

## Status of Library Automation in University Libraries a Comparative Study of Karnataka and Tamil Nadu

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### Abstract

*This article is an attempt to illustrate the present status of library automation in the selected university libraries in Karnataka and Tamil Nadu. The findings of a survey conducted in 2017 form the basis of the discussions and questionnaire for the librarian. The status of library automation with all modules is described, and the survey conducted is explained in terms of methodology and findings. From the university libraries of Karnataka are using open source library software and the university libraries of Tamil Nadu are using commercial library automation software. The study finds that from the both state university libraries are providing circulation and Online Public Access Catalogue services in their best. Madurai Kamaraj University Library in Tamil Nadu and Mysore University Library in Karnataka university libraries are giving best services in overall services. Annamalai University Library in Tamil Nadu and Bangalore University Library in Karnataka libraries are needed to improve their all services. Overall, all sample university libraries are need implement all modules of housekeeping activities to provide best automation services to their users.*

**Keywords:** Library application software, library automation, library software modules university libraries

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### INTRODUCTION

As automation of library operation is the basic and foremost need for libraries in building resources and provides information services that transform the conventional libraries to modern libraries to elope with the changing needs of the higher education system. It is observed that still there is wide gap among the university libraries in adopting the IT as a tool for information processing and delivery of library automation. Many libraries mainly concentrated on the housekeeping functions like acquisition, serial control, cataloguing, circulation, reference, and so on. In some libraries, it has extended to the library management system to incorporate Online Public Access Catalogue (OPAC)'s, Web OPACs, CD ROM Networks, DTP, Office Automation, and so on.

A large number of libraries and information centers in the world have automated one or more of the functions depending upon the type of libraries and information centers. Hence, the

present study has taken up to study the level of application of library automation software and the extent to which the modules of library automation been applied in library affairs.

### REVIEW OF LITERATURE

Bansode and Periera [1] conducted a survey on library automation in college libraries in Goa state and revealed that the present status of library automation and software being used for automation by college libraries of Goa state.

Dhanavandan [2] discussed the progress of Library Automation software and it types used in self-financing engineering college libraries in Tamil Nadu. The article also seeks to compare the software packages used by the self-financing engineering college libraries.

John-Oswald [3] the study was undertaken to find out which library processes have been automated in Ghana's three older public university libraries, namely, the Balme Library, the Kwame Nkrumah University of Science and

Technology (KNUST) Library, and the University of Cape Coast (UCC) Library. Using data obtained through the use of questionnaires, the study examined areas of general automation, automation of specific library processes, networking, Internet connectivity, training, and major constraints to library automation the study found out that even though the university libraries realize the importance of library automation, they are hampered by lack of funds, lack of support from the university administrations, and lack of skilled staff to embark on automation of all library processes. It was also revealed that none of the libraries have on OPAC.

Nur Ahammad [4] in this study explained how the author carried out the implementation of the KOHA open source integrated library system at the Independent University Bangladesh Library. The study revealed that implement of KOHA in a library and encouraged library professionals to implement KOHA in libraries.

A study by Norden and Lawrence [5] observed how library users use public terminal of an online catalogue at Ohio State University. Moore in a study observed the use of OPAC along with success–failure rates comparison. The study by Chisenga provides a good overview related to factors that influenced the choice of software.

## OBJECTIVES OF THE STUDY

1. The status of the present library automation in Karnataka and Tamil Nadu University libraries.
2. To look into the kind of application package being used in their library.
3. To identify the modules which are implemented and to know the level of extent implemented in university libraries.

## METHODOLOGY

### *Data Sample Selection*

Three university libraries from Karnataka and three university libraries from Tamil Nadu selected for the present study. Mysore University Library (MUL; 1916), Bangalore University Library (BUL; 1964), and Mangalore University Library (ManUL; 1980) from Karnataka are selected. As well as Madras

University Library (MadUL; 1857), Annamalai University Library (AUL; 1929), and Madurai Kamaraj University Library (MKUL; 1965) from in Tamil Nadu are selected.

### *Data Sample Size*

Six filled questionnaires were received from the librarians. The investigator also collected information by personal interview of university librarian as and when necessary.

### *Survey Method*

Descriptive statistics were used for data analysis. The opinion of librarians regarding library software used for automation and also opinion on different issues pertaining to the library housekeeping operations were sought.

## DATA ANALYSIS AND INTERPRETATION

Table 1 depicts the status of library automation in selected university libraries in Karnataka and Tamil Nadu. Among the university libraries in Karnataka and Tamil Nadu, some are partly automated and some are fully automated. While indicating fully automated status the functional aspects considered are online catalogue (OPAC), Acquisition system, circulation system, serial control, and library online information services. Among university libraries in Tamil Nadu, MadUL, and MKUL are fully automated. Remaining university libraries in Tamil Nadu named AUL and BUL, ManUL and MUL in Karnataka are partially automated. There university libraries which are partially automated need to completely automate their services to meet the user need on modern line.

It can be inferred from the above available information that “No” was recorded for ManUL for book acquisition module, MUL, BUL, and AUL for serials management modules, MUL and ManUL in terms of E-Resources management modules, MUL, ManUL, BUL, and AUL equally for Article Indexing Modules and finally, MUL and ManUL managed the same for budget control modules. It is worthy to mention that the negative responses for the mentioned modules are mostly from the university libraries of Karnataka (see Table 2).

Table 3 depicts that library management software used in the university libraries among Karnataka and Tamil Nadu. Among university libraries of Karnataka, MUL and BUL are uses the KOHA integrated open source software. ManUL uses Libsys commercial management software. In university libraries of Tamil Nadu, MadUL is using SOUL commercial software, AUL uses NIRMAL own management software and MKUL is using DOLPHIN commercial management software. It is noted that between Karnataka and Tamil Nadu university libraries, Karnataka university libraries used open source software much and Tamil Nadu university libraries used much commercial. The performance of MUL in its invoice processing is at their lowest with <25% ManUL and BUL rest at 25-50%. The invoice processing functionality in this module is considered poor in contrast to that of the universities in Tamil Nadu whereby MadUL is at its optimal performance of 75-100% closely

followed by AUL and MKUL resting at 50-75% as a whole. From this data, the universities from Karnataka need to reconsider and reinforce their performance level in the processing of invoices, which will ensure a potential rise in the status. The researcher suggests that the universities mentioned should act accordingly to get a clearer insight of the lacunas to maximize their productivity and service Table 4.

**Table 1: Status of Library Automation.**

Libraries of Universities	Yes/No
University Libraries of Karnataka	
Bangalore University Library	Yes
Mangalore University Library	Yes
Mysore University Library	Yes
University Libraries of Tamil Nadu	
Annamalai University Library	Yes
Madras University Library	Yes
Madurai Kamaraj University Library	Yes

**Table 2: Specify the Modules Implemented.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	Book acquisition	Yes	No	Yes	Yes	Yes	Yes
2	Cataloguing	Yes	Yes	Yes	Yes	Yes	Yes
3	OPAC	Yes	Yes	Yes	Yes	Yes	Yes
4	Serials management	No	No	No	No	Yes	Yes
5	Circulation	Yes	Yes	Yes	Yes	Yes	Yes
6	E-Resources management	Yes	No	Yes	Yes	Yes	Yes
7	Article indexing	No	No	No	No	Yes	Yes
8	Budget control	Yes	No	No	Yes	Yes	Yes

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL= Madras University Library; MKUL = Madurai Kamaraj University Library; OPAC = Online Public Access Catalogue.

**Table 3: The Package Used for Library Automation.**

Libraries of universities	Software name	Types of software
University Libraries of Karnataka		
Bangalore University Library	KOHA	Open source
Mangalore University Library	Libsys	Commercial
Mysore University Library	KOHA	Open source
University Libraries of Tamil Nadu		
Annamalai university Library	NIRMAL	Own(management)
Madras University Library	SOUL	Commercial
Madurai Kamaraj University Library	Dolphin	Management

**Table 4: Modules of Library Automation: Implemented: Acquisition Module.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	Invoice processing	3	3	2	4	5	4
2	Accounting/budgeting	5	1	4	5	5	4
3	Accession register generated	5	1	1	4	5	4
4	Integration with other modules like cataloguing, circulation, OPAC, etc.	5	5	4	5	5	5
5	Ordering books and serials	5	1	1	4	5	4
6	Rejection of books	4	1	1	2	3	4
7	Modification in orders and approval	5	1	4	4	3	4
8	Returned to rejected books	5	1	1	3	3	5
9	Receiving of ordered books	5	1	1	4	5	4
10	1. Updating of the database in case the document is as follows: a. Weeded out b. Disposed c. Lost d. Withdrawn	5	5	3	5	5	1

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL = Madras University Library; MKUL = Madurai Kamaraj University Library; OPAC = Online Public Access Catalogue; 1 = not at all; 2 = <25%; 3 = 25% to 50%; 4 = 50% to 75%; 5 = 75% to 100%.

MUL and MKUL appear to be performing quite affirmatively in their accounting and budgeting submodule of their acquisition module, respectively. On the one hand, BUL, MadUL, and AUL are operating effectively and managing their financial parameters between 75% and 100% of their potentials, on the other hand, ManUL from Karnataka does not seem to be fulfilling the task efficiently. In this regard, ManUL should double its effort to manage its financial submodule appropriately. The institution should equally reassess its poor financial management to restore its budgeting status on a stable pedestal.

The scenario for the generation of accession register appears to be favorable for BUL from Karnataka and all the three selected universities in Tamil Nadu. They are all at their performance level of 50% to 100%, unlike ManUL and MUL, from Karnataka which registered a poor performance. The institution is in urgent need to revamp the condition in this submodule.

At the level of module integration, all the six university libraries seem to be quite favorably with 50% to 100%. However, MUL can still upgrade its functionality.

MUL and ManUL are at their lowest point in terms of ordering books and serials for the user community. The institutions have to reconsider the strategies and investment made into the ordering and purchasing of these materials as their acquisition. It is encouraging to note that the remaining four universities are doing their best in their acquisition of the same.

In terms of rejection of books, MUL and ManUL are once more at their lowest rate, while AUL and MadUL from Tamil Nadu coped with <25% and 25% to 50% as performance, respectively. All the four universities need to act to solve the situation of their rejection task.

Here, one witness that ManUL is at a no performance at all which demands an urgent relook into lacunas when it comes to modifying orders and approvals. At this rate, the library is lagging behind the other five libraries in its productivity and service provided. From Tamil Nadu, MadUL managed to performance at 25% to 50% which equally needs a remedial task. Otherwise, all the other universities are performing encouragingly in this submodule. While MUL is at its zero performance percentage, ManUL follows the same trend

when it is subjected to the returning of rejected books, MadUL and AUL from Tamil Nadu coped with 25% to 50% indicating that they are slightly active than MUL and ManUL in this submodule. BUL and MKUL seem to be at their optimizing status at this level of the acquisition module.

The responses to the reception of ordered books appear to be productive for BUL, MadUL, and slightly lower for AUL and MKUL which can be worked towards the growth of their productivity. MUL and ManUL, however, remain once more at their lowest with regard and call for revamping their poor performance.

The update of databases is poor in MKUL from Tamil Nadu and at only 25% to 50% in MUL from Karnataka. Their functionality is at their lowest productive capacity in this submodule of their acquisition module. Hence, the needful need to be done in time to restore the decadence in their performance. The remaining universities are doing satisfactorily in this section.

The acquisition module will be at its optimal only when all the discrepancies are handled effectively by the respective universities where remedial are necessitated.

The cataloguing module (Table 5[AQ: **Please verify if the citation given for Table 5 is appropriate.**])) functions with the selection of items already accessioned in a prior module(s) and furnishing the remaining information as per the AACR-11 rules. Apart from providing the database creation facility in regional languages with the available scripts, this module permits the library staff to conduct and perform comprehensive searches for already existing and available items and products prior to cataloguing the new ones. It equally provides for the import and export of records and retrospective conversion. The cataloguing module functions within its subdivisional modules comprising of cataloguing process, catalogue search, user services, authority file maintenance, retrospective conversion, and reports. The Table 5 aforementioned infers that at the integration of modules division, all the universities are substantially delivering a high service and performance.

ManUL is the only university from Karnataka and the Tamil to note a zero percentage of effectiveness, while AUL from Tamil Nadu has <25% in terms of this subdivision in the cataloguing module. As retrospective conversion allows for the data entry of previous collections with minimal required information with no need to go to the initial submodule for the same and facilitates the import and export tasks of data from and to external sources, ManUL and AUL should for certain review their own training and aptitudes to capsize the lacunas or weaknesses.

The OPAC is liberally productive at 75% to 100% of their capacity as the libraries successfully grant full access to collections to the users and visitors as well as ensure its user-friendly faculties in their searching tasks.

Import from CD-ROM section requires a slight effort from ManUL to come up with this service as it is the only university from the six to be at 25% to 50% of its productivity. It is gratifying to see that the other libraries are putting in their constant effort for the betterment of this module and the libraries as a whole.

ManUL, at 25% to 50% of its performance in this subdivisional module titled MARC Format needs to take the corrective measures to revamp the slack in its function. Unlike other universities which are satisfactorily performing, ManUL needs to put in extra efforts and strategies to come up.

ManUL at zero performance percentage, AUL with 25% to 50% of its functional level and BUL at a slightly higher percentage of 50% to 75% than ManUL and AUL but at a lower fruition rate and pace than MUL, MadUL, and MKUL are depicted in this table in relations to the authority Types. The data suggest that AUL and MANL have to boost the subdivisional module to have a better impact on the Cataloguing Module overall.

A similar scenario as the authority types is collected for Item Search Fields from ManUL and AUL which are both at a strain in their library activity here with a slight variation for BUL which proves to be at 75% to 100% of its functions.

ManUL and AUL are on their unproductive pedestal in this submodular task of Z39.50 advanced version at a rate of zero for both. The latter need to implement corrective and remedial strategies to absolve the situation. All the universities from Karnataka and Tamil Nadu are copiously productive in this classification subcategory of the cataloguing module.

When it comes to printing catalogue cards, the Table highlights that ManUL, BUL, and AUL are at the same level of 0% productivity and efficiency. They need to devise strategies to help their respective library from this stranded condition of unproductivity.

Among all the library modules, the circulation module refers to the comprehensive module to calculate fines, circulate statistics and figures, issue special loans, issue due date slips, issue order letters for lost books among other related tasks.

This Table 6 is analyzed on by the sectional overall performance from 1 to 7 of the university libraries from Karnataka and Tamil Nadu selected for the research work. It can be ascertained that in this module, all the universities have proven their mettle in

maintaining a higher level of functionalities in the circulation module of their respective institution. Nevertheless, though the overall fruition is highly positive and engaging, AUL from Tamil Nadu received a discouraging response in terms of reservation. As it is a significant part of the circulation module, the university librarian along with the executive members should find the solution to this problem in order to provide satisfactory service and facilities to the users.

From 7 to 11, once more the blanket performance for in the submodules of the circulation module is improved and maintained performance. However, the hitches are from the universities from Karnataka in their interlibrary loan system which varies from “0” to “25% to 50%” of their activities. Contrasted to those in Karnataka, the universities of Tamil Nadu are encouraging with their optimum of 75% to 100% success. MUL lags behind somewhat in its circulation alerts which need to be dealt with to optimize its service and welfare, while ManUL stagnates at 0% performance. In this regards, ManUL has to strategize to better the institutional services. As far as membership-related undertakings are concerned, MUL rests at 50% to 75% of its production ability.

**Table 5: Cataloguing Module.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	Integration with other modules like, acquisition, circulation, Online public access catalogue (OPAC), etc.	5	5	5	5	5	5
2	Retrospective conversion	5	1	5	2	5	5
3	OPAC	5	5	5	5	5	5
4	Import from CD-ROM (copy cataloguing or other databases)	5	3	5	5	5	5
5	MARC format	5	3	5	5	5	5
6	Authority types(files)	4	1	5	3	5	5
7	Item search fields	5	1	5	3	5	5
8	Z39.50(advanced version)	5	1	5	1	5	5
9	Classification	4	5	5	5	5	5
10	1. Printing catalogue cards a. Author card b. Title card c. Subject card d. Classified card	1	1	5	1	5	5

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL= Madras University Library; MKUL = Madurai Kamaraj University Library; OPAC = Online Public Access Catalogue; 1 = not at all; 2 = <25%; 3 = 25% to 50%; 4 = 50% to 75%; 5 = 75% to 100%.

**Table 6: Circulation Module.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	Integration with other modules	5	5	4	5	5	5
2	Reservation	4	5	4	1	5	5
3	Check-in /Check-out policy	5	5	5	5	5	5
4	Flexible issue period	5	5	5	5	5	5
5	Automatic fine calculation for different user category	5	5	5	5	5	5
6	An automatic due date for issued date	5	5	5	5	5	5
7	Interlibrary loan	3	0	3	5	5	5
8	Patron categories	5	5	5	5	5	5
9	Patron attribute types	5	5	5	5	5	5
10	Circulation alerts	5	0	4	5	5	5
11	Membership 1. New 2. Renew 3. Cancel	5	5	4	5	5	5
12	Report generation 1. Transaction log 2. Fine reminders 3. Member list 4. Interlibrary loan 5. Notices publication 6. Spine label	5	5	5	5	5	5
13	Selective dissemination of information	2	5	5	3	5	5
14	E-mail support	5	5	5	1	5	5

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL= Madras University Library; MKUL = Madurai Kamaraj University Library; 1 = not at all; 2 = <25%; 3 = 25% to 50%; 4 = 50% to 75%; 5 = 75% to 100%.

**Table 7: Serial Control Module.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	Acquisition of serial/receiving of serials	1	4	4	1	5	5
2	Orders, approvals, and invoice processing	1	1	2	1	5	5
3	Subscription control	1	1	4	1	5	5
4	Renewal of serials	1	1	4	1	5	5
5	Claim monitoring	1	1	1	1	5	5
6	Electronic mail support	1	1	4	1	5	5
7	Budget approval	1	1	1	1	5	5
8	Currency conversion	1	1	4	1	5	5
9	Record keeping	1	5	4	1	5	5
10	Reminders	1	1	4	1	5	5
11	By title	1	1	4	1	5	5
12	1. Report generation a. All serials b. Current serials c. Rejected serials	1	1	4	1	5	5

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL= Madras University Library; MKUL = Madurai Kamaraj University Library; 1 = not at all; 2 = <25%; 3 = 25% to 50%; 4 = 50% to 75%; 5 = 75% to 100%.

From 12 to 14, the report generation subdivision records a positively active and growing enterprise from all the universities. BUL and AUL fall out in their functional

assignments with a lower rating than the other universities. In this way, both need to upgrade and refine their service and applicability in their selective dissemination information

categorization. While all the five universities have a good e-mail provider service and support, AUL from Tamil Nadu is at a 0% of its expected performance level. It is a pressing indication for AUL to work at it to better its e-mail support system to the users.

ManUL marked with 50% to 75% performance and BUL with a productivity level of <25%, universities from Karnataka, and AUL from Tamil Nadu at 0% underpin that there is an urgent appeal to work on the acquisition and reception of serials to maintain, archive, and record the old and current serials holdings of data in a more accurate way. MUL, MadUL, and MKUL are doing fairly well in this submodule (Table 7).

With a functionality of <25% of the expected performance level, MUL, ManUL, BUL, and AUL at 0% are lacking in their strategies adopted to follow-up and guarantee the dynamic and systematic renderings of orders, approvals, and invoice processing. MadUL and MKUL are executing their responsibilities and fulfilling their duties as expected in a supportive manner.

BUL with a functional potency of <25% and MadUL at 0% in contrast with ManUL, MUL, MadUL, and MKUL prove that they fail to carry out the effectiveness and efficiency in managing and controlling the subscription, renewal, and even cancellation of serials. This said the universities must commit themselves to remedy the situation. Both subscription control and renewal of serials seem to share a common ground in terms of data collected as responses.

Claim monitoring and budget approval's submodules of the serial control module share similar response in terms of data with MUL at 0% productivity, BUL sits at <25% of their operational faculties and AUL rests at 0%. In contrast, MadUL and MKUL prove adequate competence in this field. MUL, ManUL, BUL, and AUL fail to provide for the accuracy in information regarding claims and funds either necessitated or invested as serials subscriptions in their respective organization.

At 50% to 75%, MUL seems to be doing an appreciable job in its electronic mail support

system for the staff and users alike. MadUL and MKUL are equally doing proficiently in this domain in Tamil Nadu. Nevertheless, at <25%, ManUL and BUL, and at 0%, AUL's performances appear to be having a negative and discouraging impact, whereby the trio flop in optimizing and systematizing their e-mail support system properly.

In the field of currency conversion, ManUL and BUL maintain the same status of <25% managerial and operational yield, while MUL is performing much better in Karnataka. Unlike AUL which stands at 0% functional performance, MadUL and MKUL are at their higher productive peaks. This is to say that there is urgency for ManUL, BUL, and AUL to take the necessary steps to improve their management of currency conversion as required per the ILMS norms.

From recordkeeping to report generation, all the universities have maintained similar trends with MUL at 50% to 75%, ManUL at 75% to 100% except for recordkeeping submodule where it stands at 0% and BUL at <25% of their managerial and operational capacity. MadUL and MKUL from Tamil Nadu managed to obtain a record of 75% to 100% which gives an insight into the strategies and dynamic enterprise to be labor and cost-effective involving manual entry of serials and accentuate on their ability to sustain a commendable control over the issued receipts journals, reminders, binding and such other related tasks [6].

As per the function of user ID and Password is concerned, all the libraries from Karnataka are performing to the maximum capacity along with MadUL from Tamil Nadu. However, AUL rests with 50% to 75% of its performance ability while MKUL is at 0% from Tamil Nadu. As this submodule in the administration module is handed over to authorized staff of each library, the concern people should make sure that the effective strategies and hard work are put to improve the low or no performance of the libraries to, in turn, ensure the smooth communication and professional or academic relationships with their users.



**Table 8: Administration Module.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	User ID and password for each authorized user	5	5	5	4	5	1
2	Authorized access to the user at a module level	5	5	5	4	5	1
3	Authorized access to users at the function level	5	1	4	5	5	1

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL= Madras University Library; MKUL = Madurai Kamaraj University Library; 1 = not at all; 2 = <25%; 3 = 25% to 50%; 4 = 50% to 75%; 5 = 75% to 100%.

**Table 9: Others Module.**

Sl. No	Modules	University Libraries of Karnataka			University Libraries of Tamil Nadu		
		BUL	ManUL	MUL	AUL	MadUL	MKUL
1	Stock verification through Bar code machine	3	1	1	2	5	5
2	Web OPAC	5	5	5	5	5	5
3	Interlibrary loan	3	1	5	4	5	5
4	Theft detection	4	1	1	4	5	5
5	Others (please specify)	0	0	0	0	0	0

Note. BUL = Bangalore University Library; ManUL = Mangalore University Library; MUL = Mysore University Library; AUL = Annamalai University Library; MadUL= Madras University Library; MKUL = Madurai Kamaraj University Library; OPAC = Online Public Access Catalogue; 1 = not at all; 2 = <25%; 3 = 25% to 50%; 4 = 50% to 75%; 5 = 75% to 100%.

One can note the same trend in performance from the libraries for authorized access to users at the module level as they recorded similar response patterns. The same low-performing libraries should encourage and motivate the staff to cater for their lacuna in this submodule.

The trend changes for authorized access to users at function level as MUL records a 50% to 75% performance, BUL, MadUL, and AUL are performing at their productive peak to maintain the smooth and equilibrium between users, staff, and functions. However, ManUL and MKUL have not recorded an encouraging activity and performance percentage which induce them to review their working tactics to raise the performances to an acceptable degree (Table 8).

In Table 9, the researcher notes that MUL and ManUL from Karnataka are at their lowest of their generative capacity, while AUL from Tamil Nadu has yielded slightly better with a minimum of <25% and BUL came out with 25% to 50% only. The statistics reveal that the universities in Karnataka are at a disadvantage vantage point in terms of this submodule in contrast to MadUL and MKUL from Tamil Nadu. The universities stand strong in their usage and monitoring of their web OPAC. ManUL, BUL, and AUL need to put in extra

effort to consolidate its interlibrary loan service and function. It is necessary for these libraries to come up in their performance and operations so as they can maintain control to solve probable issues.

MUL and ManUL have failed in their theft detection service and operations unlike the universities in Tamil Nadu which have proven their potentialities to sustain the theft detection service in their respective institutions.

## FINDINGS AND SUGGESTIONS

The above study explains that sample university libraries covered under the study in Karnataka are partially automated. Whereas in Tamil Nadu, two university libraries fully automated and one is partially automated. As well as sample university libraries in Karnataka are being used open source software and the majority in Tamil Nadu are using commercial automation software. The majority of the sample university libraries from both the states are in circulation module and cataloguing modules are giving best services. In serial control module, there is a progress through automation in MUL from Karnataka and MadUL and MKUL from Tamil Nadu. AUL in Tamil Nadu is not having any process through the serial module.

The selected university libraries are needed to automate all the modules which are remaining. In serial control module, BUL and ManUL in Karnataka and AUL in Tamil Nadu, need to automate and progress work through automation. In acquisition module, MUL and ManUL have to adapt areas to progress automation process. MKUL has to improve in administrative module to process through automation.

## CONCLUSION

There is no doubt that the automation of the library has brought increased enhancement to the services delivered by Karnataka university libraries. First, manually operated housekeeping chores such as the borrowing and returning of books and materials have become fast, easy, and reliable. Also, generation of reports regarding transactions is also done easily and quickly by the click of a button. This helps in efficiently administering the library, as well as cataloguing and circulation of books and other library materials. It also helps trace, with ease, any overdue material or book borrowed. An important indirect impact that the automation has left is that it has greatly helped in upgrading the IT skills not only of library staff but of patrons as well.

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