladesh's private and public university libraries differ significantly.

2. Literature review

The study reviewed the relevant literature to understand the current discussion on the Koha OSILS, explore what researchers have written, know related research results, and discover the research gaps. Ahammad (2014) described the practical experience of Koha ILS implementation at the library of the “Independent University Bangladesh (IUB)”, and stated that the functionalities of Koha fulfilled the automation need of the library as well as recommended that “other librarians can implement Koha” in their respective libraries easily. Alam (2017) explored the challenges and remedies for adopting OSILS in Bangladeshi university libraries and found that “lower technical knowledge of library professionals on OSILS” was the top challenge, whereas “higher availability of commercial software” was the lowest challenge among the fourteen challenges. Among the twenty remedies for adopting OSILS, “libraries should employ skilled manpower” was identified as the highest remedy, whereas “technical support from vendors for adoption and maintenance of OSILS” was recognized as the lowest remedy. Khatun and Ahmed (2018) evaluated the “usability of the Koha OPAC” interface at BRAC University Library. Experienced users engaged in a single session, while beginners participated in three consecutive sessions. The beginners' preliminary performance was documented. Subsequently, they executed the identical tasks following a brief training instruction. After four weeks, novices re-engaged in the retention trial with similar activities. A notable performance disparity was seen between the opening sessions of experienced individuals and beginners. Novices might readily grasp the capabilities of Koha OPAC with minimal training. The performance between experienced users and beginners revealed no significant difference between these assessments.

Alam and Mezbah-ul-Islam (2019) evaluated the “factors for the adoption of OSILS in university libraries in Bangladesh” and identified that backup and restore systems, open source code, cost-effectiveness, freedom from licensing fees, supporting community, and ease of integration with other software influenced library professionals significantly to implement Koha in their libraries. Alam and Mezbah-ul-Islam (2020a) evaluated the sustainability of OSILS in Bangladeshi university libraries from the professionals' viewpoints, whereas Koha was recognized as a sustainable OSILS. They also found that Koha's cost-effectiveness and usability were significant factors in its sustainability in Bangladeshi university libraries. Alam and Mezbah-ul-Islam (2020b) measured the “user satisfaction of Koha” software in Bangladeshi private university libraries and revealed that the overall user satisfaction was reasonably excellent. Alam and Mezbah-ul-Islam (2021) measured the user satisfaction of Koha ILS in Bangladeshi Public University Libraries and showed that their overall satisfaction level was reasonably good.

Based on the available literature, it is found that a few studies have been conducted in the university libraries of Bangladesh on explaining the “practical experience of Koha implementation” (Ahammad, 2014), “challenges and remedies for OSILS adoption” (Alam, 2017), “factors for OSILS adoption” (Alam and Mezbah-ul-Islam, 2019), user satisfaction assessment of Koha (Alam and Mezbah-ul-Islam, 2020b), user satisfaction measurement of ILS (Alam and Mezbah-ul-Islam, 2021), usability of Koha interface (Khatun and Ahmed, 2018), OSILS adoption and satisfaction (Alam, 2018) and sustainability of OSILS (Alam and Mezbah-ul-Islam, 2019). However, less effort was made to study the extent of OSILS adoption in university libraries in Bangladesh.

3. Methodology

This survey selected 14 private and 7 public university libraries from 115 private, 55 public, and 2 international universities whose libraries use Koha OSILS (UGC, 2025). An attempt was made to collect both qualitative and quantitative data from secondary and primary

sources of information to attain the research objectives and experiment with the hypotheses. Two sets of structured questionnaires were developed to collect primary data. Questionnaire booklet-1 was designed to measure the overall satisfaction of library professionals and users regarding OSILS, including the demographic information of library users and professionals and a statement for assessing the overall satisfaction of the existing OSILS. Questionnaire booklet-2 was designed to collect data about the adoption and use of OSILS, incorporating the extent of adoption, up-gradation, integration, maintenance, ICT facilities, services, training, awareness, strengths, and weaknesses of OSILS. A 5-point Likert scale was formulated as “1 = Not Satisfied, 2 = Less Satisfied, 3 = Satisfied, 4 = Very Satisfied, and 5 = Highly Satisfied” for measuring the level of satisfaction of library users and professionals regarding OSILS.

The research applied a purposive sampling technique due to an enormous population size across the 21 universities. The researchers visited all designated libraries and disseminated the questionnaire Booklet-1 to all library professionals with at least a postgraduate diploma, Bachelor's, or Master's in Library and Information Science. Besides, questionnaire booklet-1 was distributed among all the students, faculty members, and researchers inside the library. Questionnaire booklet-2 was distributed among the Librarians to collect data about their existing OSILS. Among the respondents, 21 OSILSs, 519 library users, and 184 library professionals fulfilled their questionnaires. According to Sekaran (2003), most studies would need at least 384 samples if the population size was more extensive than 100,000. If the samples are divided into subsamples, Roscoe (1975) suggested that at least thirty samples are required for each subsample. The sample size of 724, incorporating 184 library professionals and 519 library staff, is appropriate for analysis and satisfies the requirements of Roscoe (1975) and Sekaran (2003).

The study described the extent of use and adoption of OSILS in Bangladeshi university libraries. SPSS 22 was used to compute the Descriptive statistics, Chi-square test for Hypothesis-1, and Independent Samples T-test for Hypothesis-2 and Hypothesis-3. The Cronbach's Alpha was applied to measure the reliability of each item scale. The Reliability analyses indicating the internal consistency of all items ($\alpha = 0.817$) and 21 features of OSILS ($\alpha = 0.812$) of the study were acceptable. Nunnally (1978) recommended that “alpha values should be 0.70 or greater”; it was revealed that all the variables had values more than 0.7, indicating acceptable questionnaire item reliability.

4. Analysis and findings

4.1 Demographic information

Among the 724 respondents, 259 (35.8%) were from seven public universities, 465 (62.2%) were from fourteen private universities, 519 (71.7%) were library users, and 205 (28.3%) were library professionals, 245 (33.8%) were female, and 479 (66.2%) were male. It was found that the highest proportion of the participants were students (452, 62.43%), followed by library professionals (205, 28.32%), teachers (35, 4.83%) and researchers (32, 4.42%).

4.2 Present status of OSILS in university libraries

Initially, BRACU Library and EWU Library implemented Koha OSILS in 2010. Then, DIU Library, IUB Library, and EU Library implemented Koha in 2011. After that, the highest number of university libraries (seven) implemented the Koha software for building their library automation in 2012. Besides, three university libraries in 2013, two in 2014, one in 2015, two in 2016, and one in 2017 made automation applying Koha (Figure 1).

Table 1 shows that all the university libraries have their dedicated server. Nineteen university libraries out of twenty-one installed their Koha OSILS on the Linux-Debian server.

Another two university libraries are using Linux-Ubuntu servers. Eleven university libraries did not apply automation software earlier. It was found that seven university libraries shifted their proprietary LMS into OSILS. Besides, three university libraries moved their freeware LMS into OSILS.

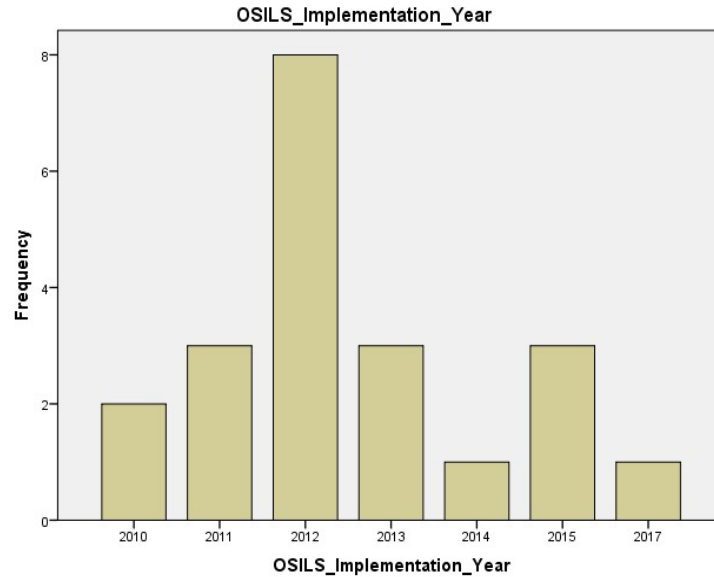


Figure 1: Current trend of OSILS in Bangladeshi university libraries

Table 1: Adoption of OSILS in Bangladeshi university libraries

SL	University	Current OSILS	Version	Est. Year	Operating System	Previous Software
1.	BRAC University	Koha	3.20.05	2010	Linux-Debian	Proprietary
2.	East West University	Koha	3.14	2010	Linux-Debian	Proprietary
3.	Daffodil International University	Koha	16.11.02	2011	Linux-Debian	None
4.	Independent University Bangladesh	Koha	16.11.01	2011	Linux-Debian	Freeware
5.	Eastern University	Koha	3.06.12	2011	Linux-Debian	None
6.	Chittagong Independent University	Koha	3.0	2012	Linux-Debian	Freeware
7.	Chittagong Veterinary and Animal Sciences University	Koha	3.06.12	2012	Linux-Debian	None
8.	Green University Bangladesh	Koha	3.22	2012	Linux-Debian	None
9.	Khulna University of Engineering & Technology	Koha	16.05.05	2012	Linux-Debian	None
10.	Premier University	Koha	3.22.12	2012	Linux-	Freeware

					Debian	
11.	Shahjalal University of Science & Technology	Koha	3.22.04	2012	Linux-Debian	Proprietary
12.	United International University	Koha	3.14	2012	Linux-Ubuntu	Proprietary
13.	Northern University Bangladesh	Koha	3.02	2013	Linux-Debian	None
14.	Sher-e-Bangla Agricultural University	Koha	3.16.04	2013	Linux-Debian	None
15.	University of Rajshahi	Koha	3.18.X	2013	Linux-Debian	None
16.	Bangladesh University of Engineering & Technology	Koha	1.8	2014	Linux-Debian	Proprietary
17.	Manarat International University	Koha	3.06.12	2014	Linux-Ubuntu	None
18.	International Islamic University Chittagong	Koha	3.20	2015	Linux-Debian	None
19.	Southeast University	Koha	16.05.x x	2016	Linux-Debian	None
20.	University of Liberal Arts Bangladesh	Koha	3.12.09	2016	Linux-Debian	Proprietary
21.	University of Dhaka	Koha	3.16	2017	Linux-Debian	Proprietary

4.2.1 Use of OSILS in Bangladesh

Only sixteen percent of university libraries developed integrated library systems applying OSILS in Bangladesh. The finding reveals that 698 library staff were working in the twenty-one selected university libraries. Among them, 41.4 percent of library professionals have a professional degree. However, only 6.59 percent of professionals have an ICT degree. The study revealed that only 28.65 percent of library professionals were working in their existing OSILS.

4.2.2 Supports for the adoption and maintenance of OSILS

Only six (twenty-nine percent) university libraries got grants from HEQEP out of twenty-one. Another fifteen (seventy-one percent) university libraries implemented their ILSs through their university fund. It is also found that twelve (fifty-seven percent) universities have independently adopted ILS through their own teams. BRACU Library offered vendor support to three university libraries, while EWU Library extended vendor support to two university libraries to implement ILS via Koha. Additionally, three commercial vendors assisted four university libraries in deploying and maintaining the integrated library system via Koha. Fourteen (sixty-seven percent) university libraries are upgrading their ILS with stable and updated versions. Their library team was maintaining fifteen (seventy-one percent) ILSs. By their university IT team, four ILSs were being maintained. Two ILSs were administered in collaboration with both library and ICT teams.

4.2.3 Training on OSILS

The results indicate that nineteen (ninety-one percent) university libraries conducted in-house training or workshops regarding OSILS for their personnel. Only 10 university libraries (forty-eight percent) were conducting training on OSILS for professionals from other libraries. Twelve (fifty-seven percent) university libraries designated their library

professionals to participate in OSILS training offered by external entities. Eighteen (eighty-six percent) university libraries had initiated to upgrade the use and advantages of OSILS on their university campuses.

4.2.4 ICT facilities in the university libraries

All university libraries had three ICT facilities: computer printers, scanners, and UPS. Twenty university libraries had barcode readers for check-in and check-out of library resources. Nineteen university libraries had barcode printers and Wi-Fi facilities. Besides, eighteen libraries had reprographic services, sixteen had receipt printing and generator facilities, and fifteen had multimedia projectors. However, the IPS facilities were available at only thirteen university libraries. The study also showed that eighty-six percent of ICT facilities were available in the libraries of the selected universities.

4.2.5 Managing Library Resources by Koha

All the libraries were managing their books by Koha OSILS. It is found that thirteen libraries-maintained journals, eleven libraries-maintained DVDs and magazines, and eight libraries managed internship/thesis reports by the OSILS. The study showed that the lowest number of university libraries (six) managed e-resources. The study revealed that the Koha ILS maintained fifty-six percent of the selected library items.

4.2.6 Number of books and patrons

The highest number of titles was 192000 in the DU Library, whereas the lowest was 3000 in the MIU Library. The largest number of books was 249000 in the DU Library, whereas the lowest was 10000 in the CIU Library. RU Library managed the maximum number of users (thirty thousand), whereas CIU Library managed only 800 users. The study also revealed that each university library maintained an average of 51518 books of 25295 titles for their 8620 users.

4.3 Extent of OSILS adoption in Bangladeshi university libraries

All the selected university libraries had the necessary six ILS modules: circulation, OPAC, cataloging, patron, user login, and report generation. Nineteen university libraries applied fine control and barcode-print modules. An online purchase suggestion facility through Koha OSILS was available to users in fourteen university libraries. Thirteen libraries managed their serial publications, the online reservation of books by users, and receipt printing facilities for circulation service through Koha. Auto email alert services for notification of circulation service to their users and self-renewal service by users through the user interface of Koha are available in eleven university libraries. Ten university libraries were conducting stocktaking for their library resources through Koha. Six university libraries in Bangladesh have integrated Radio Frequency Identification (RFID) technology with Koha OSILS. Two university libraries used acquisition modules and auto SMS alert services through Koha. Only BRAC University Library managed an inter-library loan facility through Koha. Only one university library used Koha's content management system to create and maintain the library website. Though sixteen university libraries had digital institutional repositories using DSpace, no university libraries in Bangladesh used the digital library module of Koha to create and manage digital institutional repositories. The study also revealed that fifty-nine percent of Koha OSILS modules were used in the selected university libraries (Table 2).

Table 2: Adopted features of OSILS in Bangladeshi university libraries

SL	Features	N	Adopted Libraries	Non-Adopted Libraries
1.	Cataloguing	21	21	0
2.	Circulation	21	21	0
3.	Online Public Access Catalogue	21	21	0
4.	User Login facilities of OSILS	21	21	0
5.	Patron management	21	21	0
6.	Report generation	21	21	0
7.	Fine control	21	19	2
8.	Barcode printing through OSILS	21	19	2
9.	Purchase suggestions through OSILS	21	14	7
10.	Serials management	21	13	8
11.	Reservation of books through OPAC	21	13	8
12.	Receipt printing service (check-in and check-out)	21	13	8
13.	Auto email alert service through OSILS	21	11	10
14.	Self-renewal service through OPAC	21	11	10
15.	Stocktaking	21	10	11
16.	Radio-frequency identification (RFID) integration	21	6	15
17.	Acquisition	21	2	19
18.	Auto SMS alert service through OSILS	21	2	19
19.	Content Management System (for library website)	21	1	20
20.	Inter-Library Loans (ILL)	21	1	20
21.	Digital Library (for Institutional Repository)	21	0	21
Overall		21	59.2%	40.8%

4.3.1 RFID integration with OSILS

Only 6 university libraries incorporated RFID technology with Koha OSILS: BUET Library, RU Library, SAU Library, CVASU Library, BRACU Library, and SUST Library. All university libraries have the basic requirements of RFID technology: RFID Gates, staff workstations, and RFID conversion centers. Only BUET, RU, and SAU Library have 24-hour book drop (check-in) systems. Four university libraries have self-check-in and self-check-out services: BUET Library, RU Library, SAU Library, and CVASU Library. Besides, Quick inventory facilities are available in the BUET Library, SAU Library, and CVASU Library.

4.3.2 Koha OSILS integration with ERP

Only six (twenty-nine percent) university libraries, i.e., CIU Library, IIUC Library, SUST Library, RU Library, UIU Library, and CVASU Library integrated their Koha OSILS with the university's ERP system. However, a significant proportion of the OSILSs in Bangladesh were not integrated into their university's ERP system.

4.4 Overall Satisfaction with OSILS

A satisfaction item, "What is your overall satisfaction level in existing OSILS of your university library?" has been incorporated into both questionnaires for library professionals and users. The average satisfaction score was 3.48, indicating that library personnel and users expressed good appreciation. The overall user satisfaction statement reflects a range of opinions from respondents, with a minimum score of 1 and a high of 5, indicating that users are not uniformly satisfied with the current OSILS.

4.4.1 Hypothesis-1: *The adopted features of OSILS between private and public university libraries of Bangladesh differ significantly*

A total of twenty-one features of Koha OSILS were included in the questionnaire booklet-1 to know how many features of Koha are implemented in Bangladeshi university libraries. A hypothesis was formulated to assess whether there is any significant difference in adopted features between private and public university libraries in Bangladesh. For this purpose, the “Pearson Chi-Square test” was conducted to examine the difference between the adopted modules of Koha OSILS and private and public university libraries. The results of the Chi-Square Tests ($p > 0.275$) indicated no statistically significant difference in the adopted modules of OSILS between private and public university libraries in Bangladesh.

Table 3: Chi-Square Tests of adopted modules of OSILS

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.150 ^a	10	.275
Likelihood Ratio	15.138	10	.127
Linear-by-Linear Association	1.787	1	.181
N of Valid Cases	21		

a. 22 cells (100.0%) have an expected count of less than 5. The minimum expected count is .33.

4.4.2 Hypothesis-2: *Library professionals' and users' overall satisfaction levels towards OSILS differ significantly.*

The category of users computed the user responses for satisfaction level towards OSILS through the “Independent Samples T-test.” The result ($P < .001$) recommended that there is a significant difference in the satisfaction level of OSILS in the university libraries of Bangladesh between the library professionals ($M = 3.76$) and users ($M = 3.37$), indicating the library users were significantly less satisfied than the library professionals with the overall services provided by the existing OSILS (table 4).

Table 4: Differences in user satisfaction by user category

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.837	.176	-5.576	722	.000	-.386	.069	-.522	-.250
Equal variances not assumed			-5.909	424.453	.000	-.386	.065	-.515	-.258

4.4.3 Hypothesis-3: *The satisfaction levels of library professionals and users towards OSILS between the private and public university libraries of Bangladesh differ significantly*

The university category computed the user responses for satisfaction level towards OSILS through the Independent Samples T-test. The result ($P < .001$) recommended that there is a significant difference in the satisfaction levels of library professionals and users towards OSILS between the private ($M = 3.57$) and public ($M = 3.32$) university libraries of Bangladesh, indicating the library users of the public universities were significantly less satisfied than the users of the private universities (table 5).

Table 5: Differences in user satisfaction by university category

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.605	.107	-3.849	722	.000	-.253	.066	-.382	-.124
Equal variances not assumed			-3.867	540.61	.000	-.253	.066	-.382	-.125

5. Discussion and Conclusion

The purpose of the study was to reveal the extent of the adoption of open-source ILS in the university libraries of Bangladesh. Using two set structured questionnaires, a survey was conducted among 21 OSILSs, 184 library staff, and 519 library users from 14 private and 7 public university libraries. The reliability statistics by Cronbach's Alpha indicating the internal consistency of all items was very satisfactory. The difference in adopted features between public and private university libraries was calculated through the chi-square test. Through the Independent Samples T-test, the user and university categories computed users' and professionals' responses for overall satisfaction. The findings of the study show that only sixteen percent of university libraries have implemented integrated library systems through OSILS in Bangladesh. Seven public university libraries out of 55 and fourteen private university libraries out of 115 currently use Koha. More than half of the university libraries did not adopt any automation software earlier among the selected universities. Thirty-three percent of university libraries shifted their commercial ILS into open-source ILS. Besides, fourteen percent of university libraries shifted their freeware ILS into open-source ILS. The study also revealed that sixty-nine percent of Koha modules were used in the selected university libraries. The six modules of OSILS, i.e., cataloging, circulation, OPAC, user login, report generation, and patron management, were used in all the selected university libraries. Though sixteen university libraries had digital institutional repositories using DSpace, no university libraries in Bangladesh used the digital library module of Koha to create and manage digital institutional repositories. Each selected university library maintained an average of 51518 books of 25295 titles for 8620 users.

This study's result shows a difference between private and public university libraries regarding adopted features, but this difference was insignificant. Overall satisfaction confirmed positive gratitude by the library users and staff, indicating the support for the effectiveness of existing OSILS. The overall satisfaction levels between library professionals and users towards OSILS were significant, indicating that library users are significantly less satisfied. Besides, the library professionals and users in the public university were significantly less satisfied than the private university with the overall service of OSILS. The OSILS practices in Bangladesh's university libraries have grown popular recently. Numerous library staff in Bangladesh strive to raise their libraries to global standards as part of the digital nation-building initiative. Bangladesh's university libraries have increasingly adopted OSILS, and the activities associated with OSILS have gained encouragement in recent years.

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