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Measuring Library Effectiveness in VTU Research Centers in Karnataka: A study

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Abstract

The present study focuses on the effectiveness of measures taken at 82 research center libraries of VTU, Karnataka. The effectiveness with regard to the various methods adopted to acquire required information resources, use of library budget, maintenance of library stack, managing periodical and reference section, internet center are also discussed. Further, methods adopted to collect use feedback and maintain good interpersonal relationship with user were analyzed. It is found that there are 65 (79.3%) librarians are effectively using the method of consulting recommended books in the syllabus and. 67 (81.7%) librarians manage the periodical section effectively current periodicals are to be regularly displayed in the library. According to the opinion of 75 (91.5%) librarians effective method to make better use of internet center is to maintain and update the computer systems in the libraries. Further, there are 50 (61.0%) librarians who are using checklist as effective method in collecting user feedback about activities and program offered in their libraries and 71 (86.6%) librarians opine that the use checklist method effectively to maintain good interpersonal relationship with users of their librarians.

1.0 Introduction

The history of library effectiveness can be traced to 1938 in the work of Walter C Eels where he found the library having largest percent of lastly published titles is superior to one not having these titles. His main emphasis was measuring book collection on the basis availability of latest publication. Morse applied the operation research and presented a mathematical model for evaluating the library services. Most useful measures are option by processing the data to represent some part of operations like library use, book use, dependence on circulation on time, production of circulation measures, effects of retiring, in active books etc. Library effectiveness is a measure of number of related factors: goal achievement and the optimizations**.** Managers of academic libraries have been concerned with the question of effectiveness, and how to measure it, since the 1970s when several measures of specific services were reported in the literature.[11] Since 1973, when Orr first gained support for his work on the essential characteristics for measurement of effectiveness (i.e., appropriateness, informativeness, validity, reproducibility, comparability, and practicality) [10] there has been insufficient follow-up research on these critical aspects of performance measurement. As Abbott reports, "work on the subject has been for the most part repetitive, with little attempt to build on previous work in the development of new approaches".[4] Measuring effectiveness is not the same thing as measuring library performance. In the ever-growing literature on library performance measurement, no standardization of terminology has been established. Lynch made defines measurement as "the process of ascertaining the extent or dimensions or quantity of something," performance as "the doing of something, an activity," evaluation as "the process of determining whether something is what you want it to be," and effective as referring to "something which does well that which it is supposed to do." All four terms are combined in a succinct self-explanatory statement: "The results of measurement can be used to evaluate the performance of a library and thereby determine whether or not it is effective".[7] McDonald and Micikas[8] review the various definitions of effectiveness. As they note, there is considerable disagreement in the use of the word, library outcomes, and their measurement as an indicator of effectiveness.

2.0 Review of Literature

Looking for determinants of library effectiveness is the last of six steps that **Childers** and **Van House (1989**)[3] considered necessary in library effectiveness research. Identifying factors associated with library effectiveness is a very valuable input for library policy. In order to successfully implement benchmarking practices in library policy, it is indispensable to have a grounded knowledge of those factors which contribute to library effectiveness. (Morse, 1969)[9]

The effectiveness of libraries can be measured in many ways. **Cullen and Calvert (1993**)[5] investigated what key constituencies in New Zealand public libraries thought an effective library should be. They gave a list of 95 possible indicators of library effectiveness to library users, librarians, and local library body councilors. The respondents had to indicate how important all of these were in judging the performance of a public library. The most important indicators for an effective library were judged to be helpfulness of staff and competence of management. However, two other items that ranked in the top 20 for all three groups were "Extent of community awareness of library services" and "Match of library services to community needs." This shows that the role of the public library in its local community was valued highly by the respondents in the New Zealand study.

Arya and **Talukdar (2010)**[1] in their paper evaluated the effectiveness of the internet as an educational tool and to explore what role it plays in the educational system. The study was purely conducted on a sample of 120 users of Delhi College of Engineering (DCE) Library. The questionnaires consisted of 20 main questions with many of the main questions having a number of subquestions. The questionnaire contained five open-ended questions. This case study provides awareness of various internet tools and services used by the library staff and library users. The library will aware of new internet services and provide their users. This is case study of Delhi College of Engineering (Central Library) and this study will also be useful and important to those users who are already studying in different institutions and colleges.

Carlin and **Pemberton (1979)**[2] discussed on a practical approach to reference measurement and evaluation which eliminates weaker elements of previous research and builds on stronger studies. The method, tentatively called 'Statewide Evaluation of Public

Library Reference Service' (SEPLRS) is a means of testing and evaluating reference effectiveness. It is to be undertaken by state libraries with public library cooperation in each state, and its primary function is that of encouraging the achievement and maintenance of the highest level of quality in public library reference service. Describes the method in some detail. A pilot study is to be carried out using SEPLRS.

According to **Green, L. K _and Green**, **K_ (1988)[6]** reference services determine, to a large degree, how many patrons perceive the library, it is imperative that within budgetary, staffing, and collection constraints, libraries provide the best possible reference services. To accomplish this end, its effectiveness must be measured on an on-going basis. Some considerations for the planning, design, implementation, and analysis of various assessment methods are noted.

3.0 Objectives of the study

The specific objectives of the study are as follows:

1. To assess the effectiveness in measures used in acquiring various information resources available in VTU research center libraries.

2. To examine to effectiveness in measures taken for the effective utilization of budget in acquiring information resources to serve their researchers.

3. To examine method effectiveness measures taken by these libraries for the effective maintenance of the library stack

4. To know how these libraries are Managing the Periodical Section effectively in their library

5. To know the effectiveness in the methods used in providing Reference Service

6. To know the effectiveness in the steps undertaken for better use of Internet centre in libraries under study

7. To analyze the effectiveness in methods adopted to collect the users feedback about the activities and programs offered in the libraries

4.0 Scope and limitations

The study intends to cover 82 research centers which come under Vishveshwaraya Technical University (VTU) in Karnataka. The list of these research centers are given in appendix-1. The various branches these technical research centers offer include Computer Science, Mechanical Engineering, Electrical and Electronics,

Electronics and Communication Engineering, Civil Engineering, Bio-Technology, Chemistry, Physics, etc. Geographically, the coverage of the institutions is limited to Karnataka state only. The reason for covering these 82 research institutions is that they are offering research projects in various branches. These have been well established and are equipped with IT based infrastructural facilities.

5.0 Methodology

The investigator adopted survey method. The questionnaires were designed and are administered to librarians to collect primary data from the librarians. After receiving the questionnaires from various research centre libraries which come under VTU, they are analyzed in the light of the objectives stated. S.P.S.S package is used to analyze the research data.

6.0 Analysis and discussion

6.1 Measures Used to Acquire Required Information resources (Table – 1)

Table 1 show various measures used in VTU research center libraries in acquiring required information resources. On the whole, 79.3% of the librarians stated that they selected and acquired information resources in accordance with the list of recommended books given in the syllabus to a great extent, followed by 54.9% of librarians who have told that they refer to AICTE guidelines to a large extent, 24.4% of the librarians opined that they refer publisher catalogue followed by 23.2% consider users demand for multiple copies to a moderate extent. However, the 37.8% librarians visit bookshops for selection of required information resources followed by 23.2% each use publisher catalogue and trade catalogue to some extent. 20.7% librarians acquired books go to exhibitions followed by 29.3% followed by 19.5% select on the basis of users recommendations slips to a little extent. There are 45.1% librarians who never refer trade bibliographies followed by 37.8% who never visit bookshops for book selection purpose. The Chi-Square test revealed a significant difference between groups of frequencies of acquired required information resources through not-significant to highly significant.

6.2 Measures to effectively use library budget (Table – 2)

Table 2 shows various strategies to effectively use library budget. On the whole, 50% of the librarians stated that the budget allocated department-wise for acquiring

information resources to a large extent, followed by 35.4% of librarians who have told that the expenditures are regularly checked through out the year a large extent, 24.4% each of the librarians opined that they allocated department-wise for acquiring information resources and some part of the budget is reserved for future requirement to a moderate extent followed by 20.7% stated that more money is allocated to recurring than nonrecurring heads to a moderate extent. However, the 23.2% librarians allocated library budget to recurring than nonrecurring heads followed by 19.5% stated that some part of the budget is reserved for future requirement to some extent. 15.9% librarians opined that some part of the budget is reserved for future requirements followed by 14.6% each opined that expenditures are regularly checked throughout the year and more money is allocated to recurring than non recurring heads to a little extent. There are 31.7% librarians opined that they never allocated to recurring than non recurring heads followed by 28% who opined that some part of the budget is reserved for future requirements. The Chi-Square test revealed a significant difference between groups of frequencies of acquired required information resources through not-significant to highly significant.

6.3 Measures used for Effective maintenance of the library stack (Table- 3)

Table-3 depicts the measures taken for effective maintenance of the library stack. On the whole, 62.2% of the librarians stated that they closely supervises that the books are correctly shelved on the book racks to a great extent, followed by 61% of librarians who have told that they verified physically that books then shelve to a large extent, 25.64% of the librarians opined that the slanting light is thrown on the spines of all books arranged in the shelves to a moderate extent followed by 24.4% consider book supporters are used for better care of books in partly filled shelves to a moderate extent. However, the 15.9% of them indicated gang ways bay guides and shelf guides are provided followed by 14.6% each of them opined slanting light is thrown on the spines of all books arranged in the shelves and use of shelves with glass panes to avoid dirt, dust etc, for special collection to little extent, 15.9% librarians indicated use of adjustable shelves to shelve books followed by 14.6% opined that book materials are shelved in the special transparent cabinets to a some extent. There are 37.8% librarian who never use of shelves with glass panes to avoid dirt, dust, dust, etc., for special collection followed by 26.8%

each of them opined that never use slanting light is thrown on the spines of all books arranged in the shelves and gang ways bay guides and shelf guides are provided. The Chi-Square test revealed a significant difference between groups of frequencies of acquired required information resources through significant.

6.4 Managing of Periodical Section in the library (Table – 4)

Table-4 depicts the methods used in managing of periodical section in the libraries. On the whole, 81.7% of the librarians stated that current periodicals are regularly displayed to a great extent, followed by 59.8% of librarians who have told that adequate systems are provided to enable the use of e-journals to a large extent, 20.7% of the librarians opined that the arrival of journals in time is ensured to a moderate extent followed by 13.4% of them indicated bound volumes of periodicals are well maintained and kept dust free to a moderate extent. However, the 17.1% each of them opined that current journals are issued overnight and user slip method is used to check the daily usage rate of journals to little extent, 14.6% librarians indicated arrival of journals in time is ensured followed by 12.2% of them indicated use of user slip method to check the daily usage rate of journals to some extent. There are 48.8% each librarian who never maintaining a good kardex and user slip method used to check the daily usage rate of journals. The Chi-Square test revealed a significant difference between groups of frequencies of acquired required information resources through to highly significant.

6.5 Methods Used in Reference Services (Table- 5)

Table 5 depicts the methods used in reference services and test statistics. On the whole, 62.2% of the librarians stated that OPAC is placed nearer to reference desk to a large extent, followed by 54.9% of librarians who have told that they reference desk is highly visible and located centrally in the reference section to a large extent, 20.7% of the librarians opined that they professional reference librarian with good communication skill is place in charge followed by 15.9% consider current and up-to-date reference sources are made available in the reference section to a moderate extent. However, the 14.6% librarians indicated printed guides such as pathfinders, study guides and subject bibliography services are provided followed by 13.4% each of them indicated extensive bibliographic instruction is offered and feedback forms are provided in the reference

section to improve the quality of service to little extent. 24.4% librarians opinion extensive bibliographic instruction is offered followed by 19.5% of them opinion that they printed guides such as pathfinders, study guides and subject bibliography services are provided and reference questions asked by the users and successfully answered by the reference librarian are maintained in a separate register to some extent. There are 61.0% librarians who never provide fee based online services followed by 34.1% each librarians who never provide user feedback forms and extensive bibliographic instruction. The Chi-Square test revealed a significant difference between groups of frequencies of acquired required information resources through significant.

6.6 Steps undertaken for better use of Internet centre in the research center libraries (Table -6)

The above table depicts the steps under taken for better use of internet center in libraries. The data about steps under taken for better use of internet center in the library in different research centers shows that 91.5% research centers updated computer systems and maintained, 85.4% of the centers maintained log books to entry and exit of users have, 82.9% of the centers open internet centre from 8 am to 8 pm, 81.7% of the centers have enough number of computer systems for students to use internet, 56.10% of the centers have reserved some systems for faculty and researchers separately and 54.9% of the centers do not permitted to users own CD/pen drive for downloading of information from the net. All these facilities we find in high percentages and Chi-Square tests revealed significant differences for computer systems are updated and maintained (X^2 =56.390; P=.000), log books are maintained to entry and exit of users (X^2 =41.024; P=.000), internet centre is open from 8 am to 8 pm (X^2 =35.561; P=.000) there are enough number of computer systems for students to use internet (X^2 =32.976; P=.000) and chi-square tests revealed non-significant differences for 'systems are reserved for faculty and researchers separately (X^2 =1.220; P=.269) and users are not permitted to use their own CD/pen drive for downloading of information from the net. (X^2 =.780; P=.377).

Some of the services offered in library were found in very low quantities like internet center is kept open 24 hours (4.9%). Chi-square tests revealed significant

differences for 'yes' and 'no' frequencies for internet center is kept open 24 hours (X^2 =66.782;P=.000).

6.7 Methods Adopted to Collect the Users Feedback about the Activities and Programs offered in the Library (Table – 7)

The table 7 shows various methods adopted to collect the users feedback about the activities and programs offered in the library. It was found that 50 (61.0%) of the centers used checklist to collect user opinion, 49 (59.8%) of the centers asked the users directly and 45 (54.9%) of the centers collected user feedback through analyzing visitors register. All these facilities we find in high percentages and Chi-Square tests revealed significant differences for use checklist to collect opinion (X^2=3.951; P= .047), and non-significant differences for asking the users directly (X^2 =3.122; P=.077) and analyzing visitors register (X^2 =.780; P=.377).

Some of the methods adopted were found in very low quantities like use observation and experiment analysis 34 (41.5%) and conducting reference query analysis 32 (39.0%). All these facilities we find in low percentages and chi-square tests revealed significant differences for Conducting reference query analysis (X^2 =3.951;P=.047) and non-significant difference for Using observation and experiment analysis (X^2 =2.390;P=.122).

6.8 Measures used to maintain good interpersonal relationship with users of the libraries (Table – 8)

The table 8 shows measures used to maintain good interpersonal relationship with the users of the library. It was found that 71 (86.6%) of the centers were taken measures to identify and fulfill their perceptions and expectations and 63 (76.8%) of the centers adopted measures to visit the users regularly and enquire about their requirements. All these measures are found in high percentages and Chi-Square tests revealed significant differences for Visiting the users regularly and enquire about their requirements (X^2 =23.610; P=.000) and for Identifying and fulfilling their perceptions and expectations (X^2=43.902; P= .000).

7.0 Findings

The findings of the study are:
1. There are 65 (79.3%) research centers acquired required information resources through recommended books in the syllabus to a large extent.

2. 41 (50.0%) research centers indicated that budget is allocated department wise for purchase of books & other resources to a large extent.

3. Among the measures to maintaining stack majority of the respondents indicated 'to a large extent' 61.00% for the statement used books are verified physically then shelved.

4. For the statement librarian closely supervises that the books are correctly shelved on the book racks measure for maintenance, majority of the respondents indicated 'to a large extent' (62.2%).

5. As far as managing of periodical section in the library is considered, majority of the respondents indicated 'to a large extent' (81.7%) for the statement 'Current periodicals are regularly displayed'

6. 'Adequate systems are provided to enable the use of e-journals' as a measure, majority of the respondents indicated 'to a large extent' (59.8%).

7. As far as OPAC is placed nearer reference desk for reference service is considered, majority 51 (62.0%) research centers have them to a large extent.

8. 91.5% research centers updated computer systems and maintained, 82.9% of the centers open internet centre from 8 am to 8 pm.

9. Some of the services offered in library were found in very low quantities like internet center is kept open 24.

10. It was found that 50 (61.0%) of the centers used checklist to collect user opinion hours (4.9%).

11. It was found that 71 (86.6%) of the centers were taken measures to identify and fulfill their perceptions and expectations.

8.0 Conclusion

Karnataka state has 82 research centers coming under the purview of Vishweswharayya Technological University. Among the measures taken in acquiring required information resources in 82 VTU research center libraries 65 (79.3%) librarians are effectively using the method of consulting recommended books in the syllabus. While, to make effective use of budget, according to the opinion of 41 (50.0%) librarians, the budget is allocated department-wise. Among the various the measures used for effective maintenance of library stack there are 46 (56%) librarians are opine that cleaning and maintenance of stacks are to be regularly done to maintain stack effectively.

According to 67 (81.7%) to manage the periodical section effectively current periodicals are to be regularly displayed in the library. According to 51 (62.2%) librarians the methods used in providing reference services the effective method is to place the OPAC near to reference desk. According to the opinion of 75 (91.5%) librarians effective method to make better use of internet center is to maintain and update the computer systems in the libraries. There are 50 (61.0%) librarians who are using checklist as effective method in collecting user feedback about activities and program offered in their libraries. There are 71 (86.6%) librarians opine that the use checklist method effectively to maintain good interpersonal relationship with users of there librarians.

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Tables

6.1 Measures Used to Acquire Required Information resources (Table – 1)

Measures on Acquiring Required Information resources		To a large extent	To a moderate extent	To a little extent	To some extent	Not at all	X^2	P
Recommended books in the syllabus are selected	F	65	4	6	6	1	181.1	.000
	%	79.3	4.9	7.3	7.3	1.2		
Browsing publishers online catalogue for latest books & e-books	F	14	20	13	22	13	4.463	.347
	%	17.1	24.4	15.9	26.8	15.9		
Refer publishers catalogue	F	13	12	19	24	14	6.171	.187
	%	15.9	14.6	23.2	29.3	17.1		
Refer to trade bibliographies	F	4	7	10	24	37	46.7	.000
	%	4.9	8.5	12.2	29.3	45.1		
Through book exhibitions	F	7	10	17	22	26	15.5	.004
	%	8.5	12.2	20.7	26.8	31.7		
Visiting to books shops	F	5	4	16	26	31	35.95	.000
	%	6.1	4.9	19.5	31.7	37.8		
Refer recommendation slips	F	18	14	16	11	23	4.951	.292
	%	22.0	17.1	19.5	13.4	28.8		
Consider user' demand for multiple copies	F	26	19	12	12	13	9.098	.059
	%	31.7	23.2	14.6	14.6	15.9		
Consultation of subject experts	F	23	15	9	12	23	9.951	.041
	%	28.0	18.3	11.1	14.6	28.0		
Refer to AICTE guidelines to select number of titles of books/journals	F	45	13	4	10	10	64.951	.000
	%	54.9	15.9	4.9	12.2	12.2		

6.2 Measures to effectively use library budget (Table – 2)

Use of library budget		To a large extent	To a moderate extent	To a little extent	To some extent	Not at all	X^2	P
Budget is allocated department wise for purchase of books & other resources	F	41	20	6	5	10	54.707	.000
	%	50.0	24.4	7.3	6.1	12.2		
Some part of the budget is reserved for future requirements	F	10	20	13	16	23	6.659	.155
	%	12.2	24.4	15.9	19.5	28.0		
Expenditures are regularly checked throughout the year	F	29	14	12	13	14	12.268	.015
	%	35.4	17.1	14.6	15.9	17.1		
More money is allocated to recurring than non recurring heads	F	8	17	12	19	26	11.537	.021
	%	9.8	20.7	14.6	23.2	31.7		

6.3 Measures used for Effective maintenance of the library stack (Table- 3)

Statements of effective maintenance of the library stack		To a large extent	To a moderate extent	To a little extent	To some extent	Not at all	X^2	P
Technical section staff are instructed to avoid delays in sending books to the stack section	F	44	08	10	09	11	58.366	.000
	%	53.7	09.8	12.2	11.0	13.4		
Used books are verified physically then shelved	F	50	12	05	09	06	87.878	.000
	%	61.0	14.6	06.1	11.0	07.3		
Librarian closely supervises that the books are correctly shelved on the book racks	F	51	16	05	06	04	96.902	.000
	%	62.2	19.5	06.1	07.3	04.9		
Non book materials are shelved in the special transparent cabinets	F	37	13	06	12	14	34.707	.000
	%	45.1	15.9	07.3	14.6	17.1		
Stacks are regularly cleaned and vacuumed	F	46	16	09	05	06	71.293	.000
	%	56.1	19.5	11.0	06.1	07.3		
Use of adjustable shelves to shelve books	F	30	13	10	13	16	15.195	.004
	%	36.6	15.9	12.2	15.9	19.5		
Normal shelve height is maintained so that a person can reach easily	F	41	18	09	06	08	51.293	.000
	%	50.0	22.0	11.0	07.3	09.8		
All book shelves to have enough vacant space to get fresh air and light for each volume	F	44	19	08	06	05	65.683	.000
	%	53.7	23.2	09.8	07.3	06.1		

Slanting light is thrown on the spines of all books arranged in the shelves	F	20	21	12	07	22	10.561	.032
	%	24.4	25.6	14.6	08.5	26.8		
Use of shelves with glass panes to avoid dirt, dust, ect., for special collection	F	17	12	12	10	31	17.878	001
	%	20.7	14.6	14.6	12.2	37.8		
Adequate provision is made for further expansion of stack	F	35	17	11	09	10	28.732	.000
	%	42.7	20.7	13.4	11.0	12.2		
Gang ways bay guides and shelf guides are provided	F	31	10	13	06	22	24.707	.000
	%	37.8	12.2	15.9	07.3	26.8		
Book supporters are used for better care of books in partly filled shelves	F	42	20	07	04	09	58.854	.000
	%	51.2	24.4	08.5	04.9	11.0		

6.4 Managing of Periodical Section in the library (Table – 4)

Managing of Periodical Section		To a large extent	To a moderate extent	To a little extent	To some extent	Not at all	X^2	P
Current periodicals are regularly displayed	F	67	4	4	5	2	195.439	.000
	%	81.7	4.9	4.9	6.1	2.4		
Maintaining a good kardex	F	23	6	5	8	40	55.439	.000
	%	28.0	7.3	6.1	9.8	48.8		
Bound volumes of periodicals are well maintained and kept dust free	F	48	11	7	9	7	76.780	.000
	%	58.5	13.4	8.5	11.0	8.5		
Subject-wise arrangement of bound volumes of periodicals	F	43	10	9	7	13	55.073	.000
	%	52.4	12.2	11.0	8.5	15.9		
Current journals are issued overnight	F	20	7	14	11	30	19.585	.001
	%	24.4	8.5	17.1	13.4	36.6		
Arrival of journals in time is ensured	F	33	17	9	12	11	23.122	.000
	%	40.2	20.7	11.0	14.6	13.4		
Adequate systems are provided to enable the use of e-journals	F	49	10	6	4	13	83.976	.000
	%	59.8	12.2	7.3	4.9	15.9		
User slip method is used to check the daily usage rate of journals	F	15	3	14	10	40	47.878	.000
	%	18.3	3.7	17.1	12.2	48.8		

6.5 Methods Used in Reference Services (Table- 5)

Methods Used in Reference Services		To a large extent	To a moderate extent	To a little extent	To some extent	Not at all	X^2	P
Reference desk is highly visible and located centrally in the reference section	F	45	16	06	10	05	66.902	.000
	%	54.9	19.5	07.3	12.2	06.1		
OPAC is placed nearer to reference desk	F	51	11	07	07	06	92.146	.000
	%	62.2	13.4	08.5	08.5	07.3		
Professional reference librarian with good communication skill is placed in charge	F	40	17	09	10	06	46.415	.000
	%	48.8	20.7	11.0	12.2	07.3		
Fee based online services are provided	F	12	03	07	10	50	88.854	.000
	%	14.6	03.7	08.5	12.2	61.0		
All the current and up-to-date reference sources are made available in the reference section	F	44	13	08	09	08	59.098	.000
	%	53.7	15.9	09.8	11.0	09.8		
Printed guides such as pathfinders, study guides and subject bibliography services are provided	F	20	10	12	16	24	8.000	.092
	%	24.4	12.2	14.6	19.5	29.3		
Extensive bibliographic instruction is offered	F	10	13	11	20	28	13.979	.007
	%	12.2	15.9	13.4	24.4	34.1		
Reference questions asked by the users and successfully answered by the reference librarian are maintained in a separate register	F	22	12	07	16	25	13.000	.011
	%	26.8	14.6	08.5	19.5	30.5		
Suggestion box is provided in the reference section to improve the quality of services	F	34	11	07	06	24	36.171	.000
	%	41.5	13.4	08.5	07.3	29.3		
User feedback forms are provided in the reference section to improve the quality of service	F	29	08	11	06	28	30.561	.000
	%	35.4	09.8	13.4	07.3	34.1		

6.6 Steps undertaken for better use of Internet centre in the research center libraries (Table -6)

Steps undertaken	Yes	Percentage	X^2	P
Internet centre is kept open 24 hours	04	4.9	66.780	.000
Internet centre is open from 8 am to 8 pm	68	82.9	35.561	.000
Computer systems are updated and maintained	75	91.5	56.390	.000
Log books are maintained to entry and exit of users	70	85.4	41.024	.000

Some systems are reserved for faculty & researchers separately	46	56.1	1.220	.269
There are enough number of computer systems for students to use internet	67	81.7	32.976	.000
Users are not permitted to use their own CD/Pen drive for downloading of information from the net	45	54.9	.780	.377

6.7 Methods Adopted to Collect the Users Feedback about the Activities and Programs offered in the Library (Table – 7)

Users Feedback	Yes	Percentage	X^2	P
Ask the users directly	49	59.8	3.122	.077
Use checklist	50	61.0	3.951	.047
Use observation and experiment analysis	34	41.5	2.390	.122
Analyzing visitors register	45	54.9	.780	.377
Conducting reference query analysis	32	39.0	3.951	.047

6.8 Measures used to maintain good interpersonal relationship with users of the libraries (Table – 8)

Users Feedback	Yes	Percentage	X^2	P
Ask the users directly	63	76.8	23.610	.000
Use checklist	71	86.6	43.902	.000