

# An Impact of library Digitization in Professional and Non-Professional Educational Institutions in Kolhapur City

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**ABSTRACT--***This study signifies the importance of library digitization in professional and non professional educational institutions whether the efficient services have been provided or not through the library digitization. Detail study of library digitization, software its working performance are to be carried out under this study. How faculty, students and library staff are responding the new technology. This research title 'An Impact of library Digitization in Professional and Non-Professional Educational Institutions in Kolhapur City' is to make a study of different collage library in Kolhapur city. Regarding the computer application since library digitization has been the need in today's information communication technology (ICT) environment to perform work efficiently, it is necessary to see that digitization of library is implemented in every library. The study aims to find out the collage libraries in Kolhapur city which are digitized and the extend to which the digitization is implemented. Library system is to satisfy its user by providing efficient services to its clients[13]. In this study this aspect is focused i.e. whether it is possible to provide effective and efficient services to the users.*

**Keywords--** *Digitization, Library system, Computer Applications, ICT, Automation*

## 1. INTRODUCTION

Today we are living in the ICT Environment. A large amount of information is being generated every moment, which is termed as "Information Explosion" The information generated may be in the form of book or non-book material in developed and developing countries information is considered to be the most important and dynamic and unending resource, which affects all the walks of life. Information supports education, research and development. Computer and telecommunication technology has revolutionized library and information service[11]. Librarians are now expected to use various information technologies to provide information more expeditiously and exhaustively than before.

After World War II a large amount of information has been produced in the form of books and other printed materials. Due to this reason. It became very difficult for the libraries to acquire, arrange, process and disseminate the information in their traditional way therefore the libraries were compelled to plan, organize, and communicate the huge amount of information according to the need of user with the help of information technology. The information today is no larger confined to books and documents like olden days, which was in custody of librarians or other educational institutions. But today information is being disseminated by making use of

technology in the form of audiovisual, multimedia with color motion 3 dimensions features etc. application of modern technology viz. computer and communication are bringing all these to the doorstep of the people. Computer based facilities now available for libraries like CD, Email, and the Internet and by making use of these facilities, the libraries now provides varying number of services to the users

There is a great impact of computer and information technology and its application on the libraries due to which a process of great change is taking place in libraries[9]. Modern technology is tending to alter radically the nature of our society and effect the prevailing economic, political and social values. Libraries are also in the process industrialized countries were the first to realize that in the context of knowledge, classical approaches relating to storage, retrieval and utilization of the information were no longer adequate and effective and that the solution lay in making fullest use of new developments (in making fullest use of new development) in electronics, computers, telecommunications micro-recording etc.

## 2. SIGNIFICANCE OF THE STUDY

This study signifies the importance of library digitization in today's ICT environment. Due to various factors like increase in publication, user's demand, huge amount of information, change in technology the users can not be provided better service and required information[3]. So to make the services effective and efficient, it is necessary that library operations and services should be digitized. Hence for this reason digitization is required when implementing digitization, it should be seen that the staff as well as the users are aware of the digitization programmed and fully co-operate with it.

Many studies on library digitization have been undertaken in west but few studies have been undertaken in India. This particular study undertaken to study computer application in college libraries in Kolhapur city and to study the effect of digitization on library services.

## 3. STATEMENT OF THE PROBLEM

During the informal discussion with the librarian and the concerned authorities of college and library administration it was brought to the notice of the researcher by them that there is a great need to study the functioning of these libraries and library digitization with respect to the daily

working of the library[5]. Many of them rightly stated their experiences with regard to difficulties faced by them while handling the routine as well as critical situation. It has been observed that the librarian, students and management have been facing problems regarding the library and its digitization. To examine the real situation and working of these libraries “An Impact of library Digitization in Professional and Non-Professional Educational Institutions in Kolhapur City.”

4. OBJECTIVES

The present study is undertaken with the prime objective of computer application in library digitization in Kolhapur city. Hence, the following other objectives will be kept in mind while conducting the study.

1. To study the working pattern and management style of libraries and its digitization.
2. To evaluate the working of library and its digitization.
3. To find out the problems faced by the user in using digitized library services.
4. To examine the satisfaction level of users about digitization of library services.
5. To suggest remedial measures for the problems so diagnosed by conducting an opinion survey.

5. HYPOTHESIS

1. Students were highly satisfied with the digitization of library system
2. College libraries do not have trained manpower to automate the library.
3. The response of library staff is poor for the digitization of library

6. RESEARCH METHODOLOGY

The simple random sampling and purposive sampling methods will be adopted during the course of this study. In case of simple random sampling methodology the 10 libraries were selected out of more 30 different college libraries which is 33.00% of total universe from Kolhpaur city by considering their implementation of library digitization where as the purposive sampling methodology is applied to in case of student sample. 50 samples of students were selected for the study.

For solving any type of problem, study of the whole population or universe is impossible. It is therefore decided to pick up sample units that can represent the universe, which are being covered by the research. In this research work the selected samples are,

6.1 LIBRARY SAMPLE

Library sample consist of full time and incharge librarian. The sample has been formulated using purposive sampling. It is estimated that permanent and incharge librarian are approximately 30 and the sample size is 10 which is 33.33%.

6.2 STUDENTS SAMPLE.

Students sample consist of present student of various courses users from different library have been selected in the sample. It is estimated that the total number of students are approximately 2000 out of 50 students were finalized for the study.

7. SOURCES OF DATA COLLECTION

In order to ensure most relevant and accurate feedback from the sample units the researcher has employed following techniques for collection of data. In library and Information science a survey is a systematic collection of data concerning library and information centers, their activities, operations, staff, user at a given time over a given period. The survey method consists of various techniques like observation, questionnaire, and interview.

7.1 PRIMARY DATA COLLECTION

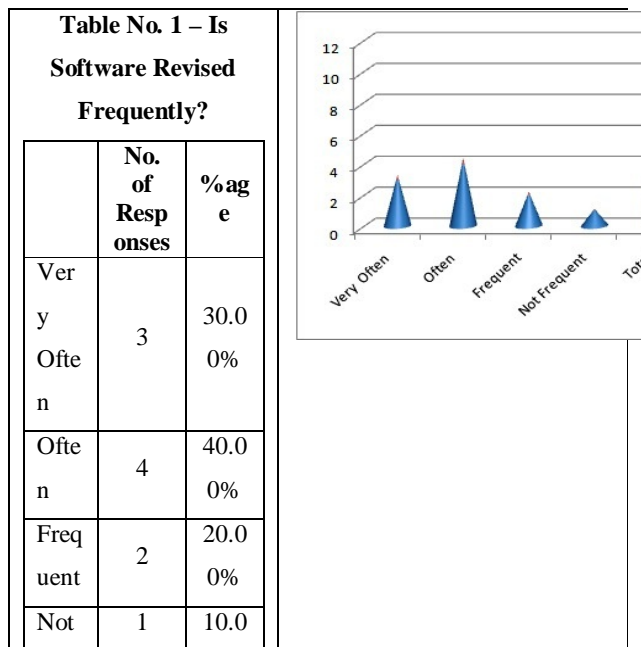
The requisite data will be collected through primary and secondary sources. The primary data will be collected through an elaborate and exhaustive questionnaire, pre-tested through pilot study, finalized and developed for administering on the selected samples. In addition to mailers, observation, discussion method, structured and unstructured interviews will be organized to solicit the first hand information from the selected centers.

7.2 SECONDARY DATA COLLECTION

The researcher is also consulting the secondary sources of data, both from published and unpublished reference material, manuscripts from various established libraries

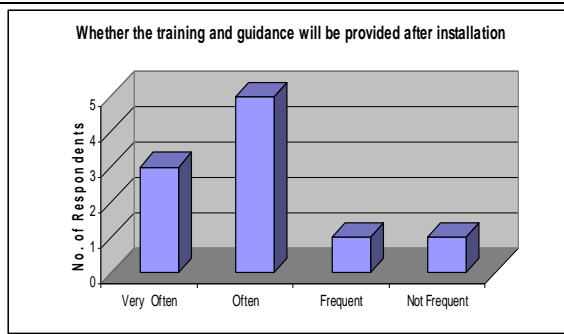
Empirical Data Analysis and Presentation:

This section consists of the information regarding the librarian and library digitization, views expressed by the librarian and operation staff institutions/college. The following analysis was made, based on the data collected through the questionnaire.



**Table No. 3 - Whether the Training and Guidance Will Be Provided After Installation**

	No. of Responses	%age
Very Often	03	30.00
Often	05	50.00
Frequent	01	10.00
Not Frequent	01	10.00
<b>Total</b>	<b>10</b>	<b>100.00</b>



conclude that the majority of libraries were use to revise the software by considering the new change in the technology.

**Table No. 2 – Is the Software User Friendly and Menu Driven to Access**

	No. of Responses	% age
Fully Sufficient	06	60.00
Sufficient	02	20.00
Neither suff. Nor insuff.	01	10.00
Insufficient	01	10.00
Least sufficient	00.	00.00
<b>Total</b>	<b>10</b>	<b>100.00</b>

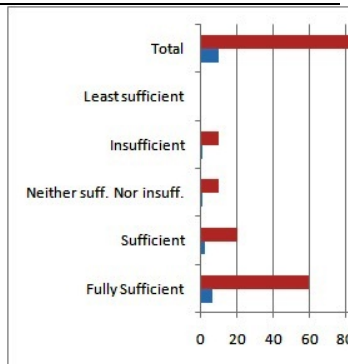


Table No. 2 furnishes the information about the software is user friendly and menu driven to facilitate the access. Majority of library 60.00% were fully sufficient about the facilities of operations. Where as 20.00%, 10.00%, 10.00% libraries were says that the software is not sufficient, neither sufficient nor insufficient and insufficient respectively user friendly and menu driven.

Because of the smooth working of library operation, faculty training is also an important factor. Table No 3 reflects the 30.00% libraries were adopting the faculty training very often. 50.00% libraries are adopting training facilities often. 10.00% libraries are not providing the faculty training frequently and not frequently.

Frequent		0%
<b>Total</b>	<b>10</b>	<b>100.00%</b>

Table No. 1 shows that the 30.00% colleges were use to revise and addition of new features very often , where as 40.00% are use to revise software often. 20.00% and 10.00% colleges were use to revise the library software frequently and not frequently respectively. There for it is

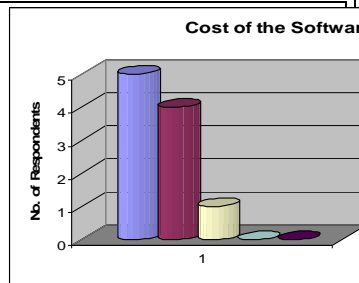
**Table No. 4- Whether the Software Has Got Sufficient Security Measures**

	No. of Responses	%age
Fully Sufficient	02	20.00
Sufficient	03	30.00
Neither suff. Nor insuff.	03	30.00
Insufficient	01	20.00
Least sufficient	01	10.00
<b>Total</b>	<b>10</b>	<b>100.00</b>

**Table No. 4** shows information about the software has stage. It is reveal that the majority of libraries were sufficient security measures or not. It was revealed that 20.00% completed their library digitization. of libraries were fully satisfied with the security measures and 30.00% expressed that it is sufficient and neither sufficient insufficient. 20.00% and 10.00% college libraries are having insufficient and least sufficient security measures respectively.

**Table No. 5- Cost of the Software**

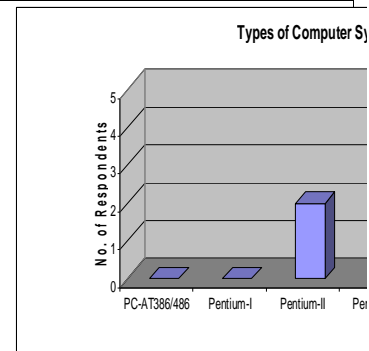
	No. of Responses	%age
Very High	05	50.00
High	04	40.00
Neither high nor low	01	10.00
Low	00	00.00
Very Low	00	00.00
<b>Total</b>	<b>10</b>	<b>100.00</b>



**Table No. 5** shows the comments regarding the cost of software. Majority of(50%) college librarian commented that the cost of the software is very high where as 40.00% of college librarian commented that the cost of software is high. Only 10.00% librarian says that the cost of software is neither high nor low. Where as nobody has commented regarding the cost of software is low or very low etc.

**Table No. 7 Types of Computer System Used**

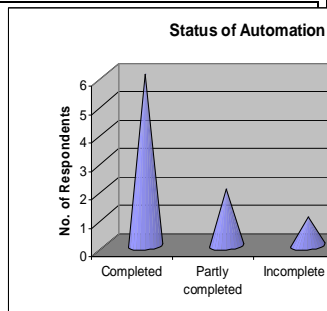
	No. of Responses	%age
PC-AT386/486	00	00.00
Pentium-I	00	00.00
Pentium-II	02	20.00
Pentium-III	02	20.00
Pentium-IV	05	50.00
Other (pl. specify)	01	10.00
<b>Total</b>	<b>10</b>	<b>100.00</b>



**Table No.7** furnishes that the information about the computer system used in the library. 20.00% libraries were using the Pentium-II and Pentium-III. 50% libraries were using the Pentium-IV and only 10.00% libraries were using the very latest configuration machine. It is reveals that the majority of computers were using the Pentium-IV configuration computer systems.

**Table No. 6 - Status of Digitization**

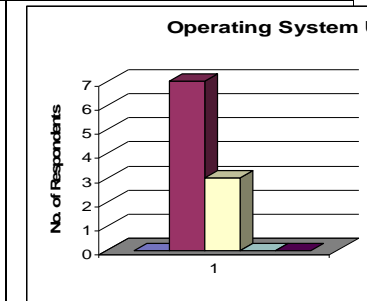
	No. of Responses	%age
Completed	06	60.00
Partly completed	02	20.00
Incomplete	01	10.00
Initial stage	01	10.00
<b>Total</b>	<b>10</b>	<b>100.00</b>



**Table No. 6** furnishes the information about the status of digitization. 60.00% of libraries digitization is completed. 20.00% of libraries digitization is partly completed. Only 10.00% of library automaton is incomplete and initial

**Table No. 8- Operating System Used**

	No. of Responses	%age
MS-DOS	00	00.00
Windows	07	70.00
Linux	03	30.00
Unix	00	00.00
Other (Pl. Specify)	00	00.00
<b>Total</b>	<b>10</b>	<b>100.00</b>



**Table No 8** shows the information about the use of basic operation system in the library automation 70.00% library

software has got windows operation system, where as only 30.00% library software has got Linux operation system. It is observed that the majority of library software was using window operating system as a basic operating system.

least satisfactory. It is concluded that majority of students were satisfactory about the library automation.

**Table No. 9, Types of Software Used**

	No. of Responses	% age
In house development	01	10.00
Lib-sys	06	60.00
Easy lab	01	10.00
Disha	02	20.00
E-print	00	00.00
Any other (Pl. Specify)	00	00.00
<b>Total</b>	<b>10</b>	<b>100.00</b>

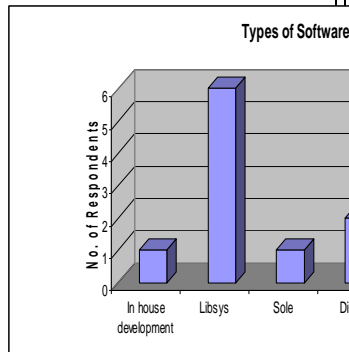


Table No 9 shows that the information about the types of software used in the library. Only 10.00% library software are developed in house, 10.00% and 20.00% softwares are used sole and disha respectively. Majority of 50.00% library were using software of Lib-sys as its recommended by UGC.

**Table N.11 What Are the Problem Faced By Student In Case Of Library Digitization**

	No. of Responses	% age
Book searching	32	64.00
Issue/receive of book	07	14.00
Operation of s/w	11	22.00
Any other (Pl. Specify)	00	00.00
<b>Total</b>	<b>50</b>	<b>100.00</b>

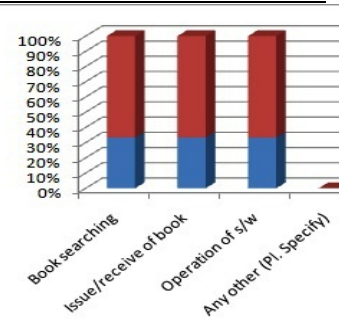


Table No.11 furnishes the information about the problem faced by student in case of library automation. Majority 64.00% of the student were facing the problem of book searching where as only 14.00% and 22.00% student were facing the problem of book issue/receive and operating of software. It is concluded that the majority of student were facing the problem of book searching.

**Table No.10 Are You Satisfy About the Library Automation**

	No. of Responses
Satisfactory	11
Satisfactory	15
Neither satisfactory nor unsatisfactory.	15
Unsatisfactory	09
Unsatisfactory	00
<b>Total</b>	<b>50</b>

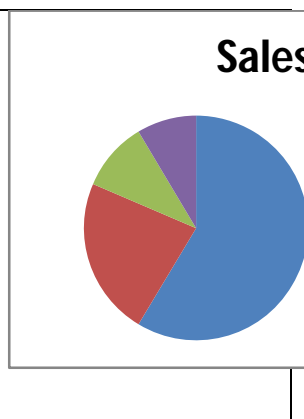


Table No. 10 reveals that the information about the student satisfaction about the library automation. 22.00%, 30.00% students were highly satisfactory, satisfactory, and neither satisfactory nor unsatisfactory where as only 18.00% nor none of the students were unsatisfactory and

**Table No. 12- Do You Have Scanner Facilities**

	No. of Responses	%age
Yes.	09	90.00
No.	01	10.00
<b>Total</b>	<b>10</b>	<b>100.00</b>

Table No 12 reveals that the information about the use of scanner in the library. 90.00% libraries were using the scanner facilities smooth working of the library operation, where as only 10.00% colleges were not using the scanner facilities in the libraries. It is concluded that the majority of library were using the scanner facilities



**Table No. 13 Does Bar Code System Used In the College Libraries**

	No. of Responses	%age
Yes.	08	80.00
No.	02	20.00
<b>Total</b>	<b>10</b>	<b>100.00</b>

**Table No 13** reveals that the information about the use of bar code in the library . 80.00% libraries were using the barcode facilities smooth working of the library operation, where as only 12.00% colleges were not using the bar code facilities in the libraries. It is concluded that the majority of library were using the bar code facilities..

**Table No. 14- Does Online Journal Used In the Library**

	No. of Responses	%age
Yes.	03	30.00
No.	07	70.00
<b>Total</b>	<b>10</b>	<b>100.00</b>

**Table No 14** furnishes that the information about the online journal used I available in the library. . It is observed that only 30.00% library has got online journal support where as majority of 70.00% library were not having the online support. It is concluded that the majority of library were not having online journal facilities.

**8. TESTING OF HYPOTHESES**

A hypothesis is a statement supposed to be true till it is proved false. The hypotheses may be based on previous experience or may be derived theoretically. A statistician generally sets up two hypotheses instead of one. They are called Null Hypotheses and Alternative Hypotheses[6]. A null hypothesis is the approach here is to set up the hypotheses, or assumption, that there is no contradiction between the believed result and the sample result and that the difference therefore can be ascribed solely to chance, such a hypotheses are called a null hypothesis. The object of the test is to see whether the null hypotheses should be rejected or accepted. For the study hypotheses is tested using the chi square test.

Procedure for testing of hypotheses is as follows:

- Step-1: Calculate the estimated (E) frequencies using observed frequencies (O)
- Step-2: Calculate the difference between observed and estimated frequencies i.e. (O-E)
- Step-3: Find out the square of (O-E)
- Step-4: Calculate  $\chi^2 = (O-E)^2/E$
- Step-5: Calculate the degree of freedom (df)  $v = (r-1) \times (c-1)$

Test the  $\chi^2$  value and the table value for calculated degree of freedom, if calculated value ( $\chi^2$ ) is less than the table value then the hypotheses is accepted otherwise it is to be rejected.

- 1) The library digitization and manpower training are independent

This hypothesis is based on the observed values from the Table No 9 Status of Digitization and Table No -10 do you have sufficient trained staff. With the help of above table the following calculation of  $\chi^2$  have been prepared.

Calculation of Chi-square Test

O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -E <sub>i</sub>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup> /E <sub>i</sub>
2	4	-2	4	1
4	3	1	1	0.333333
2	1.5	0.5	0.25	0.166667
2	1.5	0.5	0.25	0.166667
6	4	2	4	1
2	3	-1	1	0.333333
1	1.5	-0.5	0.25	0.166667
1	1.5	-0.5	0.25	0.166667
			Sum=	3.333333

Degree of Freedom = (r-1) x(c-1)  
 = (2-1) x(4-1)  
 = 3 d.f.

Table Value = 7.815

For three degree of freedom at 5% level of significance, the table value is 7.815. The calculated value of  $\chi^2$  is much greater than the table value and hence the hypotheses stands rejected. Therefore, it may be concluded that there is a significant difference between the library digitization and manpower training.

- 2) Library digitization and student satisfaction are independent.

This hypothesis is based on the observed values from the Table No 9 Status of Digitization and Table No -23 student satisfaction about the library digitization. With the help of above table the following calculation of  $\chi^2$  have been prepared.

Calculation of Chi-square Test

O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -E <sub>i</sub>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup>	(oi-Ei) <sup>2</sup> /E <sub>i</sub>
11	12.14286	-1.14286	1.306122	0.107563
15	12.14286	2.857143	8.163265	0.672269
15	11.42857	3.571429	12.7551	1.116071
9	8.571429	0.428571	0.183673	0.021429
6	2.428571	3.571429	12.7551	5.252101
2	2.428571	-0.42857	0.183673	0.07563
1	2.285714	-1.28571	1.653061	0.723214
1	1.714286	-0.71429	0.510204	0.297619
			Sum=	8.265896

Degree of Freedom = (r-1) x(c-1)  
 = (2-1) x(4-1)  
 = 3 d.f.

Table Value = 7.815

For three degree of freedom at 5% level of significance, the table value is 7.815. The calculated value of  $\chi^2$  is less than the table value and hence the hypothesis stands for accepted. Therefore, it may be concluded that there is no significant difference between the Library digitization and student satisfaction.

3) Satisfaction level towards library digitization and the problem faced by librarian in the library digitization are independent.

This hypothesis is based on the observed values from the Table No 9 Status of Digitization and Table No -23 student satisfaction about the library digitization. With the help of above table the following calculation of  $\chi^2$  have been prepared.

Calculation of Chi-square Test

O <sub>i</sub>	E <sub>i</sub>	O <sub>i</sub> -E <sub>i</sub>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup>	(O <sub>i</sub> -E <sub>i</sub> ) <sup>2</sup> /E <sub>i</sub>
3	4.5	-1.5	2.25	0.5
4	3	1	1	0.333333
2	1.5	0.5	0.25	0.166667
1	1	0	0	0
6	4.5	1.5	2.25	0.5
2	3	-1	1	0.333333
1	1.5	-0.5	0.25	0.166667
1	1	0	0	0
			Sum=	2

$$\begin{aligned} \text{Degree of Freedom} &= (r-1) \times (c-1) \\ &= (2-1) \times (4-1) \\ &= 3 \text{ d.f.} \end{aligned}$$

Table Value = 7.815

For three degree of freedom at 5% level of significance, the table value is 7.815. The calculated value of  $\chi^2$  is less than the table value and hence the hypotheses stand for accepted. Therefore, it may be concluded that there is no significant difference between the satisfaction level towards library digitization and the problem faced by librarian in the library digitization.

9. CONCLUSIONS:

In this research, the empirical study is conducted on “An Impact of library Digitization in Professional and Non-Professional Educational Institutions in Kolhapur City” for conducting the study of 10 college Libraries were selected to undertake the survey of these all college libraries responded. These college libraries include professional colleges as well as non-professional colleges. When data was analyzed it was found that 3 college libraries have initiated digitization process of which libraries are fully digitized [15]. The rest are in the initial stage of digitization some of the college libraries are using readymade software only 3 college libraries are using in house developed software.

It was initially stated that library digitization helps in providing new services. It is found to be true because there is lack of manpower effective and efficient services can be

provided by digitization. There is no sufficient manpower in digitization in the libraries and it is found to be true the libraries are run only by 2 persons mostly and in certain cases it is a one man show. The librarians are not qualified in IT and hence the process of digitization suffers.

From the above data analysis the following conclusions have been made

- It is found that the majority of colleges have appointed the librarian as full time (60.00%) where as majority of librarian were not qualified according to the guidelines given by the UGC.
- It is clear that only 40.00% of librarian is implementing the new changes in the software often.
- Majority of 60.00% librarians are agree that the software is user friendly and menu driven but the same time student were not agree about the operation of software
- 50.00% of librarian were quoted that the training is provided often for the operation and new user of the library.
- Maximum of the software’s 80.00% were support the multi-user capability which is very helpful in library digitization.
- 40.00% of librarian are agreed that they have sufficient trained staff where are remaining 60.00% librarian were not agreed about the trained staff.
- It is observe that the majority of libraries were suffers the problem like inadequate fund, lack of trained manpower and staff co-ordination.
- It is found that the majority of libraries were using the LIBSYS software which is recommended by the UGC.
- 40.00% students were making use of software often for the purpose of book searching.
- Majority of students 80.00% were visit to the library for the purpose of book issue/receive where as remaining students were visit for periodical section and reading of newspapers etc.
- It is observed that only 30.0% student very satisfy about the computerization and library digitization.
- Majority of student were suffering the problem of searching mechanism. The only 30.00% student were agreed that the instruction about the operation of software is given frequently.

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