Chapter 5
Data Collection, Analysis and Hypothesis of the Study

5.1

Survey Findings: Librarians

Background:

In this doctoral research study 40 librarians from cross section of management institutions were surveyed . Academic institutions and libraries in these institutions have a unique place in the society. Libraries have always been used by professionals in different sectors in the creation of new knowledge. Libraries accomplish this task by ensuring that the knowledge that is there in the books is organized, restored and made available for coming generations. Libraries are considered synonymous with education but they can actually fuel social, cultural and economic development . To this effect there are many inspiring stories like that of Mr. William Kamkwamba from Malawi who borrowed one book on windmills from the local library and learnt how to build an energy-producing turbine for his village. That one book he borrowed changed not just his life but the whole village communities life. Such stories point out towards why many countries now are very keen to ensure that libraries continue to offer knowledge services so that new thoughts, actions and deeds can be stimulated.

The development of technology and application of technology in this field of library science will only expand its role and relevance in the academic world and beyond. This was the central thought of the researcher which led to this research which evaluates the usage of softwares in this field by their chief patrons, meaning the librarian themselves, students and professors who are considered as the primary users of this entity.

The technology and the digital world provides an enhanced opportunity for librarians to be even more actively engaged in the new knowledge creation process. Most softwares are interactive and can have the capability to offer knowledge gathering services remotely too to anybody living anywhere in the world. These capabilities definitely expand the role and amke them more relevant to the society and the academic world.

This questionnaire (Refer Appendix I) was prepared after a short qualitative discussion with the librarian fraternity. This ensured that the questions incorporated in the questionnaire used the terminologies that were actually popularly utilised by the librarians themselves . The focus of the questionnaire was on :

- **Sample Profile**: The aim here was to establish the librarian and institution vintage.
- **Institute affiliation**: The aim here was to find out the affiliation with parent council. It is important to help develop library strategies that can be implemented in a standardized manner to offer undifferentiated library services across institutions affiliated under its aegis given that library is an infrastructural service by any educational institution and the patrons do deserve similar or standardized library services.

- **Ownership of software's**: There are many company/brands of Library software's that are available in the market. It was important to understand the decision-making journey for owning these software's.
- **Experience with the software:** It was important to understand the experiences with the software's to help develop effective strategies that will help librarians to use these software's and maximise the benefits of the same.

The findings from this survey can serve as baseline assessment for the softwares and their utilisation in the institution to highlight possible opportunities or areas of limitations so that effective library strategies can be evolved to ensure an expanded role of this service in order to facilitate performance of their patrons and users in the knowledge lead economies.

The sample size is 40. The method of data collection was primarily face to face using pen/pencil with the questionnaire. The appointment was pre fixed by the researcher. However , three visits were given and if despite three visit f the interview did not get complete in the face to face scenario then the questionnaire was emailed and the respondent sent a electronic response to the researchers.

While detailed tables are presented towards the end of this chapter , overall findings will be presented in the body of this chapter to highlight the key findings under the aforementioned four sections.

Sample Profile: **Key profile parameters: Age (Librarian and Librarian service, Institution Vintage) and Student population** :

Figs in %	Total
Total	**40***
Age of Librarian	
Up to 35	40
36 & above	60
Age of Establishment of the Institution	
Up to 15	43
16+	55
No. of students in the college	
Up to 400	58
401+	40
Librarian - No. of yrs. with the college	
Up to 5 Yrs.	43
6+ Yrs	75

The sample profile points out towards a matured set up whether it is an institution or the key custodians of the institute. There are five laws of library science, propounded by Dr. S. R. Ranganathan (1892- 1972), the father of library and information science in India. One of them is that Library is a growing organism. Given that most institutions are 16 years plus it is poised to bring in changes so that it grows with the market and sector.

In fact (Refer tables on page number 4.6.4) which clearly highlights that 62% of institutions established before 2000).

1. **Institute affiliation**:

In order to get an insight on institute affiliation following question was asked:

Q. (REFER QUESTIONNAIRE IN THE APPENDIX) Whether the College is affiliated to AICTE:

Figs in %	Total
Total	**40***
Yes	95
Deemed university	3

Clearly majority of institutions are associated with AICTE. All India Council of Technical Education is a statutory and national body that accredits educations institutes to run graduate and post graduate programmers. Since this is an statutory body this body has an authority to bring in the necessary changes if needed for the growth of education sector and society at large. The role of software as is emerged in this baseline research can be used by this statutory body to bring in necessary changes and help make these services not just available but accessible 24*7 to all its patrons.

2. **Ownership of software's**:

Following key questions were asked by the researcher to establish the ownership of software type:

- Out of the following options, which software is used in your Library?

A list of library software's were presented to the librarians as an aid and they had to tick the software's they own in their institute. Following table highlights the top three software companies/brands that are currently owned by the institutions:

Figs in %	Total
Total	**40***
SLIM 21 Advance	25
SOUL	15
Koha	15
Egranthalya	13
Total	68%

The market at this time seems very fragmented and this typically happens when there is huge unorganized market in the sector. Its a case of concentrated or fragmented market. In a concentrated market there is a mechanism of depth of services, features of product are more or less standardized and pricing information is transparent where as in fragmented markets there is uncertainty and un-standardization of product and product features.

The findings reveals that the market situation is fragmented and does present an opportunity for the role of the regulatory body which can specify some basic important features that

every institute must have, and could have brands and modules/features, so that they offer similar quality of library services to the users of the services.

- Which are the software modules available in your Library from the below given options?

Figs in %	Total
Total	40*
Cataloguing	98
Acuisition	98
Report	93
Stock tracking	90
Circulation history	88

So clearly these emerge as the top five modules that must be most used too. This insight helps to get a basic software product configurations for such a service.

- Who is the decision making authority to purchase the software?

Figs in %	Total
Total	40*
Director/Dean/Management	75
Librarian	10

- Who referred you to go for this software?

Figs in %	Total
Total	40*
Director	55

Clearly the above two findings reveal that the decision is top down and given the technical role it is important to make this decision more participatory so that the librarian who is the key custodian of this software is able to use the software better and maximize its utilization.

3. **Experience with the software:** Overall across parameters the experience that is provided seems to be good. But the researcher feels that the software's potential is not being fully utilised by the fraternity and this is a matter of application and training

which may be is required to be disseminated by service providers and regulatory body in the view of expanded role that the researcher has envisaged for the library services given the technology interface.

Following key questions are asked to assess the experience with the software's

- **Is the software interactive:** Nearly 85% of librarians say that it is interactive (REFER TABLE 4.6.13) But on asking what are the interactive features that it offers, the mentions are in the space of email support, remote service etc. However it is felt that the active technology features such as search, subscribe and filter do not get mentioned pointing towards the need of familiarisation of these features and training on using it to maximise the benefits of technology and digital world.
- **Is there any back-up support system available for the said software**: It is encouraging to observe that 93% (REFER TABLE 5.6.15)feel that the companies do offer back
- **How often the company representative visits to your institute to enquire about the working condition of the software?:** Mostly only on calling is the response by 85% of librarians (REFER TABLE 5.6.27). This needs to be looked into.
- **The facility which is provided by the Software Company is it good**: 88% say that the service is good. (REFER TABLE 5.6.29)
- **Is the above software user friendly**:98% say it is user friendly . (REFER TABLE 5.6.32)
- **How many times does the faculty and student use the software?** Teachers use it for 15 days and students use it for 18 days so it is fairly intensively used service. (REFER TABLE 5.6.36/5.6.37)
- **Problem occurrence in the software:** This question reveals that 2.65 times problems occur in a given month**. (REFER TABLE 5.6.34)
- **Would you like to recommend this software to any other institute** : 68% say that they would recommend the software but the difference between the scores on Facility is good 88% and recommendation is about 20 points and that is huge gap. This reveals that there are some discomfort and areas of disappointments among librarians and that needs to be addressed.

To conclude: The managerial implications of the above findings point out towards following two key inferential findings:

1. A need of a strong role of the regulatory body to set up norms for institutions and software company to ensure that library software services is not just a knowledge repository services. As observed that the decisions of purchase are at the institution level and that's leading to a technology adoption which is extremely differential and driven by the institutions mandate. AICTE can have a role here to mandate minimum features to offer similar library services to the users like educational curriculums.
2. Further when the awareness of features of the modules is evaluated 21% librarians have mentioned about the 'search' function. It appears that given that there is an expanded role that librarians need to play in educational industry which goes beyond being

repository of knowledge services and moves into an active role of creating new knowledge that is research based this function needs to be used more frequently.

3. The top five software's that emerged are:

Figs in %	Share in the institutional market	Whether interactive software % saying yes	Whether recommended: % saying yes
Total	**40***		
SLIM 21 Advance	25	100	100
SOUL	15	80	66
Koha	15	100	100
Egranthalya	13	100	80
Total	**68%**		

These findings indicate that the role of regulatory body is highly required to ensure standardised services across service providers.

5.2
Survey Findings: Professors

Background:

In this doctoral research study 200 professors from cross section of management institutions were surveyed . Professors are the teaching faculty and have a unique position when it comes to influencing and using the library services. Professors are like the students are primary users of these libraries and therefore it was important to ascertain their perceptions was the key thought of the researcher.

Currently professors /or management faculty need to be very research oriented in their approach of teaching. This is especially true about management teachers because management is more about applied sciences. Further there is a professional requirement to do academic writing in order to publish well researched papers in the domain of their teaching. All these requirements are heavily dependent on library services. On this back drop it is evident that therefore this teaching community will be one of the primary users of library services. In this context it was important to ascertain the user perception about these technology software's that the academic libraries use. Because these software's will be the enablers for expanding the role of library sciences was the next emerging thought of the researcher.

This questionnaire (Refer Appendix II) was prepared after a short qualitative discussion with the teacher community. This ensured that the questions incorporated in the questionnaire used the terminologies that were actually popularly utilised by the teachers themselves . The focus of the questionnaire was on :

- **Sample Profile usage of library services**: The aim here was to establish the awareness and usage of these software's among the teachers who are also primary consumers like the students of these services.

- **Software feature awareness**: The aim here was to find out the level of awareness of different features that the software offers.

- **Experience with the software:** It was important to understand the experiences with the software's to help develop effective strategies that will help teachers to use these software's and maximise the benefits of the same.

The findings from this survey can serve as baseline assessment for the software's and their utilisation in the institution to highlight possible opportunities or areas of limitations so that effective library strategies can be evolved to ensure an expanded role of this service in order to facilitate performance of their patrons and users in the knowledge lead economies.

The sample size is 200. The method of data collection was primarily self-filling using pen/pencil and the questionnaire in the institutions setting.

While detailed tables are presented towards the end of this chapter , overall findings will be presented in the body of this chapter to highlight the key findings under the aforementioned three sections.

Sample Profile: **Key profile parameters: Level of Software Awareness among Professors population** : In case of this community too the highest awareness is for SLIM software and it

is at 36% followed by SOUL and KOHA at 14 and 15% each Refer table 7 in Professors tables section .

The response to **Q1 REFER QUESTIONNAIRE IN THE APPENDIX Was:** How many times do you visit the library **(SA)**

4.

Figs in %	Total
Total	**200**
Every day	59
Thrice in a week	16
Twice in a week	17
Once in a week	8
Average usage	18.59 days in a month

On usage of library services, therefore, 100% of the faculty use these facilities at least once a week. This statistics is a very encouraging finding and reflects upon the relevance of these services to the teaching community.

The response to **Q2 REFER QUESTIONNAIRE IN THE APPENDIX Was:** How much time do you spend in the library? **(SA)**

Figs in %	Total
BASE	200

(0.5) Less than 1 hour	10
(1.5) Between 1 to 2 hours	35
(2.5) More than 2 hours	55
Average Time (in Hrs.) spent in Library	1.96

The feedback of spending 2 hours is also encouraging showcasing that the teaching community spend a fair amount of time consuming library services.

5. Awareness of Features

The next few questions that were asked were about the features that are new and old service features of an academic library. Presenting below the questions and the associated findings that emerged:

Figs in %	Total
Total	**200**
Reading services	**100**
Reading room facility	100
Reference facility	100
Library orientation	85
Newspaper clipping services	88
Inter Library loan	80
Figs in %	**Total**
Total	**200**
Reprography services	78
Internet Facility	100
Online & Offline Database	100
OPAC Services	83

Selective Dissemination & information (SDI)	5

Clearly therefore these findings point out that the internet, reproduction and database services are popular among the teaching community. But these features are more like housekeeping functions or features but when it comes to interaction features like SDI the awareness and usage too drops significantly.

Library Science fraternity are trained into three broad activities for library and information services; which are Information communication, Knowledge distribution and knowledge organization. SDI "Selective dissemination of information was a concept first described by Hans Peter Luhn of IBM in the 1950s. Software was developed in many companies and in government to provide this service in the 1950s and 60s, which allowed distribution of items recently published in abstract journals to be routed to individuals who are likely to be interested in the contents. For example, the system at Ft. Monmouth automatically sent out (by mail) a different set of abstracts to each of about 1,000 scientists and engineers in the army depending on what they were working on. The selection was based on an "interest profile," a list of keywords that described their interests. ". These kind of features fall in interactive features giving curated information to the user community.

The library science professionally can keep communicating with their user profiles depending upon their interest profile . But clearly there is a need of stronger messaging or different ways of communication to ensure that teaching community is made aware of these engaging features and software's itself so that they maximize the usage of library services.

These kind of services when offered and used the perception about academic libraries will be more relevant given that "academic writing" is one of the growing need that has to be performed by teaching community to ensure that the educational environment is throbbing and vibrant with new information, application and perspectives. Libraries can only support the teaching community in building such learning environments.

3.Experience with the software's:

Following key questions were asked by the researcher to establish the experience with the software type:

Figs in %	Total
Total	200

Advantages of using software : Search facility and Issuance facility	76% said this is the most advantageous search service and 12% said issuance
Expectations : Training on software, Abstract service	11% mention training followed by 3% saying Abstract services
Problems faced	52% do not express any opinion and 10% express that there is problem however most problems are very temporary
Good/Very Good software REFER Table 19 in Professors section	18% consider it as a good software but a whopping 45% are unable to respond
Satisfaction with the software	75% this population is satisfied

Although some user perception is observed clearly the image of software's usage is not emerging as strong. There is a need to orient the users and help them participate. These active participations will help them to develop software perceptions and their own image towards library software's.

To conclude: The managerial implications of the above findings point out towards following three key inferential findings:

4. Library professionals need to educate the teacher community about the utilisation of the software's into their work environment.
5. Further to the awareness of features of the modules it is necessary to demonstrate how to use the different features so that the teachers are able to use all the features of the library software to maximise the knowledge that is being stored in the library through the books, journals and magazines.
6. These findings also indicate that the role of regulatory body is highly required to ensure standardised services to teacher community by the library science professionals given that assessment of service quality of any service can be judged by only user profile. If the teacher community is not active in assessment then this is a warning alert to the regulatory body. The library science professionals should also take note because this institution is changing rapidly due to technology and if it needs to be relevant to the society it has to carve out a role for itself.

5.3
Survey Findings: Students

Background:

In this doctoral research study 400 students from cross section of management institutions were surveyed . Students have a unique position when it comes to library services. Students are the primary users of these libraries and therefore it was important to ascertain their perceptions was the key thought of the researcher.

Currently students being from the younger age-group are also considered on a higher gradient when it comes to being internet and technology savvy. In fact in the recent years it is observed that younger generation uses a lot of social networking sites to collect and collate information, to be connected with their friends and peer group or likeminded people. On this back drop it is evident that therefore the library science professionals/community can make use of this social environment. In this context it was important to ascertain the user perception about these technology software's that the academic libraries use. Because these software's will be the enablers for expanding the role of library sciences was the next emerging thought of the researcher.

This questionnaire (Refer Appendix III) was prepared after a short qualitative discussion with the student community. This ensured that the questions incorporated in the questionnaire used the terminologies that were actually popularly utilised by the students themselves . The focus of the questionnaire was on :

- **Sample Profile**: The aim here was to establish the awareness of these software's among the students who are primary consumers of these services.

- **Software feature awareness**: The aim here was to find out the level of awareness of different features that the software offers.

- **Experience with the software:** It was important to understand the experiences with the software's to help develop effective strategies that will help students to use these software's and maximise the benefits of the same.

The findings from this survey can serve as baseline assessment for the software's and their utilisation in the institution to highlight possible opportunities or areas of limitations so that effective library strategies can be evolved to ensure an expanded role of this service in order to facilitate performance of their patrons and users in the knowledge lead economies.

The sample size is 400. The method of data collection was primarily self filling using pen/pencil and the questionnaire in the institutions setting.

While detailed tables are presented towards the end of this chapter , overall findings will be presented in the body of this chapter to highlight the key findings under the aforementioned three sections.

Sample Profile: **Key profile parameters: Level of Software Awareness among Student population** : The response to **Q1 REFER QUESTIONNAIRE IN THE APPENDIX Was: Are you aware about the software used in your library (SA)**

1.

Figs in %	Total
Total	**400**
Yes	280
	70
No	120
	30

On awareness clearly 30% of the student population is not aware of software that is institutionalised for consuming library services and that is not a very encouraging finding.

2. Awareness of Features

The next few questions were asked only to the students who are aware of the software that is being institutionalised in the library. Presenting below the questions and the associated findings that emerged:

Figs in %	Total
Total	**280**
Q 1a Name of the software	SLIM 21: 30%, SOUL:19% , KOHA: 14%
Clearly therefore out the 70% aware students at the maximum level only 30% students were aware of the name of the software that was used	
Feature Awareness	
Able to locate the books with the help of OPAC	100%
Able to locate the books by Title	100%

Figs in %	Total
Able to locate the books by Author	100%
Able to locate the books by Publisher	100%

Able to locate the issuing details with the help of available software	100%
Are you able to get the information about the new arrivals through the available software	100%
Are you able to search journals/magazines	56%

Clearly therefore these findings point out that the search function is popular and the student community is aware of these features but when it comes to interaction features like information about new arrivals etc. the awareness levels drops.

Library Science fraternity are trained into three broad activities for library and information services; which are Information communication, Knowledge distribution and knowledge organisation.

The library science professionally keep communicating with their students and other users. But clearly there is a need of stronger messaging or different ways of communication to ensure that student community is made aware of different features and software's itself so that they maximise the usage of library services.

Information on new arrivals, journals and magazines actually ensure that all the trending topics are covered and if the information of this is not consumed by the students then the perspectives can get limited and this is not a very encouraging learning environment.

3.Experience with the software's:

Following key questions were asked by the researcher to establish the ownership of software type.

Figs in %	Total
Total	**280**
Is usage of software time consuming	96% feel that it is not time consuming
No Problems faced	99% did not face any problems or if faced any problems they are very temporary
User friendly software	99% consider it as a user friendly software
Satisfaction with the software	14% and 86% of this population is not able to give their opinion

Although some user perception is observed clearly this dimension is not as encouraging. There is a need to orient the users and help them participate. These active participations will help them to develop software perceptions and their own perceptions towards library software's.

To conclude: The managerial implications of the above findings point out towards following three key inferential findings:

1. Library professionals need to educate the student community about the utilisation of the software's into their work environment
2. Further to the awareness of features of the modules it is necessary to demonstrate how to use the different features so that the students are able to use all the features of the library software to maximise the knowledge that is being stored in the library through the books, journals and magazines.

These findings also indicate that the role of regulatory body is highly required to ensure standardized services to student community by the library science professionals given that assessment of service quality of any service can be judged by only user profile. If the student community is not active in assessment then this is a warning alert to the regulatory body. The library science professionals should also take note because this institution is changing rapidly due to technology and if it needs to be relevant to the society it has to carve out a role for itself

5.4
Librarian Data Tables

Demographic Analysis

1. **Frequency Analysis Management Institute of in Mumbai City**

   Frequency count is performed to identify the count of responses received for varied

   Management Institute

   **Table 5.4.1. Responded Received from the Management college Librarian in
   Mumbai City**

	Sr. No.	Name of Institute	Response Mode	
			Offline	Online
Mumbai City	1	Atharva Institute of Management & Research	Yes	-
	2	Jamnala Bajaj Inst. Of Management Studies		Yes
	3	SASMIRA's Institute of Management Studies and Research	Yes	
	4	Thakur Institute of Management Studies & Research	Yes	
	5	Mumbai Education Trust Institute of Management	Yes	
	6	Mumbai Institute Management & Research	Yes	
	7	IES Institute of Management & Researcg	Yes	
	8	K.J.SOMAIYA Institute of Management & Research	Yes	
	9	Babasaheb Gawde Institute of Management & Research		Yes
	10	DES's Navinchandra Mehta Institute of Technology & Development	Yes	
	11	Allana Institute of Management Studies	Yes	
	12	GNVS Institute of Management	Yes	
	13	St.Francie Institute of Management & Research		Yes
	14	Chetana's Institute of Management & Research	Yes	
	15	Chetana's R.K. Institute of Management & Research	Yes	
	16	P.T.V.A's Institute of Management	Yes	
	17	Lala Lajpatrai Institute of Management	Yes	
	18	Sir.M.Visvesvaraya Institute for Management		Yes
	19	Vidyalankar Institute of Technology	Yes	
	20	Xavier Institute of Management & Research	Yes	
	21	Aditya Institute of Management studies and Research		Yes

Mumbai City	22	Vivekanand Education Society Institute of Management Studies & Research	Yes	
	23	Sheila Raheja School of Business Management & Research		Yes
	24	Kala Institute of Management Studies & Research		Yes
	25	Rizi Institute of Management	Yes	
	26	S.P.Jai Institute of Management & Research		Yes
	27	Durgadevi Saraf Institute of Management Studies	Yes	
	28	GNIMS Business School	Yes	
	29	Alkesh Dinesh Mody Institute of Management	Yes	
	30	N.L.Dalmia Institute of Management Studies & Research		Yes
	31	Welinger Institute of Management		Yes
	32	H.K.Institute of Management	Yes	
	33	Don Bosco Institute of Management		Yes
	34	Kohinoor Business School	Yes	
	35	NMIMS		Yes
	36	Rustomjee Management Institute		Yes
	37	Sysdenham Institute of Management	Yes	
	38	Jankidevi Bajaj Institute of Management Studies		Yes
	39	Sinhgad Institute of Management		Yes
	40	Aruna Manharlas Shah Institute of Management & Research		Yes

(Source: excel output)

Chart No : 5.4.1

Bar chart showing values: Management Institute Mumbai City ≈ 41, Online ≈ 25, Offline ≈ 17.
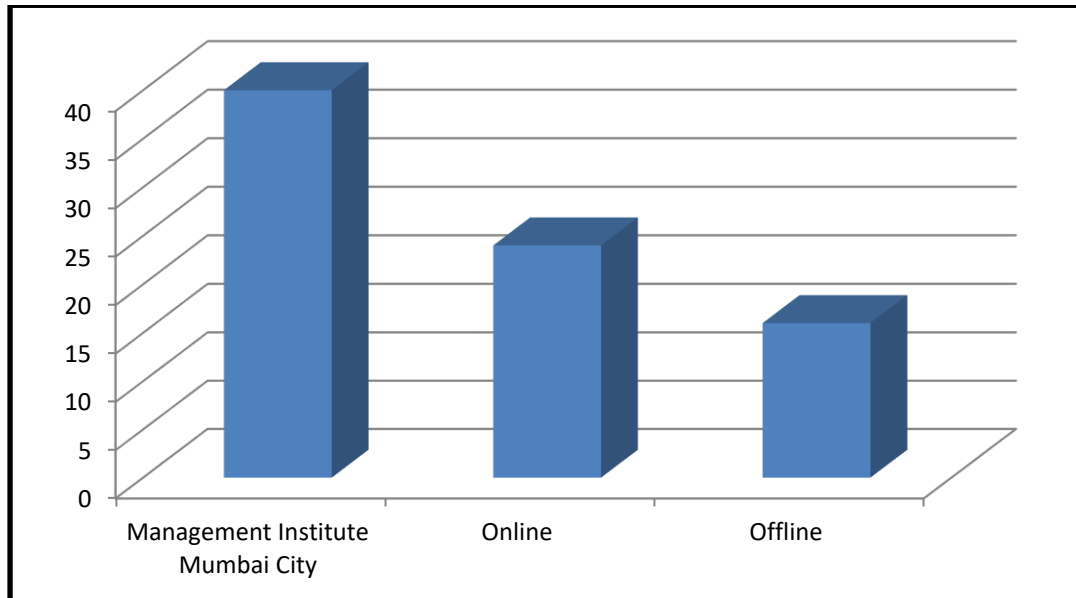
From Table No .5.4.1 & Chart No.5.4.1 shows the Librarians responded received from the Management Institute .These All Management Institute are located in Mumbai City. Total 40 Respond 24 is an offline and 16 is the Online Response mode .

Table 5.4.2

1. **General Demographic Information**

   Demographic information is the basis of Descriptive Design and various underlying variables were analysed to identify the frequency and generalize conclusions.

Table 5.4.2 Demographic Frequency Analysis

Sr. No.	Variables	Sub Categories	Frequency	Percent
1.	Gender	Male	14	35.0
		Female	26	65.0
2.	Age Group	Up to 35	16	40.0
		36 & above	24	60.0
3	Age of Institute Establishment	Up to 15 Year	17	42.5
		16 & above	23	57.5
4	No. of students in the college	Up to 400	23	57.5
		401 & above	17	42.5
5	Librarian - No. of yrs. with the college	Up to 5 Yrs.	10	25.0
		6 & above	30	75.5

(Source: SPSS output)

Following are the Charts of the Demographic Variables.

Chart 5.4.2 Gender Counts
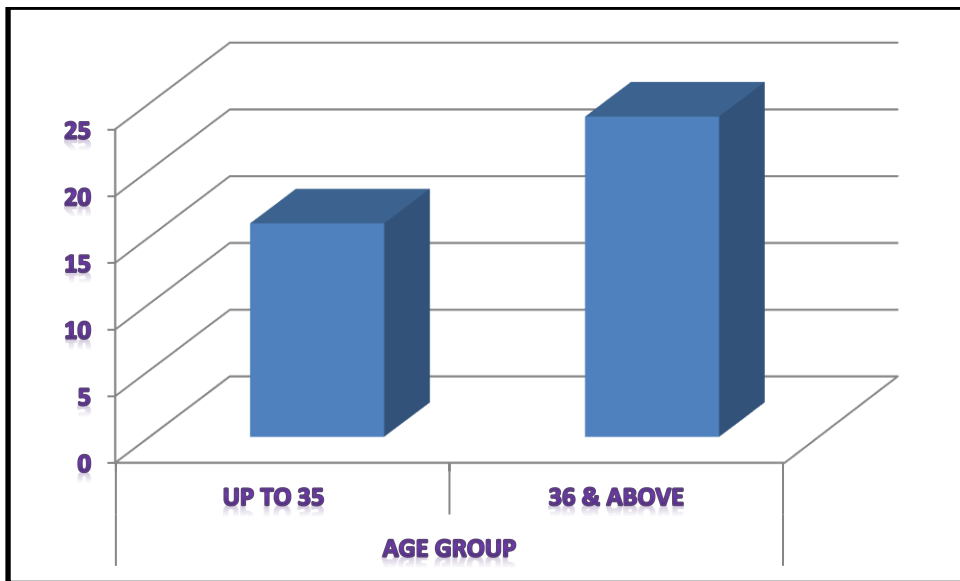
Chart 5.4.3 Age Counts of Librarian
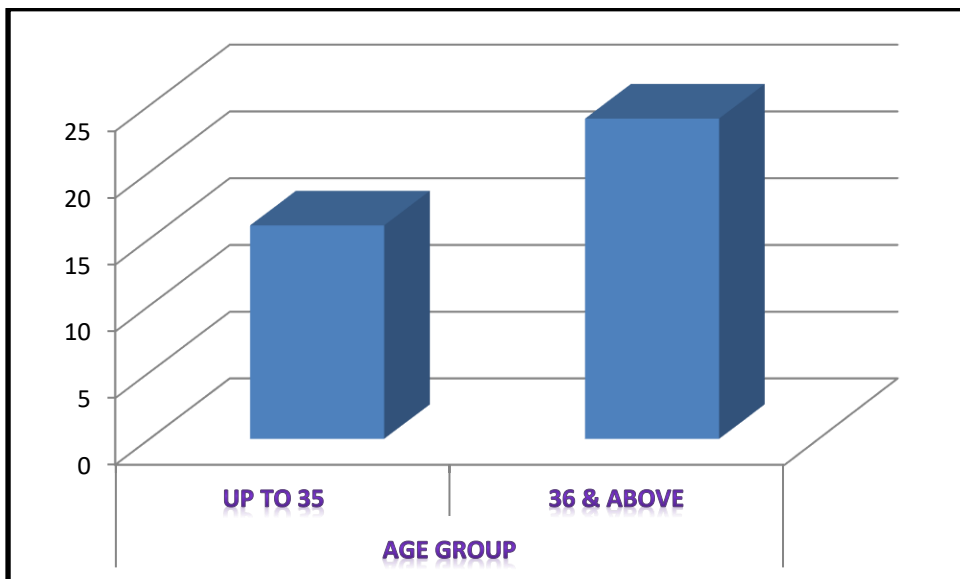
Chart 5.4.4 Age of Institute Establishment
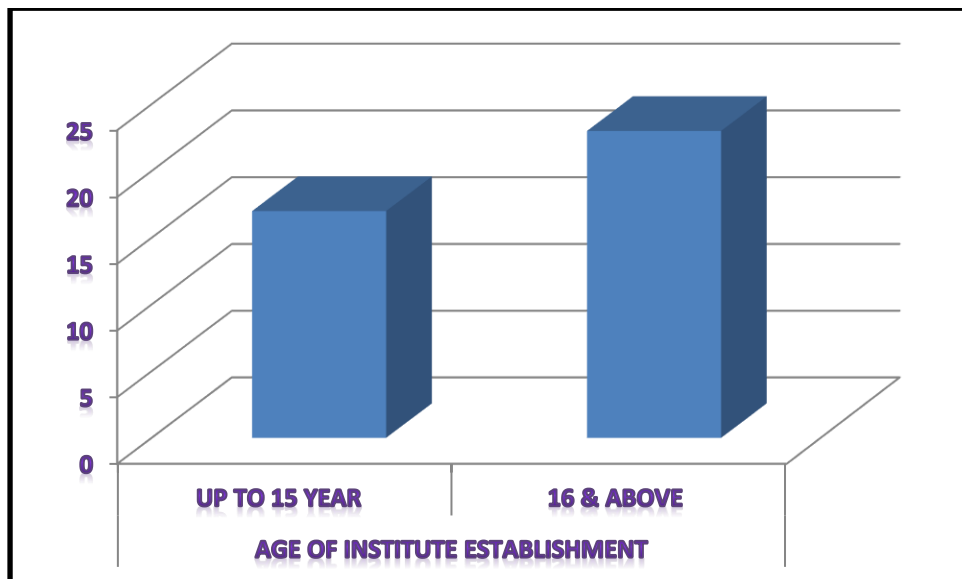
Chart 5.4.5 No. of students in the college
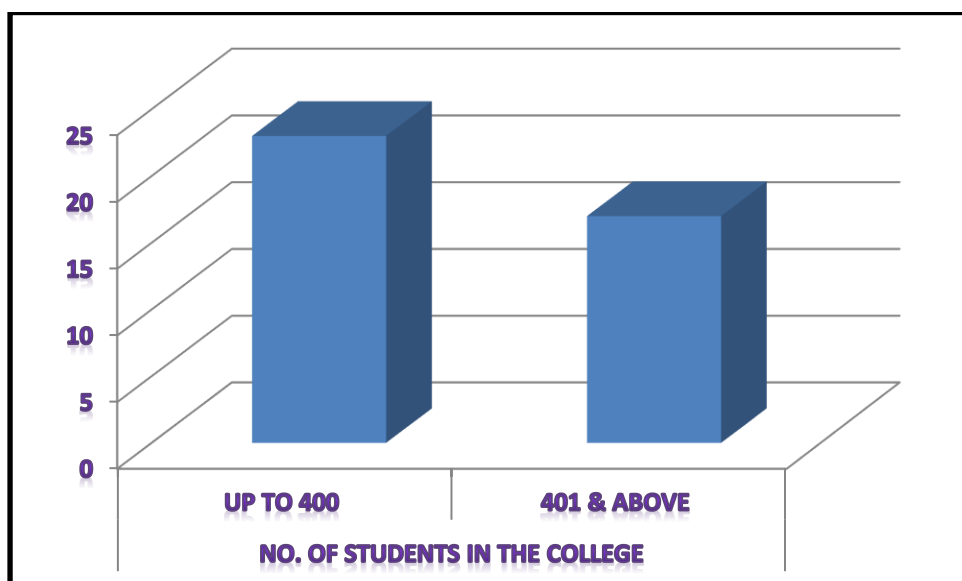
Chart 5.4.6 Librarian - No. of years. with the college
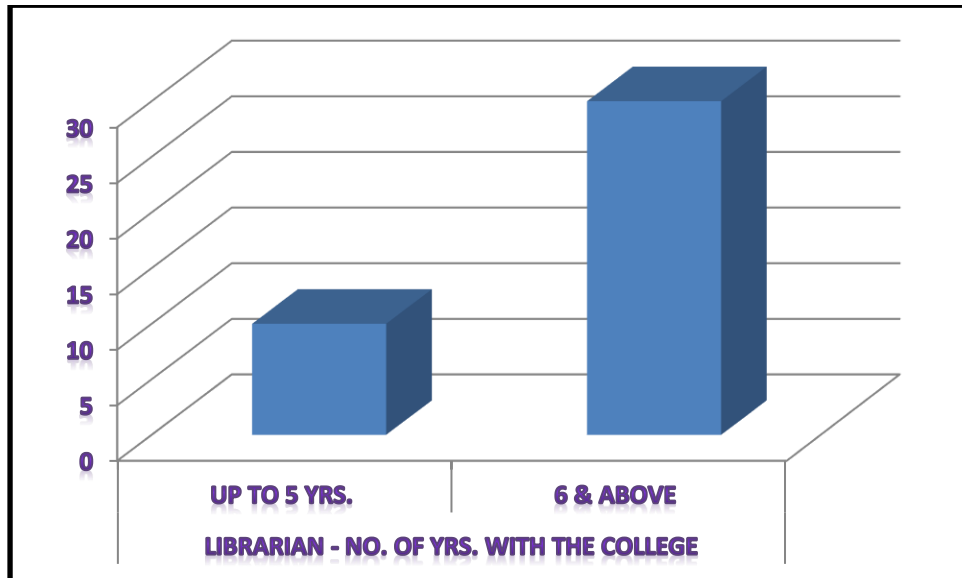
Table No. 5.4.2 & Chart 5.4.2 is explain about the gender status of in Management Institute in the Mumbai City . In this we can find out that 26 % Librarian are female category and 14% and Male category Average age of Librarians is 38 years.

Chart 5.4.6 is shown us 30% Librarian are more than 6 years working with the Institute So that we can consider that Librarians are experience holder in the professional .

Table 5.4.3 Educational Qualification of Working Librarian

Qualification	Frequency	Percent
B.LIB	40	100
M.Lib	40	100
M.Lib,M.Phil	04	10
M.Lib ,NET	05	13
M.Lib,Phd.	02	05

Chart 5.4.7
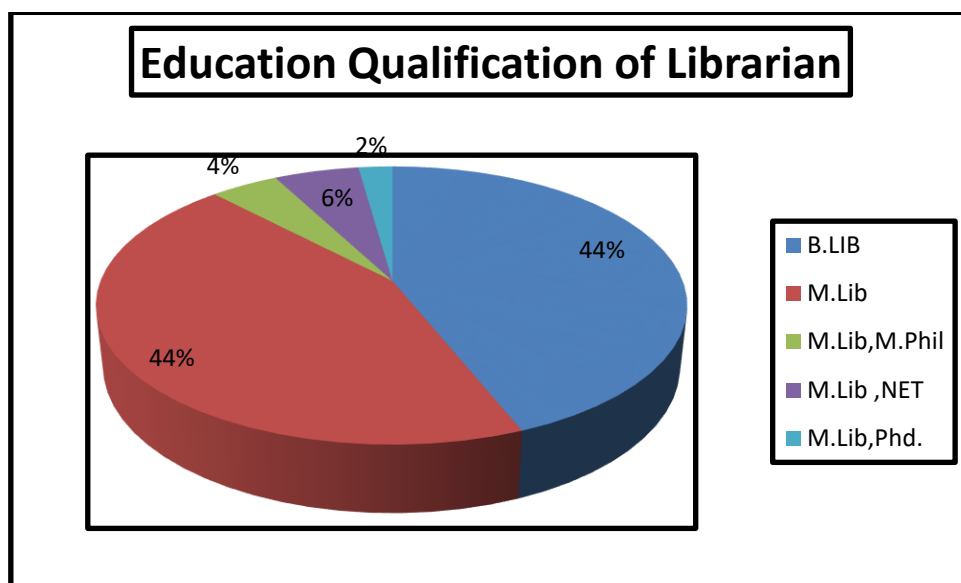
Table 5.4.3 & Chart 5.4.7 shows that 100 Percent Librarians are Qualified with B.Lib & M.Lib degree. As per the AICTE Norms Management Institute Librarians are Must have the M.lib Degree with the 6 % .Only 2 percent of the Librarians have a doctoral qualification . 4 percent Librarian have their M.Phil degrees in the Library and Information Science.

Table 5.4.4 Management Institute are Affiliated to AICTE

	Total	Frequency	Percent	Cumulative Percent
BASE	40			
Yes		39	97.5	97.5
No		0	0	
Deem University		1	2.5	100
Don't know/Not Applicable		0	0	
	40	40	100	

AICTE stands for an autonomous body known as All India Council for Technical Education. It is an advisory board which grants approval for colleges that want to introduce new courses and subjects. Thus, **AICTE approved** PGDM (Post Graduation Program of Management) program play extremely important criteria while selecting your college. So for ruing the MBA Course Institute mandate to take a approval of AICTE.

It is evident from Table 5.4.4 that 97.5 % Management Institute are Affiliated with All India Council for Technical Education (AICTE). Only 1 percent Management Institute is under the Deem University   .

Table 5.4.5 Available Courses in the Management Institute

	Total	Frequency	Percent
BASE	40*		
BMS		1	3
DFBM		1	3
EPM		1	3
MBA		2	5
MBA-Retail		1	3
MCA		2	5
MFM		8	20
MFSM		1	3
MHRDM		2	5
MMM		7	18
MMS		36	90
MMS , MIS		1	3
MPMIR		1	3
Online MBA		2	5
PGDM		23	58
PGEMP		1	3
		1	3
PGPM		1	3

Chart 5.4.8
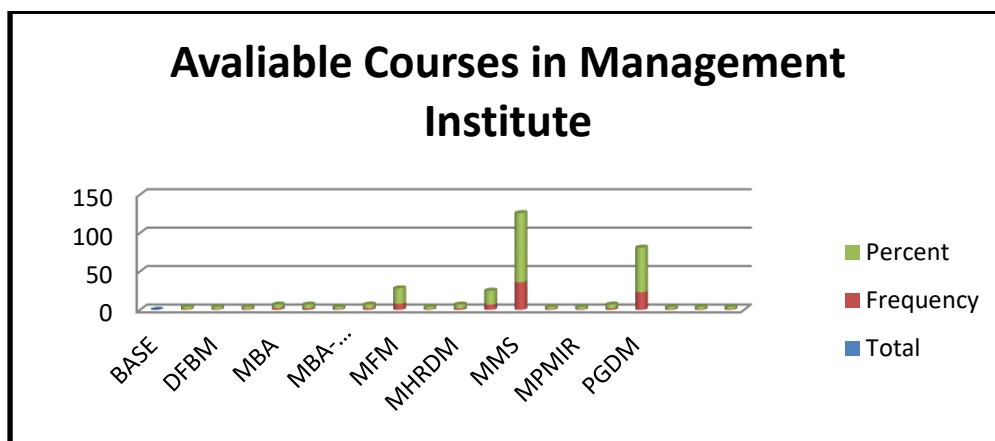
Take out on type of institutions : All Management Course are available in Institute .Example :MMS ,PGDM ,MBA etc.

Table 5.4.6 Year of Establishment of Institute

Year of Establishment		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40				
1920		1	2.5	2.5	2.5
1965		1	2.5	2.5	5
1981		2	5	5	10
1983		2	5	5	15
1993		2	5	5	20
1994		1	2.5	2.5	22.5
1995		1	2.5	2.5	25
1996		1	2.5	2.5	27.5
1997		3	7.5	7.5	35
2000		4	10	10	45
2001		1	2.5	2.5	47.5
2002		3	7.5	7.5	55
2003		2	5	5	60
2004		2	5	5	65
2006		1	2.5	2.5	68.5
2008		1	2.5	2.5	71
2009		2	5	5	75
2010		6	15	15	90
2011		2	5	5	95
2013		2	5	5	100
Total		40	100	100	

Above Table No.5.4.6 show the Institute Year of Establishment of the Management Institute Covered in the study .It is observed that as many of Institute are establish on before 2000. Approx. 38 % Institute are establish before 2000 .

Table 5.4.7 Number of Students in the college

Student Intake		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
60		1	2.5	2.5	2.5
120		8	20	20	22.5
140		1	2.5	2.5	25
200		1	2.5	2.5	27.5
240		5	12.5	12.5	40
300		4	10	10	50
325		1	2.5	2.5	52.5
400		2	5	5	57.5
420		1	2.5	2.5	60
450		1	2.5	2.5	62.5
480		2	5	5	67.5
500		3	7.5	7.5	75
640		1	2.5	2.5	77.5
720		1	2.5	2.5	80
750		1	2.5	2.5	82.5
800		2	5	5	87.5
960		1	2.5	2.5	90
1000		2	5	5	95
1200		2	5	5	100
Total		40	100	100	

Taken Out of Students Population :

- 26% colleges have students below 200,
- 31% between 200-400 students
- 44% above 400

Table 5.4.8 (Q1) which Library Management Software used in the library

Name of the Library Software	Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*			
NET Respond	39	98		
Libra 2000	0	0	0	0.00
Librarian	0	0	0	0.00
Libris	0	0	0	0.00
Libsuit	3	7.5	7.5	7.50
Libsys	2	5	5	12.50
SLIM 21 Advance	10	25	25	37.50
SOUL	6	15	15	52.50
SWIRL	0	0	0	52.50
Tcsion	2	5	5	57.50
Koha	6	15	15	72.50
Brain Stroming International (In-House)	1	2.5	2.5	75.00
Egranthalaya	4	10	10	85.00
iLIBRARY	1	2.5	2.5	87.50
In House -ERP Soluation	1	2.5	2.5	90.00
In House Software	1	2.5	2.5	92.50
SMS Library Management System	1	2.5	2.5	95.00
	1	2.5	2.5	97.50
No Software for Library work	1	2.5	2.5	100.00
	40	1000	100	

Chart 5.4.9

Library Management Software
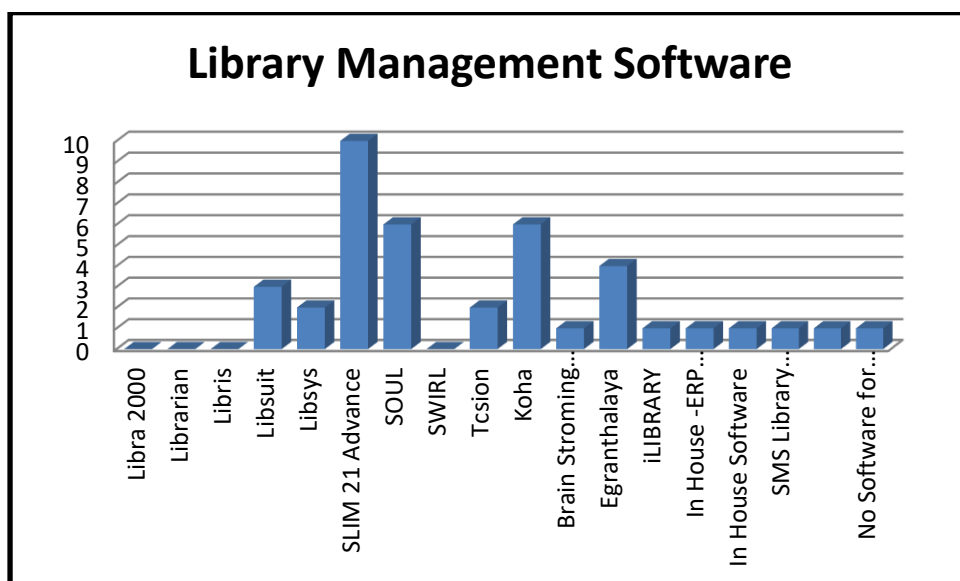
Take out on Software's used: Share of companies

From Table No .5.4.8 & Chart No. 5.4.9 Highest share is Algorhythms Consultants Pvt.Ltd. SLIM21 Advanced is at 25% and leading followed by SOUL from INFLIBNET at 15% which is an Indian company followed by Koha open sources software   which is developed by LIBLIME KOHA a non profit group.   National Informatics center developed   software is at 13%.

In the Market several Number of the Library management software are available As per the Institute requirement and based on budget they finalize the software for day-to day Library Work. Some of the institute using the in-house software for the Library . From the table it is also observed that Institute are Librara2000,Libris,Libsys.SOUL-developed by INFLIBNET ,Tcsion – Developed by TCS,SMS Library ,SWIRL for the Library automation.

Table 5.4.9 (Q4) Software modules available in the library

Name of the Modules in Software		Frequency	Percent
BASE	40*		
Any Mentioned (NET)	39		
	98		
Cataloguing		39	98
Acquisition		38	95
Serial Management		30	75
OPAC		33	83
Report		37	93
Administration		28	70
Email		23	58
Labels Printing		35	88
Fine Collection		32	80
Circulation History		35	88
Barcode Printing		25	63
Stock Tracking		36	90
Membership Profiles		1	2.5
Printing of ID/Library Card		1	2.5
CAS,SFI,Import & Export		1	2.5
ERP Soluation		2	5
Statics		3	7.5
Don't know/Not Applicable		1	2.5

Chart 5.4.10

Modules avaliable in the software
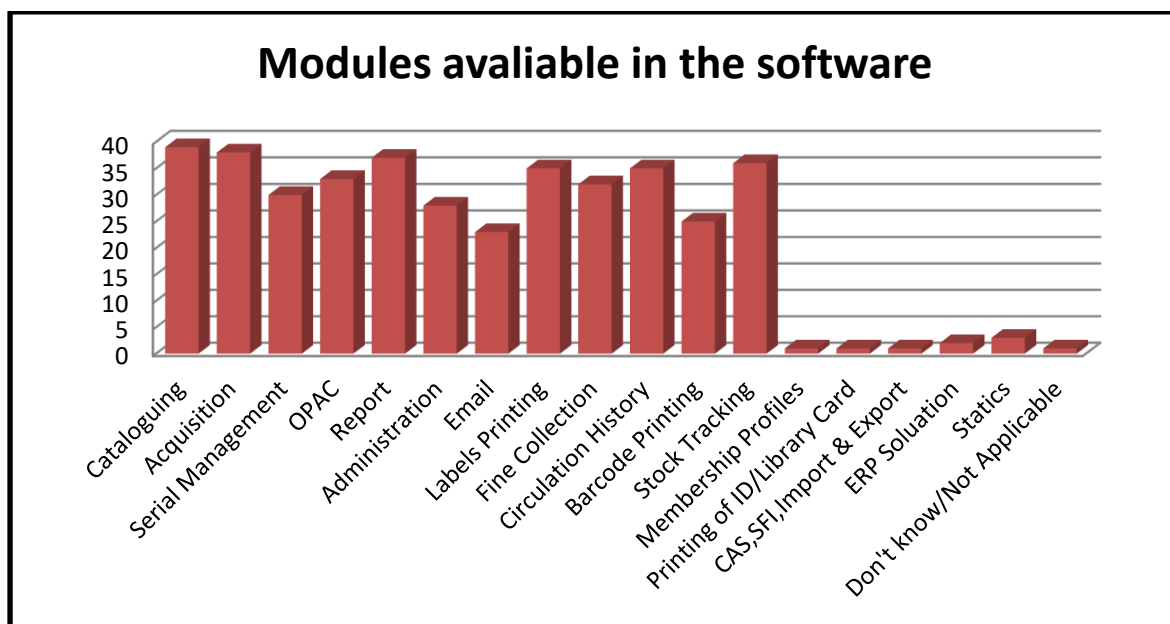
Taken Out 5 top Modules owned :

From Table No. 5.4.9 & Chart 5.4.10 it get the Information about which are the Modules are available in present Library Management Software.

- Cataloguing : 98%
- Acquisition: 95%
- Report :93%
- Stock Tracking:90%
- Circulation History & Labels Printing : 88%

Table 5.4.10 (Q5) Years since using the Software

Year Since Using the Software		Frequency	Percent
BASE	40*		
(1.0) 1 Year		4	10
(2.5) 2-3 Years (2 years/3 Years)		11	28
(4.0) 3-5 years (3-5/4 years/5 years)		15	38
(6.0) >5 years (8 Years/more than 8 years/6 years/7 Years/10 years)		9	23
Don't know/Not Applicable		1	3
Total		40	100
Average no. of years using the SW		3.73	
S.D.		1.57	
S.E.		0.25	

Take out on vintage of usage :
Recent user ship : Average user ships stands at 2 years and Average Number of Year using the software is 3.73 percent.

Table 5.4.11 (Q6) Library Software Referred By

Recommender		Frequency	Percent
BASE	**40***		
Any Mentioned (NET)	**38**		
Director		**22**	**95**
Friends		**3**	**55**
Supplier		**7**	**8**
Other Institute		**3**	**18**
ILOSC Group		**1**	**8**
Librarian		**2**	**3**
Don't know/Not Applicable		**2**	**5**
Total		**40**	**100**

Chart : 5.4.11
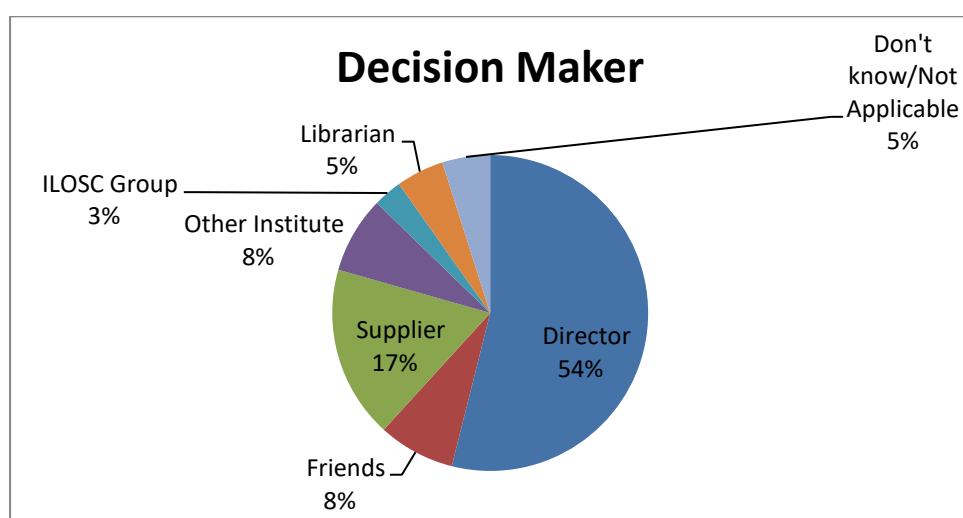
Take out on who referred the decision :

Mostly a top down decision, directed by the Director

Table 5.4.12 (Q.7) Is Library Software interactive

Response		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
Yes		34	85	85	85
No		4	10	10	95
Don't know/Not Applicable		2	5	5	100
		40	100		

Chart : 5.4.12
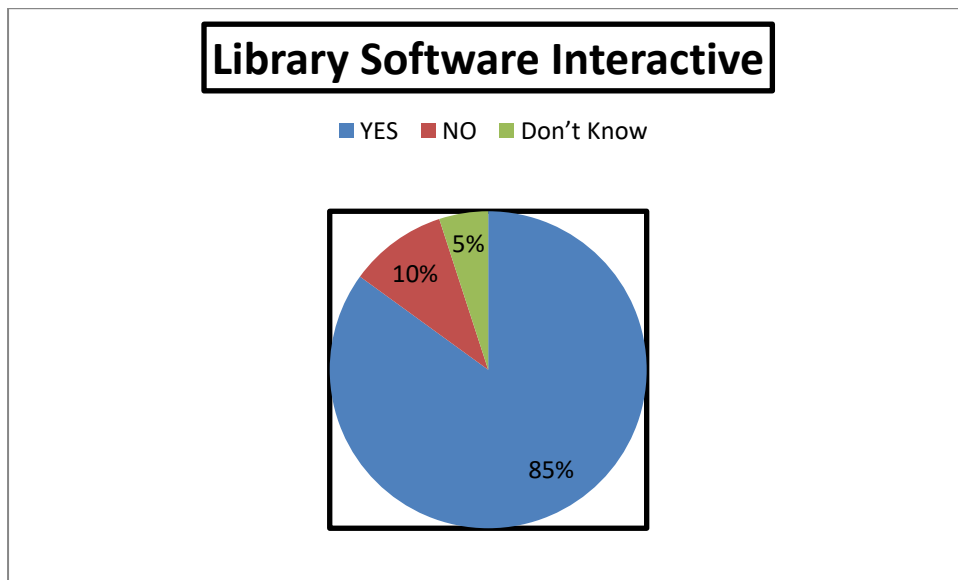
Take out on instructiveness :

Mostly it is endorsed that the used Library software is interactive. 85% User is Saying Used Library Software is Interactive

Table 5.4.13 (Q.7) Details of Interactive

Details of Interavtiveness of Software		Frequency	Percent
BASE	34*		
By remote Access ,by Email, by Telephone		2	6
ERP Solution		2	6
If we feed the wrong data software show the particular error		1	3
It is user Friendly Easy to use		1	3
Open Source Software		3	9
Software Implementations is vert easy		1	3
User Friendly		1	3
While generating Reports		1	3
Don't know/Not Applicable		22	65
		34	100

Take out on the Details of Instructiveness:

It is observed that 65% Librarian are not answer the question but 35% population has specify the that why that software is interactive .

Very basic features mentioned on being interactive which actually tend to be like hardware features, whereas interactive refers to features like 'search' or ' subscribe and filter' ... The librarians have not mentioned any of these technological features which are offered under the interactive library **.**

Table 5.4.14 (Q.8) **Back up support system**

Response		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
Yes		37	92.5	92.5	92.5
No		0	0	0	92.5
As requirement changes can done		1	2.5	2.5	95
Don't know/Not Applicable		2	5	5	100
Total		40	100	100	

Chart :5.4.13
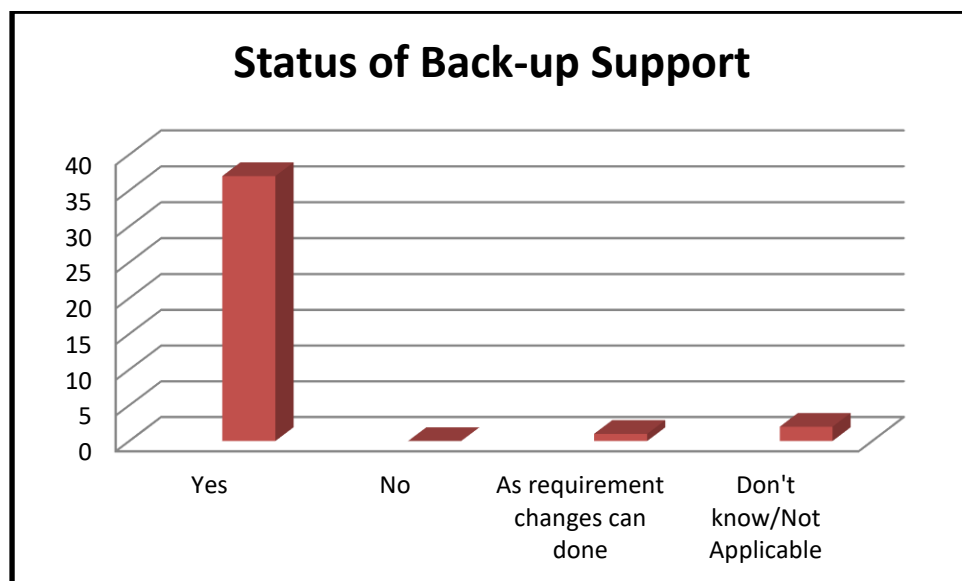
In the Any Software Back-Up support is the Very Important Module. All the Software Companies must have to give this services to the client .So we observed that most of the Software compiler are providing this Services the Institute .As per the table 92.5% Institute are said yes to providing this services Generally Colleges are generating back-up data once in a month or once in a week .

Table 5.4.15 (**Q9**) **Software version**

Name of the version		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
3.11		2	5	5	5
e-Granthalay 4.00		1	2.5	2.5	7.5
EQZ		1	2.5	2.5	10
ion 5		2	5	5	15
KOHA 3.16		4	10	10	25
Libsys Single user 1998 version		1	2.5	2.5	27.5
No version		1	2.5	2.5	30
Open Source Software		1	2.5	2.5	32.5
SLIM 21		6	15	15	47.5
Slim Advanced		2	5	5	52.5
Soul 2.0		4	10	10	62.5
Don't know/Not Applicable		15	37.5	37.5	100
Total		40	100	100	

Chart :5.4.14
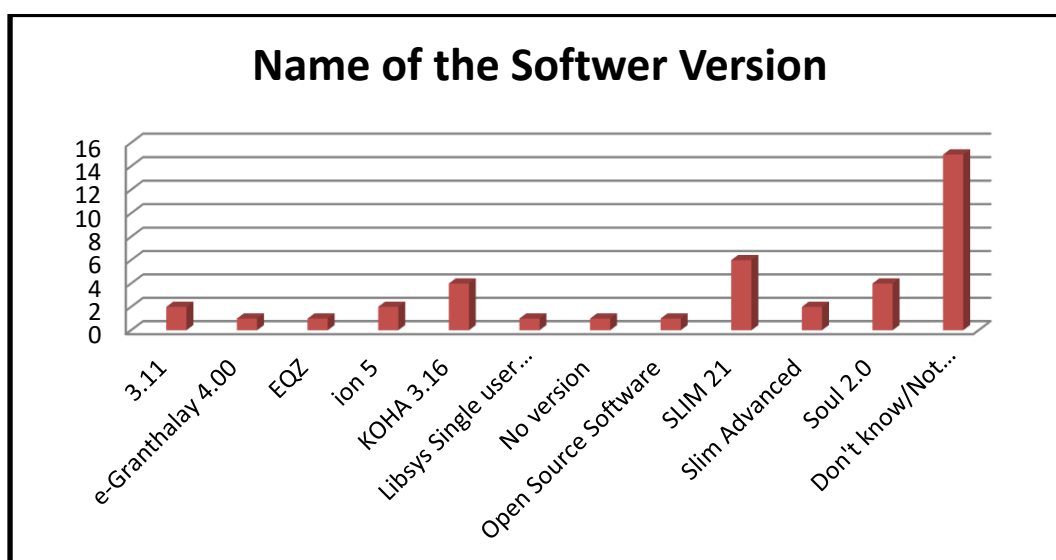
Take out on version vintage :

Close to 38% Institute are do not know the Software version and that's not an encouraging finding

Table 5.4.16 (Q10) Decision Maker

Decision Maker		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
Director		26	65	65	65
Principal		0	0	0	65
CEO		2	5	5	70
DEAN		2	5	5	75
Librarian		4	10	10	85
Don't know/Not Applicable		6	15	15	100
Total		40	100	100	

Chart :5.4.15
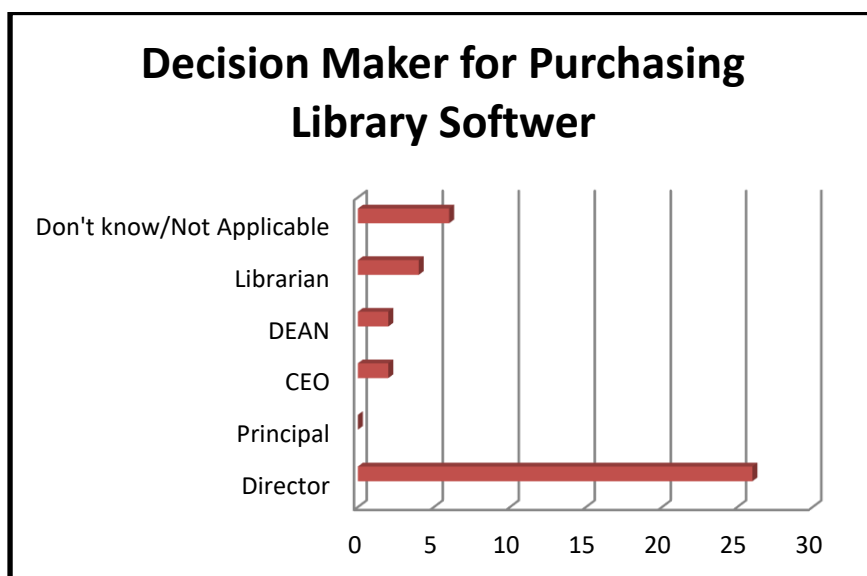
Take out on decision-making : Above the Table 5.4.15 provides the details of the Decision Maker for Purchasing the Library Management Software for the Institute.65% responder mentioned that Director of the Institute is the Main Decision Maker for Purchase. General Tendency is mostly top Management are involve in Decision Making.

Table 5.4.17 (Q11) Budget allocated for Library Software

Budget for Software Development		Frequency	Percent
BASE	40*		
Rs. 10000		1	3
Rs. 30000		3	8
Rs. 50000		3	8
Rs. 100000		1	3
Rs. 105000		1	3
Rs. 150000		2	5
Rs. 200000		1	3
Rs. 250000		1	3
Rs. 300000		4	10
Rs. 350000		1	3
Rs. 500000		1	3
Rs. 150000		3	8
Per User Payment		2	5
No Cost		2	5
1.5 (Purchased cost)		1	3
Don't know/Not Applicable		13	33
Total		40	100
Average (Rupees)		168409.09	
S.D.		129994.38	
S.E.		27714.89	

Take out on budgets : On an average the budgets are little above 1.5 lakhs

Table 5.4.18 (Q12): Institute is taken AMC of Library Software

AMC for Software		Frequency	Percent
BASE	40*		
Yes		23	58
No		6	15
After completion of one year, will take AMC		1	3
Company is closed		3	8
Not applicable		2	5
Not Required because Subscription Based payment		2	5
Not Taken		1	3
We call company Technician as per our requirement		1	3
Don't know/Not Applicable		1	3
Total		40	100

Take out on annual maintenance : AMC is Means Annual Maintenances Charges . These Charges is taken by the Companies from client .This charges they are charging for one year for all services Table 5.4.18 explore only 58% have taken an AMC. Some of the Institute are using the In-House Software for the AMC is not applicable to them ..

Table 5.4.19 (Q13) AMC Charges

		Frequency	Percent
BASE	40*		
Rs. 5000		1	3
Rs. 10000		2	5
Rs. 12000		1	3
Rs. 15000		1	3
Rs. 17000		1	3
Rs. 20000		5	13
Rs. 21000		1	3
Rs. 25000		3	8
Rs. 27000		1	3
Rs. 30000		1	3
Rs. 40000		2	5
Rs. 50000		1	3
Company is closed		3	8
NA		2	5
Per Visit 1500		1	3
Software take care by IT Department		2	5
Don't know/Not Applicable		12	30
Average (In Rupees)		22600	
S.D.		11033	
S.E.		2467.1	

Take out on maintenance :

Above Table 5.4.19 Provides the details of the amount spend on the AMC OF the Library Management Software. This charges Vendor Charging for One year to the Institute On an average the maintenance cost is Rs.22,600.With this charges all Technical and It related Problem has been take care by Companies . Some time companies providing new update version in period of AMC as well as additional module , Training , Personal Visit to the Institute

Table 5.4.**20 (Q15) Frequency of Software up gradation**

Period of Up-Gradation of LMS		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
Every Year		13	33	33	33
Once in Two Years		6	15	15	48
Once in three years		4	10	10	58
6 MONTHS		3	8	8	66
Open Source Software		1	3	3	69
(1.25) More than one year		1	3	3	72
NA/NO		2	5	5	77
Don't know/Not Applicable		10	25	25	100
Total		40	100	100	
Average frequency of SW upgradation (in Yrs.)		0.87			
S.D.		0.52			
S.E.		0.1			

Taken Out on frequency on up gradation :

From Table No .5.4.20 it can be show the frequency level of software .On an average once in 8 months is observed as a requirement for up-gradation .Software Up-gradation process show the development of the software .

Table 5.4.21 (Q16) Budget for revised version (in Lacs)

		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
As per Company Demand		3	7.5	7.5	7.5
Free		1	2.5	2.5	10
It is included in the AMC Amount		7	17.5	17.5	27.5
No budget		1	2.5	2.5	30
Don't know/Not Applicable		28	70	70	100
		40	100	100	

Take out on up-dation or new version:

There is no major budgets are allocated. It is expected as a free feature or included in the AMC amount.

Chart No:5.4.16
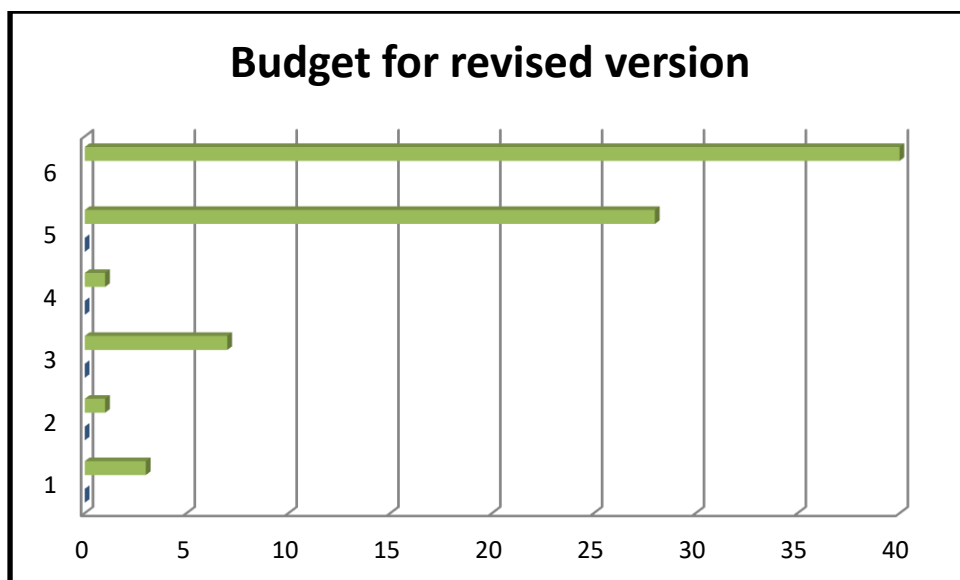
Table 5.4.22 (Q17)) Number of times upgraded of Software

Time of Software upgradation		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
1		8	20	20	20
2		2	5	5	25
3		7	17.5	17.5	42.5
4		1	2.5	2.5	45
5		0	0	0	45
No upgrade happened last year		1	2.5	2.5	47.5
NA		1	2.5	2.5	50
Don't know/Not Applicable		20	50	50	100
Total		40	100	100	
Average no. of times upgraded		1.95			
S.D.		1.12			
S.E.		0.26			

Take out on an real life upgradation that was done :

From Table 5.4.22 shows that within a year how many times Library Management Software has been up-gradated .Software upgradation process shows the development of IT Systems. In the table we can observed that Up-gradation is actually done in about two years in the Institute . With the software up-garadation institute get the benefit of Bugs removal, customized Module also provide, Easy to work / more easier, Faster & smoother, New features to be incorporated.

Table 5.4.23 (Q20) which kind of Action or Responsibility of Software company taking when problem occurs

Action / Responsibility		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*				
A person from company visit the Institute and solve the Problem		5	12	12	12
All Problem Solved by In-house Engineers		1	2.5	2.5	14.5
company solve the problem and they provide good Techniqual support		1	2.5	2.5	17
Data recovery		15	38	38	55
Problem solve by IT Department		1	2.5	2.5	57.5
Responsibility take by IT Department they regularly taking the back up		1	2.5	2.5	60
They have a cloud based data backup facility		2	5	5	65
to take backup files from software and reinstallation of software		3	7.5	7.5	72.5
Yes they are taking responsibility		1	2.5	2.5	75
No responsibility taken by company		4	10	10	85
Don't know/Not Applicable		6	15	15	100
Total		40	100	100	

Take out:

From Table No.5.4.23 it can be get the information about the Software Companies are vied supplying a software to the institute they might be taking the reasonability of the software if any problem is occurs . Mostly only on calling is the response by 85% of the librarians. Some time Techniques of the Companies are visiting to the Institute . Sometime they Solve problem on-line.

Table 5.4.24 (Q22) Are you Satisfied with SW Company Facility of service provided by them.

		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40				
Yes		35	87.5	87.5	87.5
No		3	7.5	7.5	95
Don't know/Not Applicable		2	5	5	100
Total		40	100	100	

Chart :5.4.17
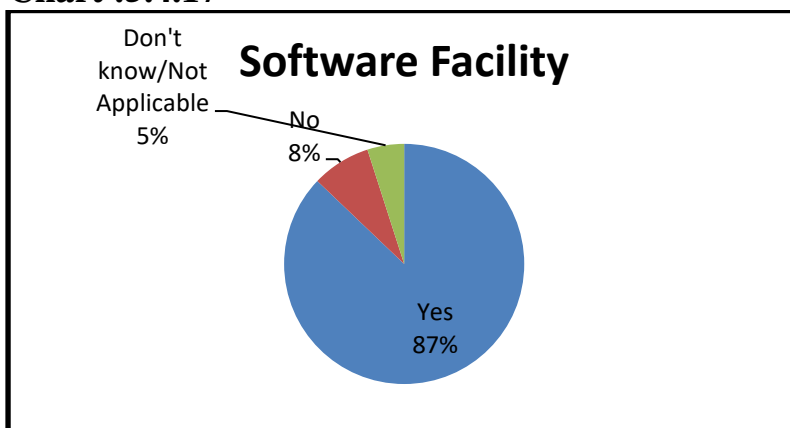
Take out service facility provided : Form Table 5.4.24 and Figure 5.4.17 show the information about SW Company services. Majority of the librarians 88% Satisfied of Service .

Table 5.4.25(Q24) User-friendliness of Library Software

	Frequency	Percent	Valid Percent	Cumulative Percent
BASE	40*			
Yes	39	97.5	97.5	97.5
No	0	0	0	97.5
Don't know/Not Applicable	1	2.5	2.5	100
Total	40	100	100	

Chart No:5.4.18
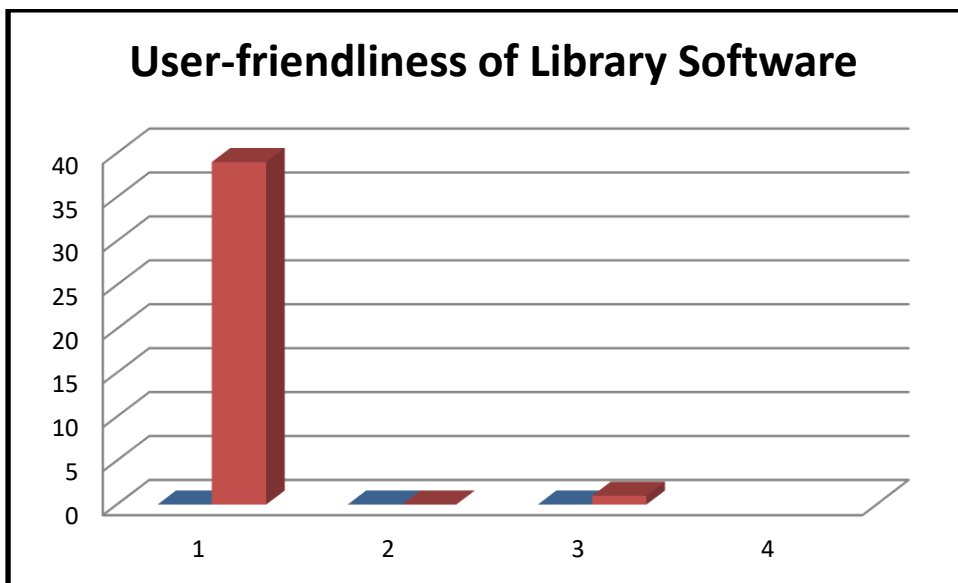
From Table No.5.4.25 & Chart No.5.4.18 show that User Friendliness of the Library Management Software .it can be seen that 97.5% Librarian are saying the available Library Management software is user-friendly . A whopping 98% feel that the software irrespective of the brand is user friendly

Table 5.4.26 (Q24)(A) If, Library Software is user - friendly Yes, How?

		Frequency	Percent
BASE	39*		
All necessary module are available		1	3
best software		1	3
but not as such		1	3
Circulation is Very helpful / Easy for circulation counter		2	5
cloud based		2	5
Easley get all kind of reports/Easy to generate Reports		5	13
easy for data entry		3	8
Easy to Access		3	8
easy to learn		4	10
All Modules are very easy to understand/Easy to Understand/its easy to understand/Very Easy to understand		5	13
Easy to work on it so specific Training is not required		3	8
ERP Solution so department are connected with each others		2	5
Good for academic Library		2	5
Interface		1	3
It give proper direction to user how to use the Software		1	3
its very interactive		1	3
Its very user Friendly/User Friendly		6	15
Menu driven modules		2	5
Modules		1	3
Quick searching in OPAC simple data entry		1	3
Reports		1	3
scanning the document facility is available		1	3

Search in books/Search Module is also very good/Students can search the book/we can search the books for anywhere		**8**	**21**
Suitable for any Library requirement		**1**	**3**
Full fully our all requirement/They full - fully our requirement/This software fulfill our all requirement		**3**	**8**
Unique Title Option is good		**2**	**5**
Universal Software		**1**	**3**
various modules		**4**	**10**
Web based catalogue is available		**1**	**3**
Don't know/Not Applicable		**1**	**3**

Takeout on why yes on user-friendly:

Table No : 5.4.26 Show the information about the how user is feel , available Library software is user-friendly Mostly the answers are for the easy search function at 21% followed by most features being available and ease of learning and understanding.

Table No : 5.4.27 (Q26) Frequency of problem

		Frequency	Percent
BASE	40*		
(25) Every day		0	0
(4) Once in a week		0	0
(1) Once in a month		1	3
(0.5) Occasionally		34	85
(40) its reqularly		2	5
Don't know/Not Applicable		3	8
Average (per month)		2.65	
S.D.		9.05	
S.E.		1.49	

SPSS Output

Taken Out on problem Occurrence :

The Above Table No: 5.4.27 presents the details of how many time Institute or Library face the problem in the present Library Management Software .with the result we can see the 2.65 is on an average in the Month Library get problem in the month.so this is fairly regular occurrence .

Table No : 5.4.28 (Q25) Problems faced while handling the SW

		Frequency	Percent
BASE	40*		
Barcode the size of the lable was not in proper		1	3
databased is based on catalogues		2	5
in magazine entries we faced some problem		2	5
Proper training was given to library staff for two days		2	5
software is not professional		1	3
software is not that much interactive		1	3
sometime server problem so we can't check our data		3	8
some time we can't generate the reports/Report cant found		3	8
Sometime face network problem		1	3
sometime get hang		1	3
Sometime get problem in connectivity between server & System		1	3
speed of software its get some problem in something		1	3
Nothing		14	35
Don't know/Not Applicable		13	33

Take out on problems and its occurrence :

Above Table 5.4.28 shows the information about which are generally problem faced in the managing Library Management software . We can see the table there will be No major problems found in the software . based on the answer wit can be see the most of problem in related network or Institute Internal It Problem. 8% Librarian is saying they are facing the problem in the server . for thesis problem institute It infrastucher should always Strong. Librarian should arrange the Training Programs to the Library Staff Members .however some mentions are on no report generation or no training , or some user manual not getting entered .

Table No : 5.4.29 (Q27) Freq. of usage by faculty

Faculty Ratio for using the Software		Frequency	Percent
BASE	40*		
Every day		20	50
Once in a week		4	10
Once in a month		0	
Occasionally		9	23
None		3	8
No data available		3	8
Don't know/Not Applicable		1	3
Average (per month)		14.46	
S.D.		12	
S.E.		2	

Chart No:5.4.19
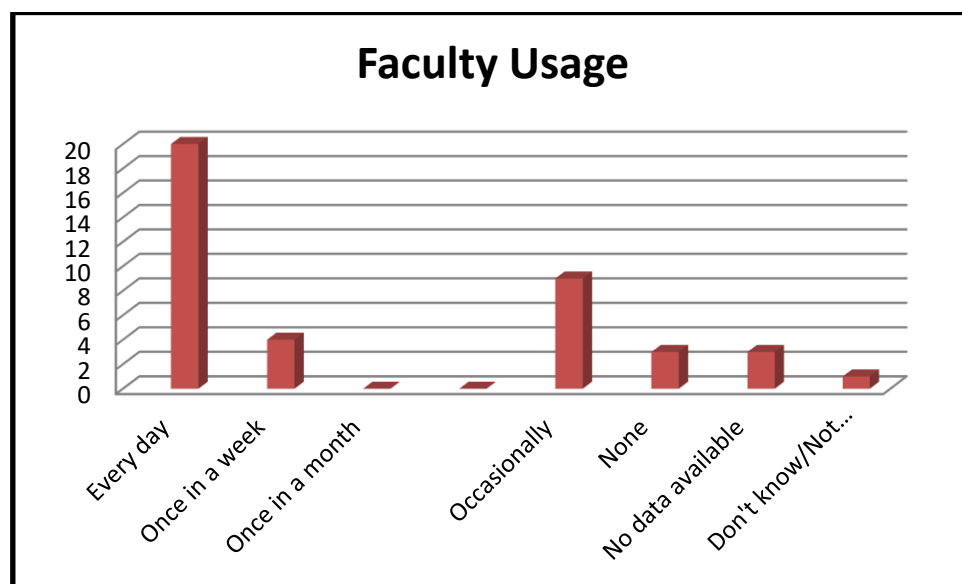
From Table No.5.4.29 & Fig No.5.4.19 shows the rating of the usage ration of the faculty towards Library Management software .As the table on and average within a 15 days faculty are using the Library Management Software for searching the Library Materials or Books etc. This ration library can increase with the help training.

Table No.5.4.30 (Q28) Freq. of students usage

Student Ratio for using the Software		Frequency	Percent
BASE	40*		
Every day		23	58
Alternate Days		3	8
Once in 3 days		2	5
Once in 5 days		4	10
Occasionally			
(0.05) None		3	8
Till date students are not using the software		2	5
Don't know/Not Applicable		3	8
		18.04	
Average (per month)			
S.D.		10.32	
S.E.		1.74	

From Table No.5.4.30 shows the rating of the usage ration of the faculty towards Library Management software .As the table on and average within a 10 days in the moth student are using the Library Management Software for searching the Library Materials or Books etc. This ration library can increase with the help training. As we understand the librarian are conducting user's orientation program for starting of the Years. In that they must have introduces the Library Software to the students

Table 5.4.31 (Q29) Freq. of complaints made by students/faculty

		Frequency	Percent
BASE	40*		
Once a week		1	3
Every fortnight		0	0
Once in a month		0	0
Occasionally		27	68
Alternate Days		1	3
Every day		3	8
No Complain in Library module / Not yet		4	10
Don't know/Not Applicable		4	10
Average (in days) frequency of complaints made by students / faculty		2.65	
S.D.		7.3	
S.E.		1.22	

Take out on faculty and student complaints:

Table No . 5.4.31 shows the details of complaints ration of faculty and students towards using the Library Management Software. We can observed with the table there will be no major problems are facing the students and faculty.   It matches with the problem occurrence feedback, and it is at least 2.6 times in a month.

Table 5.4.32 (Q30) Time period for rectification created in LMS

Rectification Options		Frequency	Percent
BASE	40*		
Immediate		21	53
Within an hour		5	13
With in 3 hours		5	13
Occasionally		1	3
Every fortnight		1	3
depend on the problem		1	3
Company is closed		3	8
Don't know/Not Applicable		2	5
Total		40	100
Average Time (in Hours)		2.14	
S.D.		8.66	
S.E.		1.51	

Take out on rectification :

From the Table No.5.4.32 shows that Ration of rededication in Library Management Software. 53% population are agree that, software problems is ratify very immediate. With is table we can see the satisfaction level of user . On an average the problem gets rectified in 2 hours.

Table No. 5.4.33(Q31) Type of user manual available

		Frequency	Percent
BASE	**40***		
Hard Copy		**19**	**48**
Softcopy		**13**	**33**
Internet/Online		**15**	**38**
No/Not available		**5**	**13**
Don't know/Not Applicable		**3**	**8**

Chart No.5.4.20
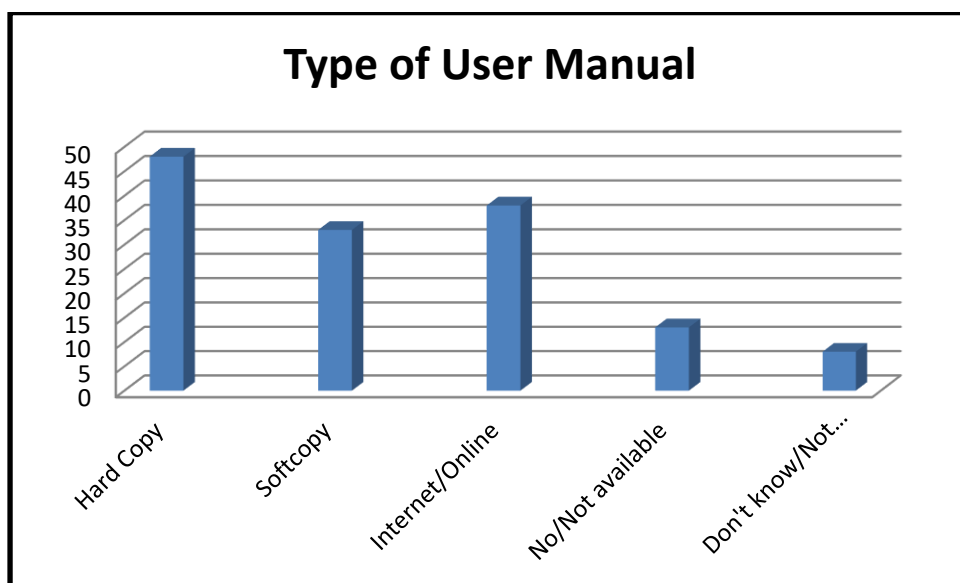
Take out on manual type: From No.5.4.33 & Fg.5.4.20 show the maximum usage of User Manual . Although 48 % say there is a hard copy but most responses are in the space of soft copies.

Table 5.4.34 (Q32) Recommend this Software to other Institute

		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	**40***				
Yes		27	67.5	67.5	67.5
No		10	25	25	92.5
Not sure		1	2.5	2.5	95
Don't know/Not Applicable		2	5	5	100
Total		40	100	100	

Chart . 5.4.21
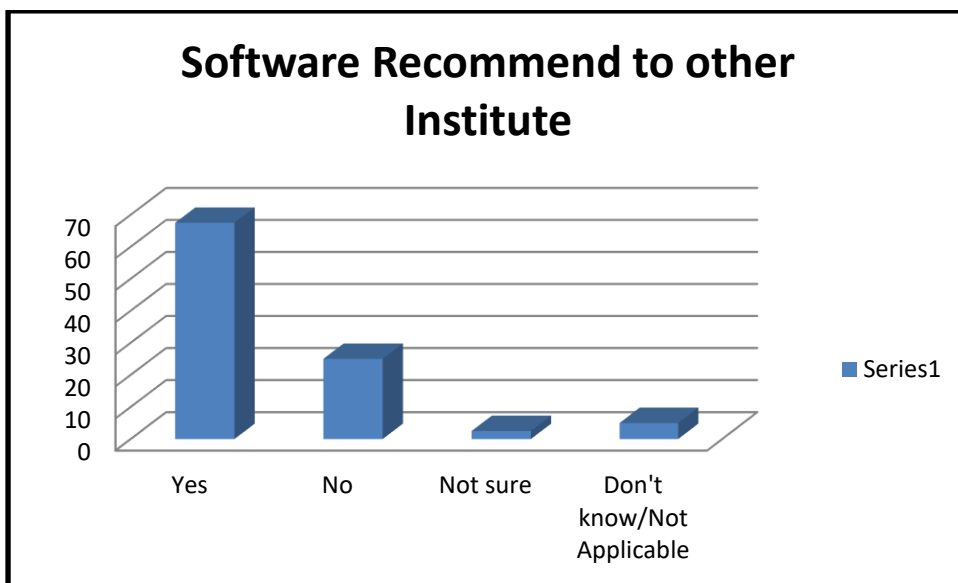
From Table No 5.4.34 & Chart No.5.4.21 Software Recommendation level .it can be observed that 68 % recommending available Library Management software to the other institute .

5.5

Professor Data Analysis

Table 5.5.35 (Q.1) Freq. of visit to library

Professor Data segment

Visit Freq.		Frequency	Percent
BASE	200		
Every day		117	59
Once in a week		15	8
Twice in a week		33	17
Thrice in a week		31	16
Once in a month		1	1
Don't know/Not Applicable		3	2
Total		200	100
Average No. of times in a month		18.39	
S.D.		8.25	
S.E.		0.59	

From Table No. 5.5.35 it get the information about Library visit frequency of Professors . We can observed that 117 professors are regular visit the Institute Library**.** AS per the data on and or average 18.39 population visit the Library in the Month **.** so we can say that, 100% of professor population use this academic library services at least once a week .

Table 5.5.36 (Q2) How Much Time spend in library

Options		Frequency	Percent
BASE	200		
Less than 1 hour		19	10
Between 1 to 2 hours		69	35
More than 2 hours		109	55
Don't know/Not Applicable		3	2
Average Time (in Hrs.) spent in Library		1.96	
S.D.		0.67	
S.E.		0.05	

Library is Knowledge of the temple .So faculty for gaining or updating them self they are spending more & more time in the Library .

Above Table 5.5.36 we can see that 2 hours is the average time professor spent in the library.

Table 5.5.37 (Q3) Traditional facilities while using library

Name of the Facilities		Frequency	Percent
BASE	200		
Reading Service		200	100
Reading room facility		200	100
Reference facility		200	100
Library orientation		170	85
Newspaper clipping services		175	88
Inter Library loan		160	80

Chart No.5.5.22
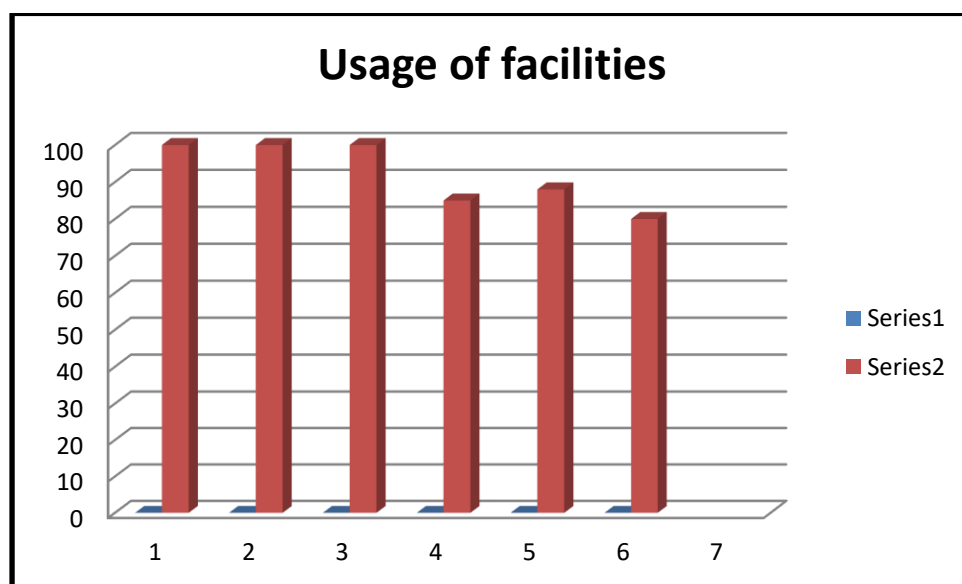
Take out : From Table No .5.5.37 & Chart No. 5.5.22 it can be observed that Fairly high awareness of different services that are offered by Library .

Table 5.5.38 (Q6) Faculty Awareness about Library Management Software

Name of the Software		Frequency	Percent
BASE	200		
Algorhythm consultants Pvt Ltd/Algorthym		28	14
COMET Solutions		5	3
Egranthalaya/E-granthalaya		21	11
Firstray Consulting		5	3
iLIBRARY		5	3
In house/In house Software/in-house software		13	7
INFLIBNET		4	2
Koha		30	15
Libsys		8	4
National information center/NIC		2	1
SILM 21 Advance/SLIM 21 Advance		44	22
SMS Library Management System		3	2
SOUL		27	14
Tcsion/Tcs		9	5
Not using the software		15	8
Don't know/Not Applicable		25	13

Take Out: Table No. 5.5.38 it can observed that ,faculty are aware about the Library software. Most of the faculty members remember the name of the software.

Table 5.5.39 (Q.7) Faculty view about Advantages of this Library Software

Advantage of LMS by Faculty Segment		Frequency	Percent
BASE	200		
All/Book/Journal/CD/Magazine/project/Project Reports search/Library Staff help us for searching book from software/Library staff help us to find out book/search library materials		151	76
Availability of Books		1	1
book reservation/reservation of books in library		9	5
Quantity of the books/Qty of the books/quantity of the books		4	2
Issue returned		2	1
easy to access		2	1
For issue/Issue Details/issue history/Issue the Book /Issue the book from the library/Issue the book Journal CD/Issue Library items/Issue Library Materials		23	12
getting new arrivals in the library/getting new arrivals information/getting new arrivals of books, magazine /New Arrivals/New Arrival of the books/Information/of Library		16	8
Issue and retured History/issue and returned the book/Issue -retuned Details		6	3
its very useful		1	1
User friendly		3	**2**
OPAC Module		10	5
we can get access in the library		1	1
Advantage of LMS by Faculty Segment		Frequency	Percent
BASE	200		
we send demand of books		2	1
old question papers		1	1

Only Access in the Library		1	1
syllabus and question papers		1	1
No training is done for us		1	1
Library staff only use the software/Not using the software/Directly not use current software /we used the software in Library to help of Staff/We use through the library staff		9	5
Don't know/Not Applicable		36	18

From Table **5.5.39** shows the detailed information about advantage of Library Management Software in Faculty view. It can be observed that faculty members are using the Software in different –different purpose. Most of the faculty members are using search module for searching book, Journals, Project Reports , CD. etc.

Table 5.5.40 (Q8) Expecting any other facility in the said software.

Faculty Expectation About Software		Frequency	Percent
BASE	200		
Abstract is required		1	1
APP is required		1	1
back issue history/Book Issue details		3	2
Book Reservation		1	1
can we get budget as per department		1	1
content of books/content of Journal as well as book		4	2
find out the Journals,CD project reports also		1	1
Full access is need for us /Full Access of the software/we get the access of the software/required		5	3
Magazine / Journal Arrivals Details		1	1
Mobile Application		15	8
More training is required		11	6
Need Access from home		1	1
need online access		3	2
Online software is required		2	1
OPAC		3	2
New Arrivals Information or pop's		2	1
New Book information can we get in the by mail or Mobile		3	2
New Project update Information		1	1
Journals List		1	1
Online database links also get add on this		1	1
Online Book search option is required		1	1
personal uer ID and password		1	1
Project Reports Information required		1	1
softcopy of the book		1	1
Software is not user-friendly		1	1
software will get connected with FB		1	1
Faculty Expectation About Software		Frequency	Percent
BASE	200		
we can read book online		1	1

Research facility for books		1	1
Not frequently using the software/we are not using the software		1	
None / Not expecting anything		40	20
Don't Know / Can't Say		92	46

Take out:

From the above table 5.5.40 represent the Faculty Members expectation about available software .form the table fairly good response on the training aspects with respect to library services software's, these trainings will trigger usage and expectations better... Some mentions on the need of library services being more into the business of curating information too has emerged and this is encouraging.

Table 5.5.41 (Q9) Find any problems/ disadvantages in the software

		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	**200**				
Yes		20	10	10	10
No		77	38.5	38.5	48.5
Don't know/Not Applicable		103	51.5	51.5	100
		200	100	100	

Chart No. **5.5.23**
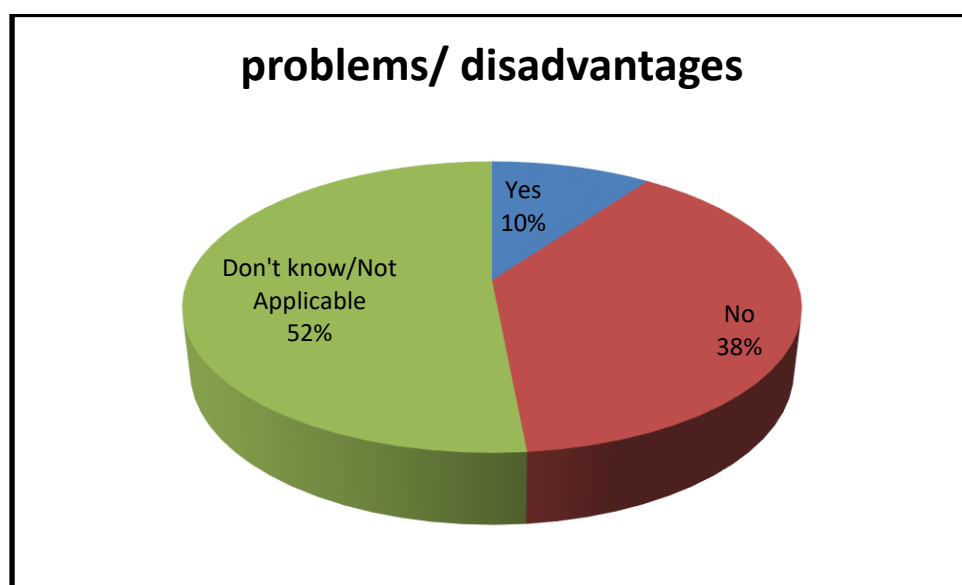
From Table No.5.5.41 & Chart No.5.5.23 10% of respondents in this segment feel that there are problems for using the Library Software . The problems mentioned are basic and it appears that even basic functions sometimes become problems. Training seems to the solution.

Table 5.5.42 (Q. 10) Frequency of facing such problems

Frequency of Problem		Frequency	Percent
BASE	200		
Every day		1	1
Once in a week		2	1
Once in a Month		20	10
Occasionally		122	61
Don't know/Not Applicable		55	28
Total		200	100
Average frequency (days in a month) of facing problems		0.79	
S.D.		2.07	
S.E.		0.17	

Take Out :Above Table No.5.5.42 shows the problem frequency to faculty member in Library Management Software. According to data average level of monthly problem is 0.79. So it can say that, Problem occurrence is not very intensive.

Table 5.5.43 (Q. 11) Nature of the problems

Nature of Problem		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	200				
Short term		48	24	24	24
Temporary		94	47	47	71
Long Term		1	0.5	0.5	71.5
Don't know/Not Applicable		57	28.5	28.5	100
Total		200	100	100	

Taken Out: As per the Table no.5.5.43 observed that faculty faced the temporary problem in Library Management Software . Mentioned the problems are temporary.

Table 5.5.44 (Q12) How soon the problems are rectified

| Problem Rectification Level		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	200				
Immediate		85	42.5	42.5	42.5
Within an hour		49	24.5	24.5	67
With in 3 hours		6	3	3	70
Don't know/Not Applicable		60	30	30	100
Total		200	100	100	
Average time (in hrs.) taken to rectify the problem		0.78			
S.D.		0.53			
S.E.		0.04			

Chart 5.5.24
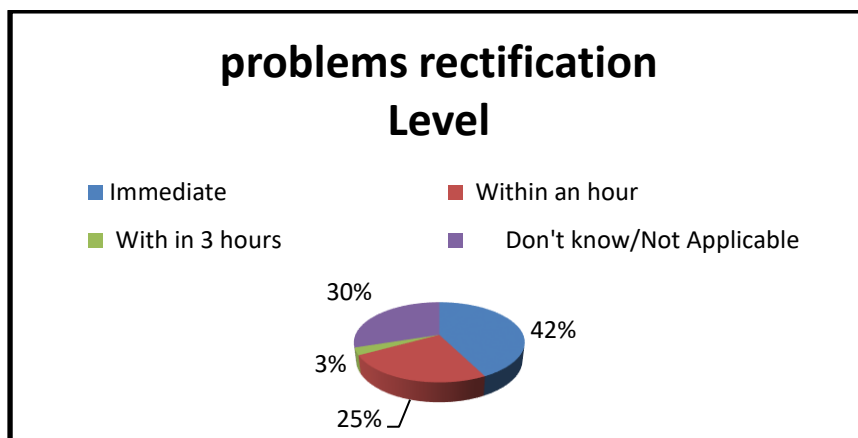
Take out: From Table No 5.5.44 & Chart No.5.5.24 we can observed that whatever problem has been created in the software it will get rectified with a Immediate solution level. Problem rectification level on and average 0.78 time in hours.

Table 5.5.45 Software User guide /Manual available for Faculty Members

Type of Manual		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	**200**				
Hard Copy		17	8.5	8.5	8.5
Soft Copy		58	29	29	37.5
Internet		30	15	15	52.15
Don't know/Not Applicable		95	47.5	47.5	100
Total		200	100	100	

Chart No. **5.5.25**
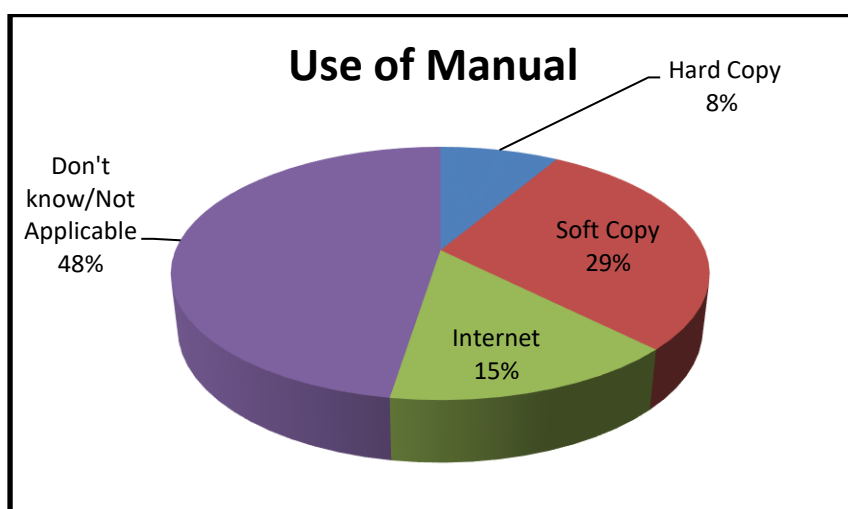
From Table No.5.5.45 & Chart No.5.5.25 show the information about the usage level of User manual it can be available in Library. It can observed that 29% faculty are using the soft copy of manual ,15% faculty are taking help of Internet as a user manual only 8% user using hard copy of manual but 48% faculty are not aware but the user manual for using the software . A large proportion unaware of the user manual's.

Table 5.5.46 (Q14) satisfied with the services provided by the library software.

Faculty View about software		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	200				
Satisfied		124	62	62	65
Not satisfied		6	3	3	65
OK		8	4	4	69
Average		17	8.5	8.5	77.5
Don't know/Not Applicable		45	22.5	22.5	100
Total		200	100	100	

Chart No. **5.5.26**
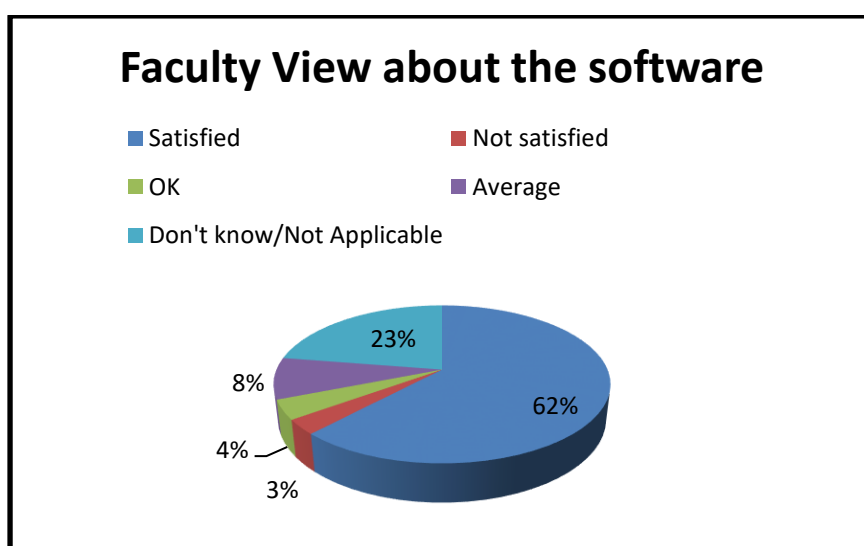
From Table 5.5.46 & Chart No.5.5.26 it will get the information about Faculty Member view about the using the software. It can observed that or and above 62% Faculty are satisfied with existing software . 4% population are average satisfied with the software. Only 23% are dissatisfied or they are not mentioned their opinion .

Table 5.5.47 (Q15) Any other module of software is required to be installed in this LMS.

Faculty Requirement about Software		Frequency	Percent	Faculty Requirement about Software	Frequency	Percent
BASE	200					
Availability of book		1	1	Self access of the software is required	1	1
Back issue returned history		6	3	suggest the book for students	1	1
Best reader		1	1	we must get access in our PC	1	1
Book Issue details		3	2	New Books Details	1	1
Book reservation facility		2	1	OPAC facility is not their	1	1
Magazine details		1	1	popular book details	1	1
Over dues Mail from software		1	1	No module required	10	5
Mobile App		1	1	Don't know/Not Applicable	166	83
more training is required		1	1			
Total					200	100

From Table No.5.5.47 information Research on Library Software on based on Professor Segment. Professor strongly said that they required the more training session about using the Library Software.as well as they required the book returned history record module in the Software. Faculty are looking software connect with the Google .So they will come to know the best seller Book details .with this information they will suggest the Books to the Library.

Table 5.5.48 (Q16) Faculty Overall Feedback about Library Management Software

Faculty Feedback about LMS		Frequency	Percent
BASE	200		
Mobile App is required		10	5
Author wise search is very difficult		2	1
Satisfied with Training company		1	1
Library must have to arrange the training for Teachers		16	8
Library must have to buy new Library software		6	3
More searching options		2	1
OPAC is very good facility		1	1
User friendly		51	23
Not using the Software		3	2
Don't Know / Can't Say		108	54
Total		**200**	**100**

From Table No 5.5.48 it can be observed that faculty view about said software
It can be seem Close to 18% feel this is a good service, but 45% are still not
willing to express their opinion .Population need more training about said
software .Librarian keep awareness about the available software .

5.6

Student Data Analysis

Table 5.6.49 (Q1) Students Awareness about the Library Software

Student Awareness LMS		Frequency	Percent	Valid Percent	Cumulative Percent
BASE	400				
Yes		280	70	70	70
No		120	30	30	100
Total		400	100	100	

Chart No. **5.6.27**

Student Awareness about LMS
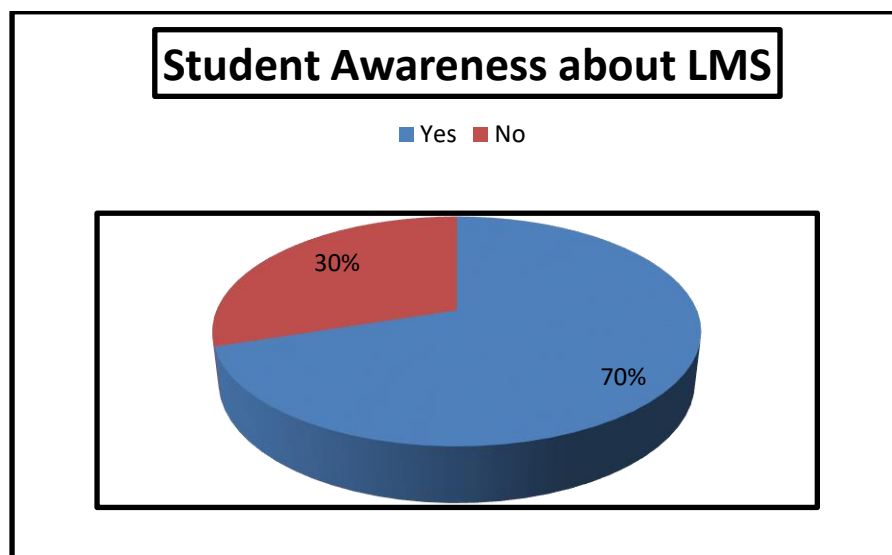
From Table No.5.6.49 & Chart No.5.6.27 its can be observed that 70% student population aware about the available software in Library . Only 3% Student re population not aware about the software .we can say this is a achievement of Library Orientation program which can be conduct by Library for Student.

Table No.5.6.50 **(Q1) Names of the library software used (OE)**

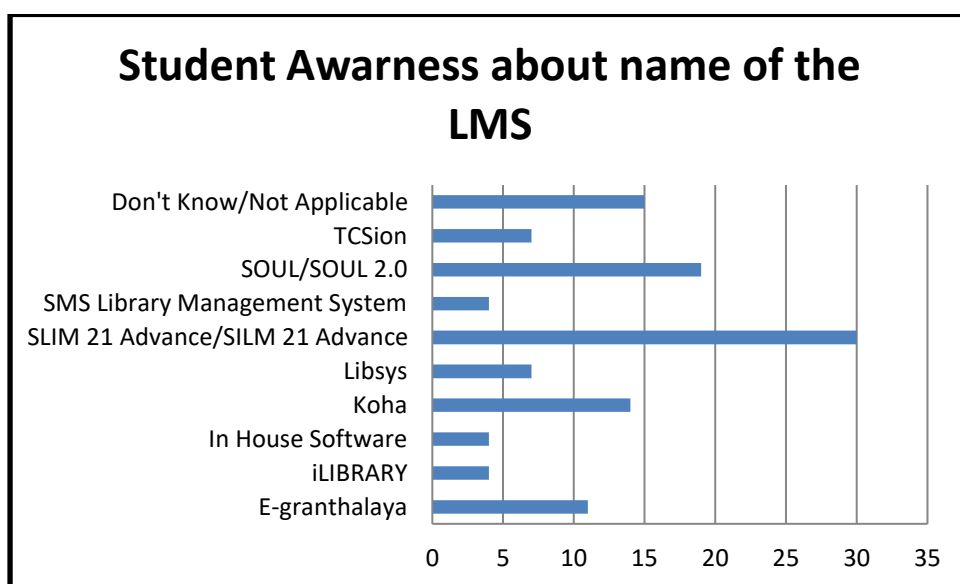| Name of the Software		Frequency	Prcent
BASE	**280**		
E-granthalaya		**31**	**11**
iLIBRARY		**10**	**4**
In House Software		**10**	**4**
Koha		**38**	**14**
Libsys		**20**	**7**
SLIM 21 Advance/SILM 21 Advance		**84**	**30**
SMS Library Management System		**10**	**4**
SOUL/SOUL 2.0		**53**	**19**
TCSion		**20**	**7**
Don't Know/Not Applicable		**40**	**15**
		280	**100**

Chart No. **5.6.28**

Highest awareness is for SLIM 21, Followed by SOUL and KOHA

Table No.5.6.51 (**Q2a**) **Advantages of said software used in library for students –Able to   locate the books with OPAC**

Student Feeedback	BASE	Frequency	Prcent
BASE	280		
Yes		280	100
No		0	
		0	

Chart No.5.6.29

students-Able to locate the books with OPAC

■ YES ■ NO

0%

100%
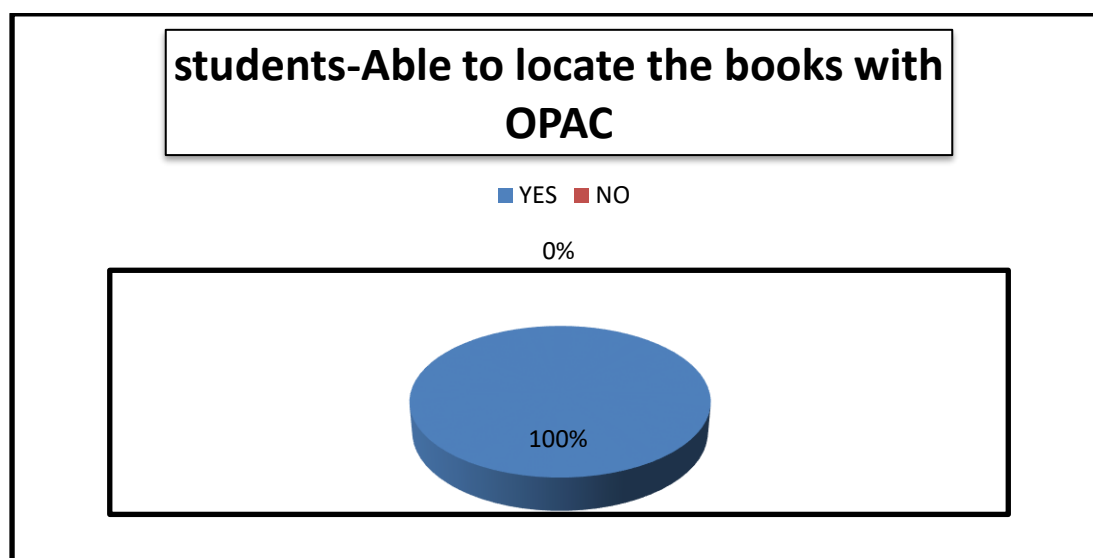
From Table No. 5.6.51 & Chart No. Chart No.5.6.29 it can be observed that Location of the book is easily being found out due to software and 100% of students among those who are aware agree on this advantage.

Table No.5.6.52 (Q2b) Advantages of said software used in library for students - Able to locate the books by Title

Student Feeedback	BASE	Frequency	Prcent
BASE	280		
Yes		280	100
No		0	
		0	
Total		280	100

Chart No.5.6.30

Students-Able to locate the books by Title

■ YES ■ NO

0%

100%
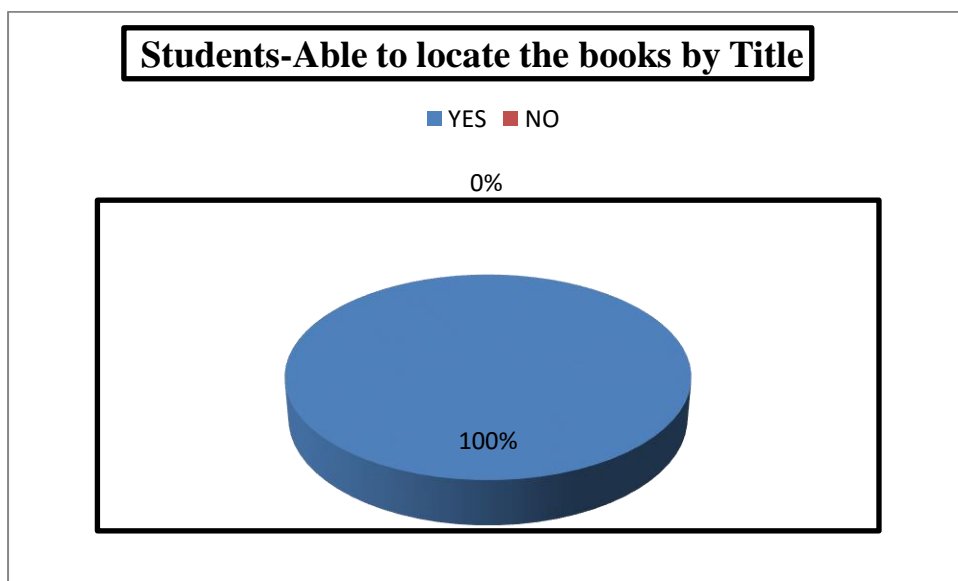
From Table No.5.6.52 & Chart No.5.6.30 This advantage of location of title also gets endorsement from 100% students.

Table No.5.6.53 (Q2c) Advantages of said software used in library for students Able to locate the books by Author (SA)

Student Feeedback	BASE	Frequency	Prcent
BASE	280		
Yes		280	100
No		0	
		0	
Total		280	100

Chart No.5.6.31

students-Able to locate the books by Author

YES NO

0%

100%
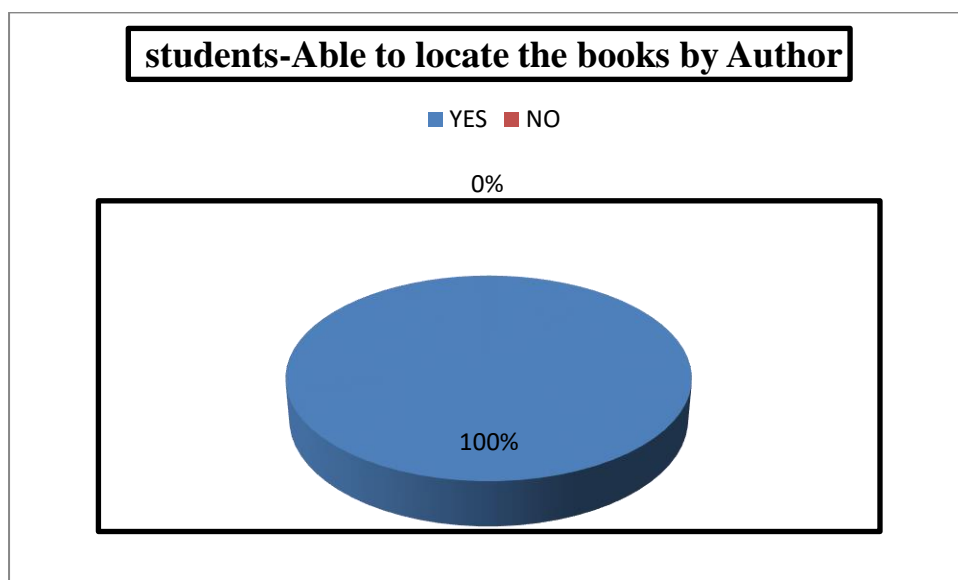
From Table No.5.6.53 & Chart No. 5.6.31 it can be observed that Locating the book by author as an advantage is also endorsed by students.

Table No.5.6.54 (Q2d) Advantages of said software used in library for students - Able to locate the books by Publisher's Name (SA)

Student Feedback	BASE	Frequency	Prcent
BASE	280		
Yes		280	100
No		0	
		0	
Total		280	100

Chart No.5.6.32

Students-Able to locate the books by Publisher

YES ■ NO

0%

100%
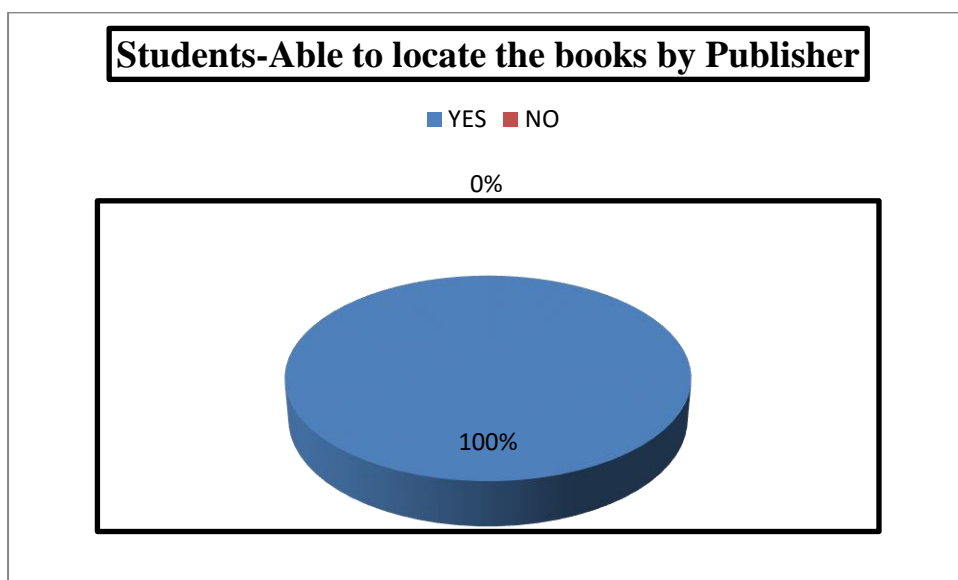
From Table No.5.6.54 & Chart No.5.6.32 it can be observed that Location by publisher is also endorsed by 100% student population.

Table No.5.6.55 (Q2e) Advantages of said software used in library for students Able to locate the issuing details with the help of available software (SA)

Student Feeedback	BASE	Frequency	Prcent
BASE	280		
Yes		280	100
No		0	
		0	
Total		280	100

Chart No.5.6.33

Students-Able to locate the issuing details with the help of available software

From Table No.5.6.55 & 5.6.33 it can be observed that, 100% student population endorsement on issuing details.

Table No.5.6.56 (Q3) Are you able to get the information about the new arrivals through the available software (SA)

Student Feeedback		Frequency	Prcent
BASE	280		
Yes		248	89
No		32	11
Total		280	100

Chart No. 5.6.34

New arrivals Info.through the available software
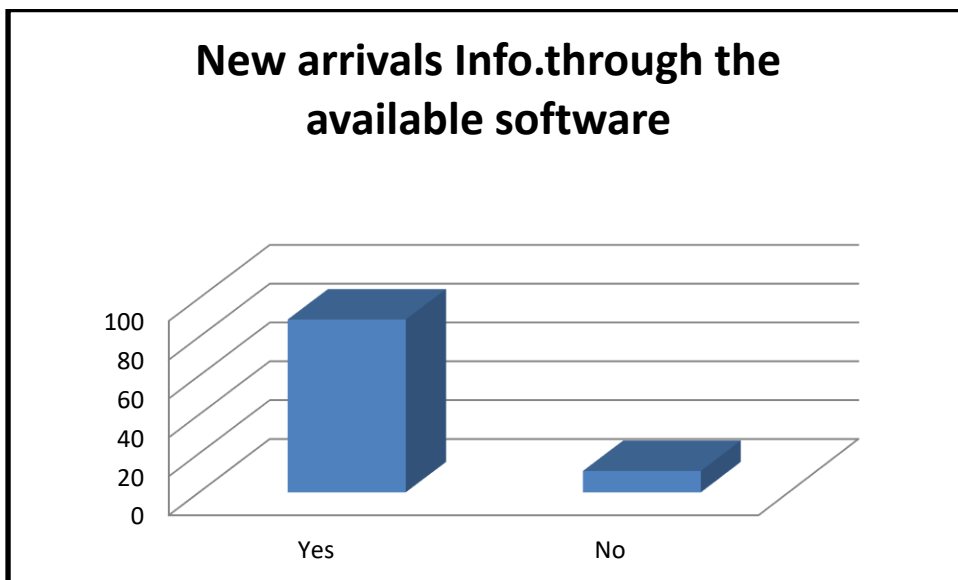
From Table No. 5.6.56 & Chart No .5.6.34 can be observed that, This feature is endorsed by only 89% of the students. Sometime this kind of module is not available in software.

Table No.5.6.57 (**Q.4**) **Is the process of locating details of the particular book is time consuming (SA)**

		Frequency	Prcent
BASE	**280**		
Yes		270	96
No		10	4
Total		280	100

Chart No. 5.6.35

Process of locating detalis of the particular book is the time consuming
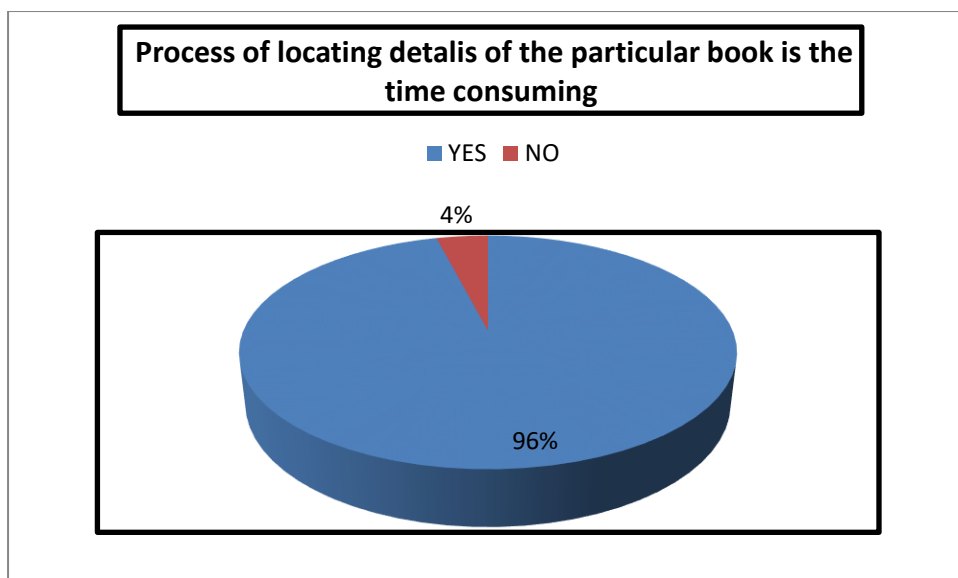
From No. 5.6.57 & Chart No.5.6.35 it can show the process of locating details of the particular book is the time consuming . The whole process is considered time efficient.

Table No.5.6.58 **(Q5) Are you able to search Journals and Magazines also through this software (SA)**

		Frequency	Prcent
BASE	280		
Yes		157	56
No		123	44
Total		280	100

Chart No. 5.6.36

Search Journals and Magazine through this software

■ YES ■ NO

44%

56%
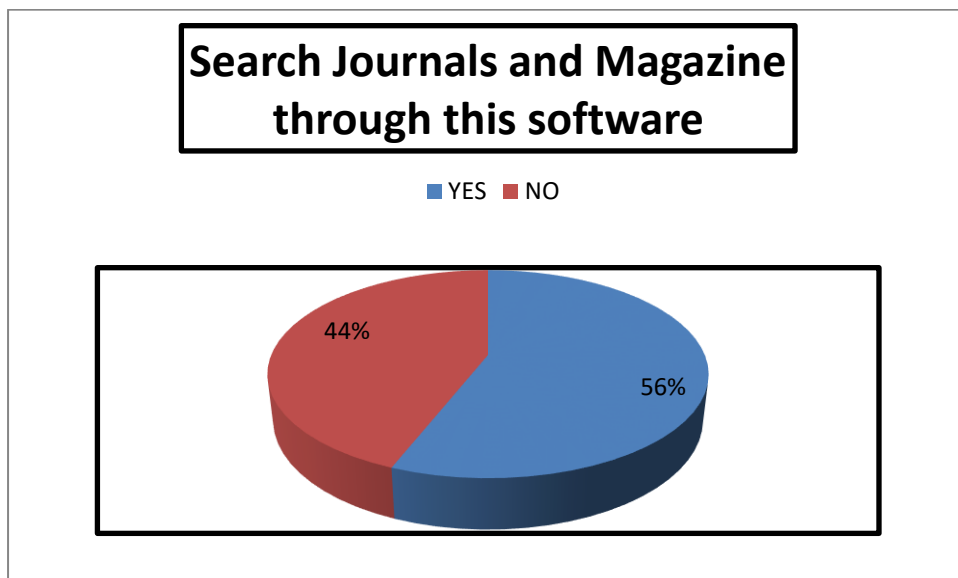
From Table No.5.6.58 & Chart No.5.6.36 show the result of search Journal & Magazine through this software .

Table No.5.6.59 (Q7) Did you find any problems/ disadvantages in the said software while using (SA)

		Frequency	Prcent
BASE	280		
Yes		0	0
No		277	99
Don't know/Not Applicable		3	1
Total		280	100

From Table No. 5.6.59 it can be observed that ,No problem is encountered by aware users.

Table No.5.6.60 (Q10) Nature of the problems

		Frequency	Prcent
BASE	280		
Short term		0	0
Temporary		278	99
Long Term		0	0
Don't know/ Not Applicable		2	1
Total		280	100

From Table No. 5.6.60 it can be show the details of Only temporary problems are experienced .

Table No.5.6.61 (Q11) How soon the problems are rectified (SA)

		Frequency	Prcent
BASE	280		
Immediate		248	89
Within an hour		30	11
With in 3 hours		0	0
Don't know Not Applicable		2	1
Average time taken in hours to rectify problems		0.55	
STD		0.16	
STE		0.01	

Take out:

From Table No.5.6.61 show the on the Problems are so immediately solved that it hardly is recognized as problems. As per the Table Average time taken in hours to rectify problems.

Table No.5.6.62 (Q12) Is the above software user friendly? (SA)

BASE	280	Frequency	Prcent
Yes		278	99
No		0	0
Don't know/ Not Applicable		2	1
Total		280	100

Take Out:

From Table No. 5.6.62 show the ratio of user friendly . Most of students are consider it as user friendly.

Table No.5.6.63 (Q13) User guide available

		Frequency	Prcent
BASE	280		
Hard Copy		24	9
Soft Copy		75	27
Internet		161	58
Don't know/Not Applicable		20	7
Total		280	100

Take out: From Table No.5.6.63 it can observed that 9% Population are using the hard copy,27% are using the soft copy and Internet 58% are using the Internet as a user guide as a user guide .Most seem to be using the internet guide

Table No.5.6.64 (Q14) Satisfied with the services provided by the library software (SA)

BASE		Frequency	Percent
	280		
Satisfied		40	14
Not satisfied		0	0
OK		0	0
Average		0	0
Don't know/Not Applicable		240	86
Total		280	100

From Table No.5.6.64 show the student satisfied level of using the Library management software . 40% students population are satisfied with services and 240 % student are not satisfied . The opinion on satisfaction is not very encouragingly yes but most seem to be indifferent to this question.

5.6.65 (Q16) Overall Feedback (OE)

		Frequency	Prcent
BASE	280		
YES		248	88
NO		32	12
Don't know/Not Applicable		280	100

Take Out: From Table No.5.6.65 it get the information about the Overall Feedback therefore is derived and it is felt there is a need to express the opinion and opinion is not existing because there is no expectations from the software's.

5.7

Hypothesis Under Test

It is important to begin this chapter with an understanding about "what is a hypothesis"? A hypothesis is an **educated guess** about something in the world around . Any hypothesis should be testable, either by experiment or observation.

Typically, therefore, a hypothesis is a statement of belief . Further to the statement, it is important that the statement is tested statistically for its being a reality and the truth. Hence hypothesis testing in statistics is a way for the researcher to test the results of a survey or experiment to see if the researcher has got meaningful results with respect to it being a true phenomena or with respect to some relationships that the researcher has hypothesized.

In this context following hypothesis were made at the beginning of the journey of this doctoral research. Given that this research is a descriptive research the tests are conducted only to ensure the goodness of fit, meaning for making a definitive statement that the sample is representing the real life situation when it comes to role of software/technology in the field of academic libraries . It is proposed to do the Chi-square test. The Chi-square is intended to test how likely it is that an observed distribution is due to chance or a reality. It is also called a **"goodness of fit"** statistic, because it measures how well the observed distribution of data fits with the distribution that is expected if the variables are independent or are actually behaving when the enquiry is census. In this doctoral research therefore the chi square for goodness of fit test is being used to examine how closely this data represents the population. Wherever the data is observed to be 100% in accordance to what the researcher has believed, there is no statistical test that has been applied as in such situations the variable is considered as "constant" or a natural state.

A Chi-square test is designed to analyse **categorical** data. That means that the data has been counted and divided into categories. The data in the sample is examined in order to see whether this distribution is consistent with the hypothesized distribution of the population or not. Presenting below the summary of hypothesis, the associated questions and test that were conducted:

Hypothesis	Question number and Questionnaire reference	Name of the test and definition
1) Ho: All AICTE institutions do not use any software Ha: All AICTE institution use atleast one software	1) REFER QUESTIONNAIRE IN APPENDIX (_I) Q1 from Librarian questionnaire :Out of the following options, which software is used in your Library?	Chi square test conducted and it is Statistically Significant representing that this sample represents the population.
2. H0: All AICTE institutions do not continuously do technology advancement for library software. Ha: All AICTE institutions continuously do advancement of technology for library software	1) REFER QUESTIONNAIRE IN APPENDIX (I) Q15. From librarian: How often the software version requires to be upgraded?	Chi square test conducted and it is Statistically Significant representing that this sample represents the population.
3. H0:Library software is not easy to operate Ha: Library software is easy to operate	1) Librarian questionnaire: REFER QUESTIONNAIRE IN APPENDIX (_I) Q24.Is the above software user friendly? 2) REFER QUESTIONNAIRE IN APPENDIX (_III) Students: Is the above software user friendly? Q12	Librarian 100% response so no need to do a statistical test. Variable became constant due to 100% response. Chi square test conducted and it is statistically significant.
4. Ho:. Most of the students, faculty and library staff are not satisfied with the use of this software. Ha: Most of the students, faculty and library staff are satisfied with the use of this software.	REFER QUESTIONNAIRE IN APPENDIX (_I) 1) Librarian: Would you like to recommend this software to any other institute? Librarian: Q32	Chi square test conducted and it is statistically significant. 100% response on positive aspect from students in q14 so no test required.

	REFER QUESTIONNAIRE IN APPENDIX (II) 2) Professors & Students: Are you satisfied with the services provided by the library software? Q14	
5) Ho: Problem occurrence is high Ha: Problem Occurrence is not high	1) REFER QUESTIONNAIRE IN APPENDIX (I) Librarian: How often the problems occur?Q26 2) REFER QUESTIONNAIRE IN APPENDIX (II) Professors & Students: Did you find any problems/ disadvantages in the said software while using? Q9 & Q7	Chi square test conducted is statistically significant across Librarians, and Professors. 100% response on positive aspect from students n q7

Detailing the hypothesis and the tests below:

1)

Ho: All AICTE institutions do not use any software

Ha: All AICTE institution use atleast one software

Librarian segment:
Chi-Square Test
   Frequencies

Any Software used

	Observed N	Expected N	Residual
Yes	1	20.0	-19.0
No	39	20.0	19.0
Total	40		

Test Statistics

	Any Software used
Chi-Square	36.100[a]
df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 20.0.

Chi-Square Tests

	Value	df	p-value	Result
Pearson Chi-Square	36.100[a]	1	.000	Rejected

Take Out: Using software is become imperative so all institutions are using some software or the other.

2.

 H0: All AICTE institutions do not continuously do technology advancement for library software.

Ha: All AICTE institutions continuously do advancement of technology for library software

Librarian segment:
Chi-Square Test

Frequencies

NQ15

	Observed N	Expected N	Residual
Yes	3	15.0	-12.0
No	27	15.0	12.0
Total	30		

Test Statistics

	NQ15
Chi-Square	19.200[a]
df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 15.0.

Chi-Square Tests

	Value	**df**	**p-value**	**Result**
Pearson Chi-Square	19.200[a]	1	.000	Rejected

Take Out: Software needs upgradation of technology by adding new or customized feature and that practice is seen even in academic libraries.

3

H0:Library software is not easy to operate

Ha: Library software is easy to operate

Librarian response table using frequency distribution:

		Age of Librarian		Age of Establishment		No. of students in the college		Librarian - No. of yrs. with the college	
	Total	**Up to 35.**	**36 & above**	**Up to 15**	**16+**	**Up to 400**	**401+**	**Up to 5 Yrs.**	**6+ Yrs**
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
BASE	40*	16*	24*	17*	22*	23*	16*	17*	30*
Yes	39	15	24	16	22	22	16	16	29
	98	94	100	94	100	96	100	94	97
No	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
Don't know/Not Applicable	1	1	0	1	0	1	0	1	1
	3	6	0	6	0	4	0	6	3

Header row: (Q24) SW User-friendly (SA)

Student segment:

Chi-Square Test

Frequencies

Is the above software user friendly Q12

	Observed N	Expected N	Residual
Yes	278	140.0	138.0
No	2	140.0	-138.0
Total	280		

Test Statistics

	Is the above software user friendly
Chi-Square	272.057[a]
df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 140.0.

Chi-Square Tests

	Value	df	p-value	Result
Pearson Chi-Square	272.057[a]	1	.000	Rejected

Take Out: The custodians of the software's and the largest users of the library i.e. the students are finding the software usage to be user-friendly.

4.

Ho:.   Most of the students, faculty and library staff are not satisfied with the use of this software.

Ha: Most of the students, faculty and library staff are satisfied with the use of this software.

Librarian Segment:

  Chi-Square Test

  Frequencies

NQ32

	Observed N	Expected N	Residual
Yes	11	19.0	-8.0
No	27	19.0	8.0
Total	38		

Test Statistics

	NQ32
Chi-Square	6.737[a]
df	1
Asymp. Sig.	.009

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 19.0.

Professors Segment:

  Chi-Square Test

Frequencies

nq14

	Observed N	Expected N	Residual
.00	51	100.0	-49.0
1.00	149	100.0	49.0
Total	200		

Test Statistics

	nq14
Chi-Square	48.020[a]
df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 100.0.

Chi-Square Tests

	Value	df	p-value	Result
Pearson Chi-Square	48.020[a]	1	.000	Rejected

Student Segment:

(Q14) Satisfied with the services provided by the library software (SA)

BASE: Those who aware about software used in library

_____

Proportions: Columns Tested (1%, 5% risk level) - A/B - C/D

* small base; ** very small base (under 1) ineligible for sig testing

	Total	Yes	No	Yes	No
		A	**B**	**C**	**D**
Figures in absolute and Percentage					
BASE					
	280	248	32*	-**	277
Satisfied					
	40	8	32	0	40
	14	3	100	0	14
Not satisfied			A		
	0	0	0	0	0
	0	0	0	0	0
OK					
	0	0	0	0	0
	0	0	0	0	0
Average					
	0	0	0	0	0
	0	0	0	0	0
Don't know/Not Applicable	240	240	0	0	237
	86	97	0	0	86
		B			

Take Out: Across segments high satisfaction is observed, but student community are not responding to this question so there is a need of educating this community about the services.

5) **Ho: Problem occurrence is   high**
   Ha: Problem Occurrence is not high

Librarian segment:
  Chi-Square Test

Frequencies

NQ26

	Observed N	Expected N	Residual
.00	34	18.5	15.5
1.00	3	18.5	-15.5
Total	37		

Test Statistics

	NQ26
Chi-Square	25.973[a]
Df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 18.5.

Professors Segment:
Chi-Square Test

Frequencies

Find any problems/ disadvantages in the said software while using Q9

	Observed N	Expected N	Residual
Yes	20	48.5	-28.5
No	77	48.5	28.5
Total	97		

Test Statistics

	Find any problems/ disadvantages in the said software while using
Chi-Square	33.495[a]
Df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.5.

Chi-Square Tests

	Value	df	p-value	Result
Pearson Chi-Square	33.495[a]	1	.000	Rejected

Student Segment:

(Q7) Did you find any problems/ disadvantages in the said software while using (SA)

BASE: Those who aware about software used in library
_____

Proportions: Columns Tested (1%, 5% risk level) - A/B - C/D
* small base; ** very small base (under 1) ineligible for sig testing
#page

Get information about new arrivals Found problem / disadvantage using SW					
Figures in absolute and Percentage					
	Total	**Yes**	**No**	**Yes**	**No**
		A	**B**	**C**	**D**
BASE	280	248	32*	-**	277
Yes	0	0	0	0	0
	0	0	0	0	0
No	277	245	32	0	277
	99	99	100	0	100
Don't know/Not Applicable	3	3	0	0	0
	1	1	0	0	0

Take Out: Problem occurrence is rare.

To Conclude: In the process of hypothesizing the researcher is essentially being the "devil's advocate" while stating the position when making the null hypothesis. It is therefore easy to conclude basis these tests and observations that the academic libraries are poised to play an expanded role in this technological and digital era making its role relevant in these times.

However the custodians of academic libraries must ensure educating the student community of all the services and new services that are embedded in the technology.